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AGGELER & MUSSELR
SEED CO.
LOS ANGELES

TWENTY SIXTH ANNUAL CATALOG 1919
HOW TO ORDER BY MAIL

YOUR NAME AND ADDRESS.—Be very sure that your name and address are written very plainly on each order. We frequently have orders where either name is not given or address omitted. Also give plainly the R. F. D. number and box, or the street address. We acknowledge all orders by a postcard if not filled immediately. If such acknowledgment is not received, or if the order does not follow at once, write us about it.

CASH WITH ORDER.—The proper way is to send remittance in full to cover order and postage. We send orders C. O. D. only if 25% of the amount of order is enclosed. Plants we never send out C. O. D.

REMITTANCES should be made by Post-Office Money Order, Express Money Order, or by Check. For amounts up to one dollar, clean, unused postage stamps will be accepted. Coin should not be sent by mail. Checks on local banks may be sent, which will be a great convenience to many customers. Checks from outside the state of California will be collected before the goods are shipped. Therefore if you would avoid delay, send bank draft or postal money order. We do not accept responsibility for orders which never reach us. We will be responsible for the safe arrival of the merchandise.

SHIPPING—We will use our best judgment as to the best way of sending orders when specific directions are not given. On large "postpaid" orders it is better to have them go by express, if your town is on a railroad—it is safer. We prepay express charges on merchandise quoted "postpaid." If special directions in shipping are needed, send them explicitly, and where express or freight office is different from post-office, so state in space on our order sheet.

SEEDS BY MAIL.—We send by mail or by express prepaid, all orders for flower seeds, and for vegetable seeds (except beans, corn and peas). We do not pay postage or express charges on onion sets, field seeds, clovers, grasses, bird seeds, beans, corn, peas, tools or plants in large quantities; but we do pay them on other vegetable and flower seeds. Correspondents in foreign countries should add a sufficient amount for postage at the rate of 12 cents per pound.

THE PARCEL POST APPLIES TO SEED. Postal rates are as follows. Owing to the convenience of having mail brought to your door by the rural delivery system, it is well to take advantage of the low rates.
20 pounds anywhere within the city limits of Los Angeles for 15c.
20 pounds one hundred and fifty miles 24c, and 1c for each additional pound up to 50 pounds.
Nothing heavier than 20 pounds may be mailed farther than 150 miles in one package.
The Eighth Zone includes Mexico and Canada.

ZONE RATES—When it is required that postage be added to the purchase price of any commodity, note the distance you are from Los Angeles, see in which Zone you live. It is then easy to estimate the exact amount of postage required, or ask your postmaster.

<table>
<thead>
<tr>
<th>DOMESTIC PARCEL POST RATES</th>
<th>First Pound or Fraction</th>
<th>Each Additional Pound or Fraction</th>
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<tbody>
<tr>
<td>First Zone, Los Angeles and within 50 miles of Los Angeles</td>
<td>5c</td>
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<tr>
<td>Second Zone within 50 to 150</td>
<td>5c</td>
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<td>Third Zone 150 to 300</td>
<td>6c</td>
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<td>Fourth Zone 300 to 600</td>
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<td>Fifth Zone 600 to 1000</td>
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<td>Sixth Zone 1000 to 1400</td>
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<td>Seventh Zone 1400 to 1800</td>
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<td>6c</td>
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<td>Eighth Zone all over 1800</td>
<td>12c</td>
<td>8c</td>
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FOR PARCELS WEIGHING 8 OUNCES OR LESS, containing seeds, bulbs or books only, the rate of postage to all zones is 1 cent for two ounces or fraction. (Over 8 ounces the parcel post rates apply.)

FOR PARCELS CONTAINING FOURTH CLASS MATTER—other than the above—up to four ounces is permitted to all zones at 1 cent per ounce. (Over 4 ounces the above zone rates apply.)

NON-WARRANTY: Note—There are so many contingencies to be encountered in growing plants from seed and in setting out plants that are dependent on the weather and other conditions over which we have no control, that success in planting is not altogether dependent on the seed or plant. We will send out only seed which we believe will grow and produce the kind of plant and variety represented, but:

Aggeler & Musser Seed Co. give no warranty, expressed or implied, as to description, quality, productiveness, or any other matter of any seeds, bulbs, plants or trees they send out, and they will not be responsible in any way for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

AGGELER & MUSSER SEED CO., Inc.

January, 1919.
Roll of Honor

C. O. BROWN, Capt.
OLIVER C. BLAKE, Corp.
F. H. RATHER
E. E. SODERBERG, Sergeant
ARCHIE POSTELL
GEO. W. SHORT
PAUL KEMP
E. C. BRINKMEYER
W. D. FRASER
B. F. WORTHINGTON
LESLIE T. COLLINS
HARRY ISLEIB
L. BAILEY

The greatest privilege of all time has been to those who fought for the new-born and better world. No disgrace is contemptible enough to measure the "slacker."

Many of our employees have entered the Service and it is gratifying to know they enlisted with a full sense of duty; not one hesitated to do it.

THEY HAVE GLORIOUSLY ACCOMPLISHED THAT FOR WHICH THEY HAVE ENLISTED—THEY HAVE MADE THE WORLD SAFE FOR DEMOCRACY.

Peace

The Heroine

See front cover page

The Woman's Land Army of America is a patriotic organization with offices at 427-428 Chamber of Commerce Bldg, Los Angeles.
Of the 800 women sent out to work for farmers and fruit growers 95% have made good.
The Woman's Land Army is here to stay.
Twenty-Sixth Annual Catalog
of the
AGGELER & MUSSER SEED COMPANY
ESTABLISHED, 1893—INCORPORATED, 1896

Twenty-six years ago we began an exclusive seed business at 113 North Main Street, which place was then in the
heart of the business district of Los Angeles. Our business grew with the general prosperity of the country, and in 1907 we
leased the place next door, and two years later added more space.

We yet needed better shipping facilities, therefore in 1914 we leased the big warehouse at 6th and Alameda and moved
our offices and mail order department to the warehouse.

MILL AND WAREHOUSE AT SIXTH AND ALAMEDA

This we will continue to occupy using it for milling, cleaning and warehousing. Our cleaning facilities are up to date,
equal to the best on the coast. When you buy our seed you get 100% seed, no dirt nor broken grains.

AGGELER & MUSSER SEED CO., 620 South Spring Street
Branch Store: 767 Central Avenue : Los Angeles, California

Phones: Sunset, Main 4545: Home 60875
The trend of business has been steadily southward until North Main Street is far from the paths of travel. We have now leased 1800 sq. ft. of floor space in the Meredith Building, 610-622 South Spring Street.
The Retail Department occupies all of the first floor, a space of forty feet front and one hundred and twenty feet deep.
The offices are located on the second floor front requiring a space of forty-five feet square.
The Mail-order Department is also located on the second floor, space, eighty feet by eighty feet, and also requires the entire third floor, eighty by one hundred feet. It is here where the garden seeds are stored. It is here the millions of packets are filled by a machine having a capacity of 30,000 packets per day. Here all peas, beans and other seeds are tested for germination, cleaned, reclaeined and hand-picked ready for distribution over the entire country.

before purchasing his seed. The knowledge gained thereby will be of great value in the selection of seed.

Seedsmen have little trouble with professional gardeners, it is the amateur gardener who makes the trouble. It matters not to him if 99 professional gardeners succeed with the same seed, his failure is attributed to the seed regardless of cultural conditions.

This catalog insures success if one will but study it and follow instructions.

Not a season goes by but that someone discovers some excellent vegetable at the market bringing Big Money to the grower, and finding out the seed was purchased of the Aggeler & Musser Seed Company. They census us for not "Putting them wise," to this we can only reply, "Read the Catalog." We go to the expense and trouble of putting this catalog into your home expecting you will at least read the subjects in which you are interested. Therefore, if you are a Lettuce grower, an Onion grower, a Potato or Sweet Potato grower, a Celery, Cabbage, or Cauliflower grower, read the pages devoted to these crops in which you are interested.

If you will do so you will not miss these Money Makers.

By the way, the Winter Melon described on page 41 will prove a big money maker to the first man who will plant an amount big enough to attract attention. This same may be said of the Golden Hybrid described on page 37.

How We Have Met This Obligation

WE HAVE made Los Angeles and Southern California famous for the excellence of their vegetables.

WE HAVE by our creations and introductions, added millions of dollars to the revenue of the growers and shippers of the entire Southwest.

WE HAVE, through our medium of education, contributed more to the success of the homesteader and newcomer than any other agency. We have distributed without charge more than 100,000 Garden Manuals, besides as many catalogues each year.

WE HAVE, through our efforts, made Los Angeles the best fed community in America. Her vegetables and fruits are standard the world over.

WE HAVE, by the excellent merit of our introductions, been instrumental in building up great industries in canning and shipping.

WE HAVE added much to the wealth of California ranchers, by growing at home many thousands of dollars worth of seeds that hitherto were imported.

WE HAVE made friends; and through our friends we have built up a business that gives steady employment to a hundred people, and distributes more than half a million dollars every year to growers throughout the Southwest,—a business that requires each year an increased amount of floor space, and last year paid for postage alone more than $12,000.

WE HAVE always been leaders in our line of business as indicated by the many BIG MONEY MAKERS listed in this book.

The Moral and Philanthropic Obligation of the Seedsmen

It is the moral obligation of every man selling seeds to be so well informed concerning his business that he can advise his customers what varieties of seeds are best suited to the particular requirements of each customer; in short,—"What to Plant, and when to plant it": also, "regarding soil, climate and market.

Every Seedsmen, or Clerk, selling seeds, should be educated to know, as far as it is possible, each variety by appearance. Such knowledge would tend to avoid errors and would prevent many costly mistakes.

Every Clerk in our store is educated to assist the customer in his selection, and should a customer ask for seeds not seasonable, the clerk is instructed to call attention to it and suggest some variety better suited to the time.

Every Customer intending to plant one-fourth acre, or more, should obtain this seed catalog and study it carefully.
OUR OFFICE

The personnel of our office has materially changed. Many have joined the force, and it gives us pleasure to add that they have gone cheerfully and with enthusiasm anxious to do their full duty wherever it leads. Our office has continued under the capable management of Mr. W. R. Early, who has been with us since 1902. He has directed the average of twenty assistants, experts in their particular line of work.

These clerks accomplish the enormous amount of work required with the aid of the Mechanical Bookkeeping Machine, Comptometer, Adding Machine, Stenotype, Dictaphone, Teletype, Addressing Machine and Multigraph, all time and labor saving machinery.

Accommodation Department

Last year we inserted in our catalog an invitation to list with us any parcel of real estate you may have for rent. As result we have placed several thousand acres. This work we merely acquaint the would-be renter with the owner but we do not pretend to make any recommendations unless from actual knowledge. This department has proven to be very satisfactory.

Marketing Bureau

We are so well acquainted with our customers that when slippers want certain produce, we can usually put them in touch with the grower. On the other hand we have found buyers for many growers (particularly newcomers) who were not familiar with the marketing end of their business. It is our pleasure to be of as much service to our customers as possible. The service of our Information Department is voluntary and without charge.

It has been our pleasure during the past year to be of much assistance in bringing the grower and buyer together.

Information Department

The catalog contains all necessary information so that the amateur who reads cannot but succeed, but many inquiries come to us which indicate the writer has not read or, having read, prefers to have pointed information direct from us, or further information on certain subjects. Therefore, the establishment of our Information Department where the entire time of a competent person and stenographer are devoted exclusively to the answering of letters of inquiry is now in operation.

The name of the department is The Aggeler & Mussel Seed Company associated with the development and prosperity of the Southwest, and Southern California in particular, that the name cannot be mentioned without recalling to some interested person some of the following facts:

The Aggeler & Mussel Seed Company gives us the White Rose Potato, Pearl Cauliflower, Winnigstadt Cabbage, Los Angeles Market Lettuce, Anaheim Chili Pepper, Pimiento, Cabbage, the Tegary and Pluto Beans, each of these are worth more than $1,000,000 annually to the grower and shipper.
Mail Order Department

Managed by Mrs. M. Gaylord, with ample corps of assistants, whose duty it is to serve promptly and accurately, very often as many as a thousand customers a day.

With a packet-filling machine having a capacity of 30,000 packets per day, they put up more than a million packets each year. To do this without error requires extreme system and efficiency.

Seed Testing

A. I. Tunnison, who with a score of assistants, has charge of the distribution and testing of all seeds. His records are up-to-date so that at a moment's notice he can give the germination of any seeds that we have.

Seed Cleaning

Wm. Turner, with his assistants, attends to the cleaning and milling of all field seeds as they come into the house before they are placed in stock.

Should you at any time receive seeds which have not been re-cleaned, advise us at once, as there is no excuse for sending out un-clean seeds with our up-to-date machinery for cleaning all kinds of seeds.

A Call Counter

Read This

We have inaugurated what we have termed a Call Counter for the accommodation of the rural population who come to town either for business or to shop. They have not always time to wait for the filling of their orders. Therefore:

Leave Your Order When You Come to Town, It Will Be Ready When You Call For It

A competent person will be in charge of this counter ready and willing to assist you, should you be in doubt as to what you want.

You can order by phone, 60875 or Main 4545, ask for the Call Counter, give your order and state what hour you will call for it.

Or order by mail to avoid delay, addressing Call Counter, Agerle & Musser Seed Company, Los Angeles, Cal. State just what day and hour you will call.

You will find this method particularly convenient when plants are wanted. They will be ready when you call, thus saving much valuable time.

Remember the Call Counter and take advantage of it.

This Seed Catalog commemorates our Twenty-sixth Anniversary; therefore, we have made of it an encyclopedia of the ranch and garden which at this time is of great importance. This catalog is so explicit and complete in its instructions that the amateur can make no mistake.

This seed catalog contains all instructions which, if studied carefully, would guide almost any amateur to success. The information tabulated in this catalog; answers more than 1,000 questions, if the reader will but study it carefully.

With each variety of seed listed, there is sufficient instruction for the best culture of that variety.

Read this catalog and learn what varieties are best suited to your individual conditions,—your soil, climate, irrigation, purpose, and market.

One Thousand Questions Answered

This catalog contains full instructions necessary to make a home or a market garden if you will read it carefully and refer to the several tables for the information you wish.

The amateur market gardener will find with each subject the information needed to help select the proper variety to suit the season, and a reference to the tables on page 10 will give him further information concerning the planting and value of various crops.

The rancher, by reading any subject which interests him will receive much help in the selection of varieties and many hints on the care of his crop.

But, if, after reading the catalog, there is further information or more specific information wanted, do not hesitate to write our information department.

This Department, together with our catalog is intended to save the amateur, the homesteader and the new-comer much of that preliminary experimental work which often means failure and bankruptcy.

The information the has come to us during our twenty-six years of active work among the growers throughout the southwest has been chronicled each year in our annual catalog, so that he who will read carefully cannot fail because the information is complete from the preparation of the soil to the marketing of the crop.

The seedsman's burden does not end with the testing and introduction of new things, but they must educate the amateur, teaching them "What to plant and when and how to plant it", consideration of soil, climate, cultivation and irrigation.

Get Ready For Big Business

With Peace, comes Prosperity such as the world has never known. With entire Europe exhausted of food and raw material for every description, with America the earliest and nearest raffle and with new ships for transportation, it is evident that it is up to the American farmer to get busy for the greatest era of Prosperity in all history.
A Big War Garden

California has become the largest War Garden in all history. The secret of the great production of vegetables in California is that the whole environment and government are in the agricultural sense. In one year went "Over the Top" with beans, potatoes, onions, turnips, cabbage, cauliflower and all requirements for other vegetables. Many forage, and produced cattle in greater abundance than all the facilities of Uncle Sam's great railroad system could handle.

California seed growers had such enormous acreage planted to diversified seed crops, that a survey by the government showed such a probable over-production of nearly all varieties that when the report was published it showed an ample supply in prospect of everything with a few notable exceptions as seeds of cabbage, turnip and satisfy which items are very short.

But since this survey has been taken, excessive heat and early rains have so materially changed the situation that instead of an over-production of vegetables in many varieties, all of which must tend to maintain high prices. We have materially changed the agricultural customs of old time conditions. Neither the grower or shipper can anticipate market conditions except to know there will be a demand for his produce at a fair price.

New regulations are constantly upsetting all calculations. For instance—Shipper's rates on produce have increased. New rates are constantly being charged on all produce, and the prices of various vegetables are changing all the time.

The grain and bean regulations, or lack of regulation created an unsettled condition, leaving the crop in the growers' hands, however, causing but little hardship.

Reviewing the situation there is every reason to be optimistic. There has been a larger demand for vegetables and a special consideration to the crop best suited to his individual conditions of soil and climate, as all sorts of crops must prove profitable if not too expensive because of lack of labor.

Crops That Promise Exceptional Returns

Alfalfa and barley hay, cereals of all kinds, especially wheat and corn are the standard Home Garden varieties selected and planted according to the soil and season as outlined in this catalog, they produce abundantly of the most delicious vegetables.

If you would have such a garden be sure to select the following varieties, but be sure to read the description and cultural instructions in this catalog. Kentucky Wonder Wax Pole Bean, Stringless Green Pod Bush Bean, Fordhook Bush Beans, Early Sensation, Early Sensation, Autumn King Cabbage, Chinese Cabbage, Lemon Cucumber, Early Gem Carrot, Oregon Evergreen and Country Gentleman Sweet Corn, Swedish Chard (be sure to have a Choyote vine), Iceberg Lettuce for summer, Los Angeles Market Lettuce, Market King Romaine Lettuce, Hybrid Casoba, and Klondike Watermelon, Southport White Globe and Prizetaker Onion, Ileide and White Tip Radish, Italian and Banana Squash, Home and Early Stone Tomato. This selection will never disappoint you, if grown according to instructions.

Write Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 935, "The City and Suburban Vegetable Garden."

It is surprising how valuable in actual cash is a small garden properly managed; to properly manage a garden is always the easiest way. The person who knows how, works on it as hard as he can get results, is probably the one who works hard and gets only medium results. Therefore, these pages are intended to assist the amateur to get the best results with the least possible trouble.

To begin with, let your slogan be: Do it at the right time.

Sow your seed at the right time.

Transplant at the right time and by the right method.

Destroy the insects at the proper time.

It is better for your garden that you apply water at the right time and in the right way.

It is easier and better to hoe your garden at the right time than when it has become too dry and hard.

A young weed is more easily destroyed than an old one.

Read this catalog and you will know when to "DO IT AT THE RIGHT TIME."

Thanks to the very commendable work of agriculture now directed in the public schools throughout the country, we look to see better conditions prevail in the homes. Many a capable man with good intentions has given up his garden if he only knew the simplest "first aids" to gardening. The next generation will know, and because they know, their homes will be more beautiful, and they will be more prosperous, for a good garden will supply possibly all and more vegetables than the family will consume. A very small plot of ground will do wonders toward giving the family more and better vegetables, besides reducing greatly the cost of living, and making better men and women of our boys and girls.

To encourage this kind of improvement for country homes, there may be more enjoyable to the new comer, unaccustomed to the solitude—

To encourage the city wives and daughters to transform their own little homes into beautiful cozy spots that may well be the envy of their more wealthy neighbors, (such beauty spots may prove priceless and the real development and culture of the people living there)—

To encourage the more youthful members of the house-hold and co-operate with the teachers where gardening is taught—

It is to aid this work that we have made of this catalog a veritable encyclopedia for the gardener and rancher.

Testimonials

That this catalog is being appreciated is evidenced by the following testimonials:

MANUEL A. DEAS, JR., Territory of Hawaii, T. H.

I beg to report that I won first prize in the Garden contest, which I took in June last, with the understanding that the gardeners competed. It took Aggeler & Musser Seed to do it, and I will say that no better seeds can be had elsewhere.

PROF. W. B. WICKDEL, E. C.

I have read with interest your catalog for 1918, and wish to tell you that I find it not only beautiful in style, rich in descriptive matter, but what naturally interests me as a horticultural teacher, is the real educational value of many paragraphs which have arduously been prepared with great care and with wide knowledge of up to date facts about plant growing in California.

PROF. S. S. ROGERS, University of California

Your catalog certainly contains a whole lot of first class reliable information and is a credit to the house.

A. L. BRACHT, Texas

We are in receipt of your 1918 Twenty-Fifth Annual Seed Catalog, and after having read same through from cover to cover, must say it is the finest work we have ever seen of its kind. Any grower of wide information contained in it and will plant seed adapted to his particular soil, season and section is sure to derive great benefit and profit. We will appreciate it very much if you can send us four or five additional copies of this catalog which we desire to place in the hands of friends.

J. R. WATSON, California

I will be very thankful for a new catalog as mine is pretty well worn out from constant use. I sold a lot of your catalog by that I don't read it and always manage to find something I hadn't seen before. There is certainly something new and information contained in this catalog. Thanks in advance.

J. D. ALEXANDER, California

I have been looking over one of your catalogs which I borrowed from one of my neighbors, as I will want to send for some seed a little later. They have so much valuable information in them that even if I would like one of my own and would you please send one to my brother. We surely have enjoyed reading your catalog even to the children. It has a lot of good reading in it.
School Gardening Made Easy

This page of our catalog has proven so popular that we decided we could do no better service than to give special stress to the school garden work, now so ably carried on in connection with our own agriculture courses. The name of the founder of this branch of education should be in history with that of Thaddeus Stevens, the originator of the common school system. Agriculture in the public schools will do more for the betterment of humanity than all the college teaching in California.

With this idea in view we have made of this catalog, a primer for the school garden work. Pages 1 to 12 may well be entitled "First Lessons In Gardening."

THE SOIL

There are two kinds of soil in California that baffie the new gardener, and often puzzle the man of experience. One kind is the raw, coarse, irregular, hard, and inedible kind; the other is the soft, fine, alluvial, and generally good soil in the valley bottoms. There is no doubt that the latter is the most valuable for garden purposes. When working on the former, it is necessary to break it up, dig it, and put it in the garden. This is why the garden is better off with the fine alluvial soil.

For your garden gather weeds and dig them under. If there is no stable manure available, any decaying vegetable plowed under will add humus. For the field, grow rye, fallow millet or hairy vetch in the winter months, and in the spring plant Sorghum, Sudan, and Cow Peas. All these crops will furnish feed for the stock as well.

The kind of soil, whether silt, loam, subsoil, or subsoil, supplied with the right amount of air, heat and available plant food. An important step, then, is the successful growing of vegetables is to prepare the soil; in such a way that it will be congenial to the best root growth. The soil for truck crops is a rich sandy loam—a soil containing varying proportions of clay, sand and organic matter. A good vegetable soil can be made in most back yards by intelligent management.

Adobe Soil

How can adobe soil be made mellow? Thorough tillage of the soil, especially by plowing before the frost is over, is necessary. If worked too wet, the particles all slide together into a compact mass. On the other hand, if baked too dry, the clods are hard to break. When clay soil is in the right condition to work it will crumble apart if squeezed in the hand. If it sticks together, it is too wet. If the soil is never worked when it is wet, not even with a hoe, this is an important lesson for all gardeners.

The silt or mellow soil, the plants grow more quickly, since larger root systems can be developed and more food and moisture taken in. If deep, medium-sized loams afford a larger reservoir to hold rain needed during the droughts that come in the growing season. Such a soil is warmer and contains air needed for the growing roots and for the bacteria that cause decay of organic matter or gather nitrogen from the soil air.

A Word About Sowing Seeds

Many seeds are small and the germination weak, therefore, sow them very shallow, often not more than one-eighth inch deep, and water them after they are sown. If the seeds are watered in the open air, light. If this is denied by too deep sowing, it dies before it reaches the surface.

In order to assist small or weak seeds to grow, it is advisable to plant plentifully, because the many seeds will give strength to those few where one could not do so. This advice applies particularly to beet and onion seeds, but it is applicable to all small seeds. It is easy to thin out the surplus plants. A good general rule is to plant seeds to a depth equal to from three to five times their diameter, make ridges to stand about six inches high, flattened about ten inches wide on top and twelve inches between ridges. Drill the seed or transplant on each side of the ridge. This gives plenty of sun and air, ample room between the rows, and the method two rows are irrigated with one furrow, and you will have only one furrow to cultivate after each irrigation. It is easy to see the advantage of this method over the usual way of drilling on level ground and irrigating each row, often flooding the plant, which is harmful, particularly during the heat of summer.

A Few Words About Irrigation

In seed beds where small seeds are sown thickly, it is necessary to sprinkle the beds, never flood them. During the winter months, sprinkle only in the morning when the water is warmer than the dew. This allows all the heat that accumulates in the soil during the day to be retained far into the night. During the hot summer months, it will be necessary to sprinkle in the evening to revivify the plants after a hot day.

When making a garden, whether for drilling or planting seeds, or set plants, always wet the ground thoroughly. GIVE IT A GOOD SOAKING TO A DEPTH OF TWO OR THREE FEET OR MORE. As soon as it is tillable—that is, when it is a little crumbly, or when the soil will not stick to the spade—dig it ten to twelve inches deep, put stable manure into every other furrow and turn it under. This is needed for humus and fertilizer, either in sandy or loamy soil, and more especially in adobe soil. Pulverize the gravel thoroughly and take it evenly. While it is still moist, plant seed from one-fourth inch to one inch deep, in heavy soil and a little deeper in sandy soil. Planted this way, almost any variety of seed will germinate and show above the ground in from four to ten days, without irrigation. Never cultivate the garden before the plant is above ground, nor after you can irrigate between the rows. It is far better to irrigate than to sprinkle, and much less labor. Always mulch the soil after each irrigation, as soon as it mellowes ready, but no sooner. To allow the soil to bake after irrigation is far worse than without irrigation at all.

To sprinkle the garden slightly each day during the summer months is of little value unless the ground is also thoroughly irrigated once each week or two, according to the nature of the soil. Slight sprinkling refreshes the foliage, but may not penetrate the soil more than one inch deep. Thus as the under soil dries, the roots get no moisture. The plants suffer, and you do not suspect the cause because you sprinkle each day. This is a common fault and the cause of many failures.

JACK BAIN, California

I would like to express my appreciation for the kind of seeds you sell for I have had better success with everything I have planted this year than I have ever had before.

W. T. FAGGIL, California

I am delighted with the seed catalog, and its contents. It is as valuable to the amateur gardener as an Encyclopedia to a writer or scholar. I find all the information needed about plants within its covers. I value it very highly.
Every garden should have a hot bed in a sunny corner for the purpose of raising early vegetables. Dug a trench east and west twelve to eighteen inches deep and ten feet long is large enough for any family garden. Board twelve inches high on the north side and six inches high on the south side. Fill twelve inches deep with straw manure or weeds, moisten slightly, pack tightly, cover three inches deep with sandy loam; if the loam is mixed with clay, cold and wet weather or mildew, it will greatly improve it. Sow the seed in rows across the hot bed north and south so that the sun will strike both sides of the row during the day, making strong, healthy plants. Do not sow too thickly nor more deeply than one-fourth inch. Cover the hot bed with glass, not muslin. No less than twelve inches should exist between the glass and the soil, as the plants must have air. Sprinkle always in the morning or, if necessary, to do so in the evening, use warm water. Sprinkle sufficiently to moisten the soil, but not enough to flood the manure, which would then become chilled and worse than no manure at all. Raise the glass during the day, and close at night. Without ventilation the plants may be killed during a warm sunny day. Before transplanting from the hot bed, all plants should be hardened by exposing them to the sun for several days. Exercise proper judgment, lest they be destroyed.

Lath houses are used to protect plants against the extreme heat, cold or winds. Four-foot laths nailed into frames on 1 in. by 6 in. by 12 feet, pine, are used. The height of a lath house varies from 8 to 12 feet. Lath houses are used for starting seedlings, cuttings, and the growing of ferns, smlax and asparagus strings. They are also used to shelter young plants and to transplant tender stock in boxes.

Lath houses in Southern California contain some very fine collections of ferns, begonias and palms. Lath houses can be made in any style to conform with other buildings. We do not recommend the use of lath houses for vegetable plants, but we find it very valuable in the propagation of eucalyptus, cypress, acacia and most all evergreen shrubs and trees.

**NUMBER OF PLANTS TO AN ACRE**

<table>
<thead>
<tr>
<th>Distance apart.</th>
<th>No. plants</th>
<th>Distance apart.</th>
<th>No. plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 in. by 4 in.</td>
<td>1,250</td>
<td>5 ft. by 4 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>4 in. by 4 in.</td>
<td>1,250</td>
<td>5 ft. by 1 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>5 in. by 6 in.</td>
<td>1,250</td>
<td>5 ft. by 2 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>6 in. by 6 in.</td>
<td>1,250</td>
<td>5 ft. by 2 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>7 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 3 ft.</td>
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</tr>
<tr>
<td>8 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 4 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>9 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 5 ft.</td>
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</tr>
<tr>
<td>10 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 6 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>11 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 7 ft.</td>
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</tr>
<tr>
<td>12 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 8 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>13 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 9 ft.</td>
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<tr>
<td>14 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 10 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>15 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 11 ft.</td>
<td>1,250</td>
</tr>
<tr>
<td>16 in. by 2 ft.</td>
<td>1,250</td>
<td>6 ft. by 12 ft.</td>
<td>1,250</td>
</tr>
</tbody>
</table>

**Rule.**—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and the product will be the number of square feet for each plant or hill; which divided into the number of square feet (43,560), will give the number of plants to the acre.

**AGRICULTURAL BOOKS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Price</th>
<th>Psptd.</th>
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<tr>
<td>A. B. C. of Agriculture, by Weld</td>
<td>1.50</td>
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<tr>
<td>Alfalfa, by Coburn</td>
<td>.50</td>
<td>.60</td>
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<tr>
<td>Art of Propagation, by Jenkins</td>
<td>.25</td>
<td>.35</td>
</tr>
<tr>
<td>Asparagus, by Hexamer</td>
<td>.25</td>
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<tr>
<td>Avocado Industry, by Popenece</td>
<td>.15</td>
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<tr>
<td>Bean Culture, by Sevey</td>
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<td>Cabbage and Cauliflower, by Allen</td>
<td>.50</td>
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<tr>
<td>California Fruit and How to Grow It, by Wickson</td>
<td>2.00</td>
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<td>California Garden Flowers, Shrubs, Trees and Vines</td>
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<td>100 Questions in California Agriculture Answered, by Wickson</td>
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<td>Campbell's Progressive Agriculture</td>
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<td>1.75</td>
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<td>.40</td>
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<tr>
<td>Tomato Culture, by Root</td>
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<td>.40</td>
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**LITERATURE FOR POULTRYMEN**

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<tr>
<th>Title</th>
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<tbody>
<tr>
<td>Poultry Architect</td>
<td>4.50</td>
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<td>Poultry Remedies</td>
<td>3.50</td>
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<tr>
<td>Profitable Poultry Farming</td>
<td>1.50</td>
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<tr>
<td>Pacific Coast Rabbit Book</td>
<td>2.50</td>
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<tr>
<td>Poland Red &amp; Reds</td>
<td>2.50</td>
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<tr>
<td>Successful Poultry Keeper</td>
<td>1.00</td>
<td>1.15</td>
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<td>The New Egg Farm</td>
<td>1.00</td>
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<td>Whiteley's All Varieties</td>
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<tr>
<td>LATH HOUSE Two Hundred Eggs Per Year—How to Get Them</td>
<td>.50</td>
<td>.60</td>
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<td>The Wyandottes</td>
<td>.50</td>
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<tr>
<td>Western Poultry Book</td>
<td>1.00</td>
<td>1.10</td>
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</table>
Formula For Destroying All Kinds of Insects

The ever increasing army of insects demands cooperative and scientific combative action. The insect cannot be ignored even in a small garden. To destroy insects is as much a part of your routine garden work as is cultivation and irrigation. It must be done to insure success. Therefore, study and prepare for it as an essential part of your agricultural education.

**DISEASE OR INSECT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Insect/Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citricola (soft gray scale)</td>
<td>Manly bags, Formulas No. 2 and 3 give some benefit, but inferior to No. 1.</td>
</tr>
<tr>
<td>San Jose scale and spider mites</td>
<td>For new conditions.</td>
</tr>
<tr>
<td>Black peach aphids</td>
<td>Tobacco, wood ashes and blue stone applied to soil, roots are helpful.</td>
</tr>
<tr>
<td>Woody aphids</td>
<td>White rose scale on bush berries.</td>
</tr>
<tr>
<td>Aphis (plant lice)</td>
<td>Rose scale and anthracnose.</td>
</tr>
<tr>
<td>Mildew</td>
<td>Runt on asparagus.</td>
</tr>
<tr>
<td>Spider mites on beans</td>
<td>Cause injury appearance.</td>
</tr>
<tr>
<td>Aphis (plant lice)</td>
<td>Green worm on cabbage, cauliflower or kohli rabi.</td>
</tr>
<tr>
<td>Cut worms on any plant</td>
<td>May hunt worms at night with light.</td>
</tr>
<tr>
<td>Aphids (plant lice)</td>
<td>Aphis (plant lice) on cantaloupe, cucumber, squash.</td>
</tr>
<tr>
<td>Squash bugs and cucumber beetles</td>
<td>May cover young plants with screen top box.</td>
</tr>
<tr>
<td>Aphis (plant lice) on peas</td>
<td>Mildew on peas.</td>
</tr>
<tr>
<td>Scab and other fungi on potato seed</td>
<td>Tuber moth on potatoes.</td>
</tr>
<tr>
<td>Tomato worms</td>
<td>Slugs and snails on many vegetables and flowers.</td>
</tr>
</tbody>
</table>

**FORMULA NO. 1—Fumigation.** Multiply distance over tented tree by distance around “point off” last two figures. Three-fourths of this amount is number of pounds of Corrosive sublimate required. For each ounce of gas use 1½ ounces Sulphuric Acid in two ounces water. Place latter in deep dish under tent; drop in cyanide, close quickly, leave one hour. Do not breathe gas. FORMULA NO. 2—Mermaid or Gold Dust washing powder. 1 lb. 45 degree distilled (like used in auto). 1 pint Water. Mix well and spray with strong pressure. FORMULA NO. 3—Black Leaf 60. Soap dissolved in hot water. Cold water. Black Leaf 60. For Insecticides see page...
Owing to the diversity of the soil and climatic conditions of the great Southwest, it is impractical to follow without some deviation any table that might be formulated. We believe this table is as nearly correct as any table can be made, yet the time of planting must vary with each season, and so seldom are the seasons at all similar that there is always an element of risk for the man who plants early. Each month, too, requires certain varieties best suited to the season and purpose for which it is planted.

### VEGETABLE GARDEN CALENDAR FOR OUT-DOOR PLANTING

#### KIND
- **Artichoke**
- **Asparagus Seed**
- **Asparagus Plants**
- **Beans, Bush**
- **Beans, Pole**
- **Beets, Table**
- **Broccoli**
- **Cabbage**
- **Carrot**
- **Chili Pepper**
- **Celery**
- **Chum Sweet**
- **Cucumbers**
- **Egg Plant**
- **Kale or Broccoli**
- **Kohlrabi**
- **Lettuce**
- **Leek, Water**
- **Okra**
- **Onion Seed**
- **Onion Sets**
- **Parley**
- **Pumpkin**
- **Pepper**
- **Potatoes, Irish**
- **Potatoes, Sweet**
- **Pumpkin**
- **Radish**
- **Rhubarb Plants**
- **Salad**
- **Spinach**
- **Squash, Summer**
- **Squash, Winter**
- **Tomato**
- **Turnip**

#### SEEDS REQUIRED PER ACRE FOR FIELD CROPS IN SOUTHERN CALIFORNIA

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>NUMBER OF PLANTS OR WEIGHT PER SEED</th>
<th>HOW TO PLANT</th>
<th>AVERAGE APPARENT YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>25 lbs. seed</td>
<td>Drill or broadcast</td>
<td>8 to 10 tons hay, or 600 lbs. seed</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>8 lbs. seed</td>
<td>Drill or broadcast</td>
<td>3 tons hay, and pasture</td>
</tr>
<tr>
<td>Barley</td>
<td>100 lbs. seed</td>
<td>Drill or broadcast</td>
<td>2 to 4 tons hay</td>
</tr>
<tr>
<td>Beans, Bush</td>
<td>25 to 40 lbs.</td>
<td>Drill or broadcast</td>
<td>250 to 2000 lbs.</td>
</tr>
<tr>
<td>Beans, Pole</td>
<td>10 to 100 lbs.</td>
<td>Drill or broadcast</td>
<td>2500 to 3000 lbs.</td>
</tr>
<tr>
<td>Beets, Table</td>
<td>100 lbs. seed</td>
<td>Drill or broadcast</td>
<td>7 tons to 8 tons head, and pasture</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>25 lbs. seed</td>
<td>Drill or broadcast</td>
<td>500 to 600 lbs.</td>
</tr>
<tr>
<td>Canary</td>
<td>20 lbs. seed</td>
<td>Drill or broadcast</td>
<td>500 to 600 lbs.</td>
</tr>
<tr>
<td>Carrots, Sweet</td>
<td>25 lbs. seed</td>
<td>Drill or broadcast</td>
<td>2000 to 3000 lbs.</td>
</tr>
<tr>
<td>Carrots, Stock</td>
<td>50 lbs. seed</td>
<td>Drill or broadcast</td>
<td>5000 to 6000 lbs.</td>
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<tr>
<td>Cress, Oil Lettuce</td>
<td>25 lbs. seed</td>
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<td>2500 to 3000 lbs.</td>
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<td>Cress, Romaine</td>
<td>25 lbs. seed</td>
<td>Drill or broadcast</td>
<td>2500 to 3000 lbs.</td>
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<td>2500 to 3000 lbs.</td>
</tr>
</tbody>
</table>

#### SEEDS AND PLANTS PER ACRE FOR VEGETABLES

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>SEED</th>
<th>PLANTS</th>
<th>YIELD</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asusurans</td>
<td>1 lb.</td>
<td>Drill</td>
<td>Indefinite</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Beans, Silk</td>
<td>25 lb.</td>
<td>Drill</td>
<td>Indefinite</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Beets, Table</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>Indefinite</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Carrot</td>
<td>6 lbs.</td>
<td>Drill</td>
<td>Indefinite</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Celery</td>
<td>6 lbs.</td>
<td>Drill</td>
<td>Indefinite</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Corn, Sweet</td>
<td>10 to 20 lbs.</td>
<td>Drill</td>
<td>100 to 400 bags</td>
<td>$250 to $500</td>
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<tr>
<td>Cucumber</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Egg Plant</td>
<td>25 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Lettuce</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Melon, Cucumis</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Melon, Musk</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Orange</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Onion</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Peppers</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Potato, Irish</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Radish</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Squash, Summer</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Squash, Winter</td>
<td>100 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Tomato</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
<tr>
<td>Turnip</td>
<td>10 lbs.</td>
<td>Drill</td>
<td>1,000 lbs.</td>
<td>$250 to $500</td>
</tr>
</tbody>
</table>
The vegetables grown from A & M seeds are the standard vegetables at every market in which they appear. The following pages offer only the standard varieties that have been tried and proven to be adapted to certain conditions, and each variety is adequately described, so the purchaser need make no mistake in selecting the seeds best suited to the season and to his local conditions. Read the descriptions carefully; if yet in doubt, write us.

SEEDS PLANTED OUT OF SEASON, OR IN UNCONGENIAL SOIL MEAN LOSS TO THE GROWER.

We aim to have on hand throughout the year Vegetable Plants of every kind in their proper season.

<table>
<thead>
<tr>
<th>Plant</th>
<th>On Hand</th>
<th>Doz.</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artichoke, Green Globe</td>
<td>Jan. 1st to May 1st</td>
<td>$1.25</td>
<td>85.00</td>
</tr>
<tr>
<td>Asparagus, Argenteuil, Palmetto</td>
<td>Jan. 1st to May 1st</td>
<td>.25</td>
<td>1.50</td>
</tr>
<tr>
<td>Cabbage, Whitingtown, Danish Ballhead</td>
<td>All Year</td>
<td>.15</td>
<td>.60</td>
</tr>
<tr>
<td>Celery, Dwarf Golden Self-Blanching</td>
<td>Apr. 1st to Sept. 1st</td>
<td>.75</td>
<td>3.00</td>
</tr>
<tr>
<td>Chives</td>
<td>Apr. 1st to Sept. 1st</td>
<td>.25</td>
<td>1.25</td>
</tr>
<tr>
<td>Club Root, New York Spineless</td>
<td>Jan. to May 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Horse Radish, Bohemian</td>
<td>Mar. 15th to Sept. 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Pepper, New Mexican Chill</td>
<td>Mar. 15th to Sept. 1st</td>
<td>.10</td>
<td>.75</td>
</tr>
<tr>
<td>Chinese Giant</td>
<td>Mar. 15th to June 1st</td>
<td>.20</td>
<td>1.25</td>
</tr>
<tr>
<td>Pimiento</td>
<td>Mar. 15th to June 1st</td>
<td>.20</td>
<td>1.25</td>
</tr>
<tr>
<td>Rhubarb, Waggoner Giant</td>
<td>Feb. 15th to June 1st</td>
<td>.10</td>
<td>.75</td>
</tr>
<tr>
<td>Sweet Potato, Yellow Jersey</td>
<td>Feb. 15th to June 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Porto Rico and Georgia Yams</td>
<td>Feb. 15th to June 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Sweet Potato, New Hall</td>
<td>Feb. 15th to June 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Tomato, A. &amp; M. First Early</td>
<td>Feb. 15th to June 1st</td>
<td>.15</td>
<td>1.00</td>
</tr>
<tr>
<td>Home</td>
<td>Apr. 1st to Sept. 1st</td>
<td>.15</td>
<td>.75</td>
</tr>
</tbody>
</table>

After May 1st tomato plants grown outside, $3.00 per 1000.

NO PLANTS SENT BY MAIL OR EXPRESS

For several years we have contemplated the necessity of discontinuing the sending plants by mail or express. We hesitated to make such a decision knowing it is a great accommodation to our customers to get plants by mail. But the necessity for stringent quarantine regulations against insects, requires a rigid inspection of all plants sent by mail or express. Therefore the Postmaster or express agent may not deliver plants until inspected by the proper authority who may live miles away and thus delay delivery for several days, during which time the plant becomes worthless and the customer is thus frustrated. We have never refused to send more, but it is unbusinesslike and unprofitable to do so. It is unsatisfactory to both parties and makes a dissatisfied customer.

When you contemplate buying plants make use of our walk counter (see page 5). Order by letter or phone and they will be ready when you call for them.

We aim to have on hand throughout the year vegetable plants of every kind in their proper season.

Every packet contains enough seed to grow more vegetables of its kind than the average family can consume in a season.

When you have more than you want, sell or give to your neighbors. Do not waste!

A SUGGESTION

Each season some one in every community has neglected to grow plants for their garden, often with the idea that they need only half a dozen each of several kinds and they can be bought cheaper than they can be grown; all of which is very true. Therefore let us suggest that when you are reading this catalog preparatory to making up your order for seeds take into consideration that many of your neighbors will want some. So, if you hesitate to order a packet of this or that because three or four plants are all you need, just consider that your neighbor will want some; it will not be much trouble to grow them along with other things, and you or your boy may make a little money with which to buy War Saving Stamps, and at the same time increase food production. Also accommodating your neighbors.

A & M Artichoke

REMARKS: The early artichoke brings a high price; but Southern California climate does not reduce them early enough to get this high price, therefore we do not advise planting more than ¼ acre for local market.

The French Artichoke is being canned quite extensively and we would suggest, if you live near a cannery, seek to make a contract to grow the artichokes in sufficient quantity. These can be sown at any time and transplanted when about eight inches high. It will mature in about eight months from time of setting the seed, but in Southern California the proper season to bloom is in March.

The best way to get a good artichoke is to secure plants from old stalks of some old strain, as seeds cannot be depended upon to produce any certain variety. One half dozen is enough for a family garden.

Transplant five feet apart in rows seven feet apart. When the young plants are attacked by aphids, spray with "Black Leaf 40." About the time the buds are well advanced the under leaves often become a harbor for flies and aphids. When this occurs break off all the under leaves, clear the ground of all rubbish and spray with "Black Leaf 40." You will then have a long season of large, clean buds.

Selected Large Green Globe

Six Artichoke plants in a family garden

(Pkt. 7½c) (oz. $1.20) (lb. $12.00)

Plants from good stalks. 10c each; 6 plants 50c. No plants sent by mail or express.
Jerusalem Artichoke

**Remarks:** There is only a limited market for the Jerusalem Artichoke because it is little used for human food, and because of its perishable nature it is advisable that you grow only for your own use.

**Jerusalem Artichoke**

It is a most valuable food for hogs. It is said by many hog raisers that a hog fed on artichokes has never been known, to have choke out, and then to perfection here, yielding as much as 500 sacks per acre. They are grown from tubers the same as Irish potatoes. It requires 300 lbs. to plant an acre. Cut the tubers to single eyes. Plant during March and April two feet apart in rows three feet apart. Let them grow until fall and allow the hogs to harvest the crop.

The tubers are excellent for table use boiled as potatoes or parboiled and pickled in vinegar.

---

A & M Asparagus

**Remarks:** No vegetable is more healthful or more palatable than the tender asparagus that appears on the table very early in spring. Every home garden should have a bed about ten by twenty feet, planting about one hundred roots. This would furnish enough time to day to day to supply the family table.

**Culture for Field Planting**

Drill the seed thinly in rows ten inches apart in your seed bed during March and April.

Transplant about January 1st, setting the roots twelve inches apart in rows four feet apart and twelve inches deep.

Cover with two or three inches of soil, and on top of that three or four inches of well rotted manure thoroughly mixed with soil. This is sufficient for the first season and will produce a marketable crop the following April, possibly March. Continue cutting until the sprouts become too small for the kitchen. Then allow them to grow to full size and spray the whole thoroughly with powdered sulphur during August, using only the best grade. This is to prevent or destroy any mildew, red spider or rust. November cut the stalks close to the ground and burn them. Fertilize the rows with cheap coarse salt (one ton per acre). Cover the rows in hills like the picture. With proper hoeling and cutting the asparagus rows will bear profitably for many years. One pound of seed will grow plants sufficient for one acre.

**Market:** A large acreage is grown for canneries, and in sections where it can be produced very cheaply it is grown for Eastern markets. It is also very profitable to grow for local market.

**Palmetto** The popular variety for the home garden and market. The sprouts are green and their delicious flavor makes this variety the favorite in the South. (Price: $7.50 per 100 roots)

**Asparagus Roots.** We have available roots of the Palmetto and Argenteuil varieties. Two year old roots—per doz., 25c; 100 roots, $1.50. No plants sent by mail.

**Argenteuil** An excellent variety for the canner and early shipper. This variety is now more extensively grown by large planters and shippers because it is more profitable and stands shipping better. Also its purple tinge is attractive, and the excellent flavor puts it in a class by itself. (Price: 75c per 100 roots in full marketable condition for table use, 5c per 100 roots for new market or nursery stock.)

**Plant Asparagus Roots one foot apart in trenches four feet apart.**

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Asparagus Buncher

Whether your patch is small or large, it will pay you to get an Asparagus Buncher, either one or two pound Buncher. All professional shippers put up that way because it saves the trouble of weighing and the constant loss of over-weight to each pound, besides, this work may be done at home and not at the busy market.

We carry the Philadelphia make, which is the popular one with large shipper. The two pound will shape bunches 2-3 inches in diameter, weighing about one pound. No. 2 will shape bunches 4-5 inches in diameter, weighing about two pounds. Price—(No. 1, $2.00; No. 2, $2.25) f. o. b. here.

Philadelphia Asparagus Buncher
A & M Beans

All mail orders for beans should include additional ten cents per pound to cover postage. All orders for large quantities that would be cheaper to send by express or freight, we deliver to the transportation company at Los Angeles. We do not prepay transportation unless sufficient money has been sent for that purpose.

Market gardeners who are beginners and not familiar with gardening in the Southwest would do well to consult us either in person or by mail before buying, as to variety and time of planting. Special attention should be given to the instructions concerning the time of planting, which is an important factor in Southern California, as each month requires a different variety according to the market for which they are grown.

Bean Culture for Home Gardens

During the early spring give sandy soil preference, but heavy soil in summer. When the ground is properly moistened and pulverized, plant bush beans one or two seeds every four inches, in rows twenty to twenty-four inches apart. If the soil is heavy, cold and wet, one-half inch is deep enough. Plant deeper in sandy soil. During the cool spring months plant shallow; during the hot summer months plant down to moist earth, if it should require five inches. Do not plant in muddy soil, nor irrigate immediately after planting, else the seed will rot. During the winter months do all irrigating in the morning, because the water from the pipe is warm and will help the growth. When applied in the evening the water chills the plants, cools the soil, retards the growth and causes mildew. During hot summer days irrigate or sprinkle in the late afternoon.

Mulch the soil as soon as it gets dry enough after each irrigation. All beans should be sprayed with powdered sulphur of the heat grade twice during their season—once before the blossom appears and again just before the green bean is ready to pick. Apply the powdered sulphur in the morning of a bright sunny day before the wind rises, and before the dew has dried. It is not necessary to cover the foliage with sulphur thick enough to injure it, but if sulphur is scattered along the row so that the dust will pass lightly over the field, the fumes created by the heat of the sun will prevent mildew. Sulphur will not cure, but will arrest and prevent mildew.

Owing to the enormous demand for commercial beans and the high price attained, it has been difficult to get ranchers to grow seed beans. Heretofore, the growers always received from one to three cents per pound more for seed beans than for commercial beans, but when the prices are advanced three-fold, and the seed of many varieties almost out of existence the price is limited only to what the customer is willing to pay. The dealer cannot control such a condition.

Many gardeners should read carefully the description of each variety.

Anyone having light, sandy soil that needs enriching, should plant it to beans, inoculating the seed with nitrogen culture.

The hand-picking of seed beans is a task of large proportion and it may surprise you to know that we have employed almost throughout the entire year, six or more persons constantly hand-picking beans and peas.

Bush Beans—Round Green Pod Varieties

The following list comprises all the varieties best suited to general gardening. We have ceased to catalog others that would only mislead the gardener.

Write for quantity prices on all beans.

Early Refugee or 1000 to 1 An all around favorite for the summer months. Round pod, medium size, tender, desirable for table and canning. It is a favorite with the market gardener because it is a good shipper, a good seller, and very prolific. Plant from April to August. (Pkt. 7½¢) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

Stringless Refugee This variety is a decided improvement over the old Refugee in that it is entirely stringless, has larger pods and more prolific, which is claiming a great deal, for the Refugee bean has long been considered one of the most prolific of all string beans. (Pkt. 7½¢) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

Stringless Green Pod One of the best varieties for first early spring planting. It is very productive and a favorite with market gardeners for a quick maturing crop. (Pkt. 7½¢) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

Giant Stringless Green Pod Pod when planted at the same time. They are of strong growth; pods slightly curved, quite meaty, being broadly rounded and saddle-shaped; brittle and stringless at all stages. (Pkt. 7½¢) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

Black Valentine A very hardy and productive green-seeded bush bean with strong vigorous bush. It will withstand early and late frosts that kill other varieties. They are perfectly round and straight. It is a splendid support for a market gardener. Very popular in the South as a result of its blight resisting qualities. It is a poor shipper. (Pkt. 7½¢) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

Small White Snap

SOMETHING ENTIRELY NEW

THE ALL-PURPOSE BEAN—A white-seeded stringless green-pod bush bean. For green beans because it is tender and stringless, bears continuously for several months when picked closely. The pods are from 5 to 6 inches long, and is a good shipper as a green bean.

Best for dry beans because they are pure white, larger than the Navy, smaller than the Lady Washington; is very prolific (see picture) and does not pod in the field. The bush grows about 12 inches high. None better for canning green or for drying, and none excels it in flavor. This “All-purpose” Bean may well be termed the “All-round Podded Bean,” for if it has any faults we have not discovered them.

Mr. J. M. Shaw says of it, “I have planted it in Los Angeles County for the last three years and it is all that you claim for it. It gives entire satisfaction and is praised by all who have seen it growing.”

(Pkt. 7½¢) (½ lb. 15c) (¾ lb. 30c) (lb. 50c prepaid) (5 lbs. $2.00).

620 SOUTH SPRING STREET, LOS ANGELES
Flat Green Pod Varieties

Canadian Wonder

Flat pod, of good flavor, not stringless but otherwise tender. Very hardy. Desired above all others by gardeners growing on the foothills for winter shipping, because of its luxuriant growth and long stringless bearing. Plant in straight pods. Plant in September, October, November, December and January. (Per pkt. 7½¢) (½ lb. 25¢) (1 lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).

Six Weeks A strong, rapid grower, which matures quickly. Flat pod. Only desirable for forcing. Plant in February and March, also early in September and October. (Per pkt. 7½¢) (½ lb. 25¢) (1 lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).

French Mohawk

Long oval pod, very tender and prolific. In six weeks. Desirable for a profitable short crop, as only two months is required from seed time to the end of the crop. Plant every month from March to October. (Per pkt. 7½¢) (½ lb. 25¢) (1 lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).

Dwarf Horticultural

Desirable both for green and dry field. Stringless and of excellent flavor. It is of Italian origin and is very popular with the Italian population. (Per pkt. 7½¢) (½ lb. 25¢) (1 lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).

Round Yellow Pod Varieties

Stingless or Refugee Wax

This is a favorite because of its hardy growth and enormous yield of the dark yellow pod stringless pods. Plant from April until September. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c prepaid) (10 lbs. $3.50 f.o.b. here).

Prolific Black Wax

Pod round straight, 5½ to six inches long. Decidedly the most desirable for mid-summer gardeners. Plant from April to August. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c prepaid) (10 lbs. $3.50 f.o.b. here).

Beans for the Home Garden

A packet of an early bush variety planted at the same time with a packet of, a pole variety, ½ lb. of “Fordhook Bush Lima, will within seven weeks furnish a small family sufficient beans for a period of four weeks.

Therefore, we suggest that you plant on March 1st, Stringless Green Pod, Fordhook Bush Lima, Kentucky Wonder Wax or Kentucky Wonder and Refugee; and on the 1st of each month thereafter until August 1st, after which time give preference to planting Refugee, French Mohawk, Fordhook Limas, because the early varieties are more hardy to endure the early winter weather.

Market gardeners should read carefully the description of each variety.

Anyone having light sandy soil that needs enriching, should plant it to beans, inculcating the seed with nitrogen culture.

GROWING GREEN OR WAX BEANS FOR THE CANNERY

See your cannery about it.

It is a good side-crop to grow in a young orchard to make quick returns because your crop is off and the ground available for another crop within a few weeks.

If your crop is too small for the cannery, and too large to sell by the roadside (see page 7), buy a field canning outfit and put up all your surplus fruits and vegetables.

Flat Yellow Pod Varieties

Our Golden Wax Long, flat pod, rich golden yellow, stringless. This variety is so superior to other strains of Golden Wax that we have discarded all but this. Plant early in April to August. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c) (10 lbs. $3.50) f.o.b. here.

Ventura Wonder Wax

Nearly all agree that this is the most desirable flat pod, very productive; bears early, and continues nearly all summer; planted in September, if not too cold, bears until January, being rust-resistant. This bean was introduced by us in 1906, and has been the market gardener’s favorite since that time. Plant from February to October. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c prepaid) (10 lbs. $3.50 f.o.b. here). Write for quantity price, as prices fluctuate.

Davis Kidney Wax

Good bearer; pods are long, stringless and hardy; very tender when young. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c prepaid) (10 lbs. $3.50 f.o.b. here).

Baldwin Wonder Wax

A very prolific wax-podded variety which we recommend for the home garden and especially for home canning because of the beautiful waxy pods. The round fleshy pods are entirely stringless, very brittle and of exceptionally good quality. Do not fail to include this variety in your home or school garden order. (Per pkt. 7½¢) (½ lb. 30¢) (1 lb. 50c prepaid) (10 lbs. $3.50).

Rust Proof

Mr. A. C. Yingling says, "In my field of Ventura Wonder, were some Nayas mixed here and there. The Nayas Long were destroyed with rust but the Venturas were unaffected."

GROWERS WAKE UP

All Eastern United States Your Market


"RED CARS"

"We can arrange to include the finest Northern California Celery with carlots of assorted vegetables, as Beans, Tomatoes, Lettuce, Cabbage, Cauliflowers, Beets, Turnips, Carrots and other vegetables."

(Signed) by a Los Angeles Shipper.

Shipping carlots of assorted vegetables is a comparatively recent innovation, and means to the man with a small average a sure outlet for his crops, which in the aggregate amounts to many thousands of dollars to the Little Landers. When you have something to sell during the period from November 1st to May 1st, see the shipper about it.
Pole Beans

This picture shows the first row of Kentucky Wonder Wax, grown from seed of the original sport plant. This is the source of the Kentucky Wonder Wax that now has nation-wide popularity.

A WORD ABOUT POLE BEANS

Many growers hesitate to plant pole beans because of the scarcity of poles. This objection is easily overcome, and the greater profit in growing the pole varieties should be sufficient reason for going to a little extra care. Let the family gardener plant Oregon Evergreen corn early in March, and when the corn is two feet high, plant to every other hill some Kentucky Wonder, or Kentucky Wonder Wax. Thus you will have a crop of early sweet corn and an enormous crop of beans.

Kentucky Wonder Wax The Pride of the Garden This bean first appeared in the garden of Miss Callahan, on West Twelfth Street, this city. Our attention was called to it in 1898. Investigation proved it to be an entirely new variety. After two years we offered it in small quantities to our customers. Its popularity as a home garden bean soon reached nation-wide proportions, and today is offered by nearly every seedsmen in the United States. It commences to bear when scarcely higher than the average bush variety, and keeps on producing until killed by frost. It is a rampant grower, one plant filling a pole with a mass of vines densely loaded with luscious beans. They are firm, entirely stringless, and when cooked deliciously rich and buttery. The seed is brown, closely resembling that of the Kentucky Wonder. Plant from April to August. (Pkt. 7½¢) ½ lb. 30¢ (lb. 50¢ prepaid) (10 lbs. $2.50 f. 0. b. here).

Horticultural Pole Also referred to as Romaine, Cranberry, Italian and Cornfield. Its large succulent tender pods make it a desirable bean for the table. It is also one of the most desirable green shelled beans for succotash and excellent as a dry bean. (Pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid).

White Crease Back This variety is especially valuable for its extreme earliness, and its habit of perfecting all its pods at the same time. Vines small but vigorous, and, in good soil, wonderfully productive, bearing pods in clusters from four to twelve. Pods medium length, silvery green, of the best quality as snaps and stand shipping better than most sorts. The seed is small, oval, very white and hard. It is an excellent bean to cook dry or to sell on the open market as the small white bean. (Pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. $2.75 f. 0. b. here).

Kentucky Wonder Long, round pod. This is the most popular bean in Southern California, because here it grows to perfection; is more prolific than any other variety, which, together with its other good qualities, makes it the gardener's delight. Plant from April to July. Do not plant later than August, as it is very prone to rust during the month of September. (Pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. $2.75 f. 0. b. here).

LITTLE LANDERS

There is no home life so contented and happy as that of the Little Landers. These homes are in evidence everywhere in Southern California where there is easy access by street railway. The automobile is also contributing largely to the encouragement of the Little Landers. Go in any direction around Los Angeles and you will see well-kept cozy little homes on from one-half to five-acre plots. These are the "Little Landers" and many of them are making a good living on their little land.

There are many publications that may well be entitled "Helps to the Little Landers." Their pages are full of hints and information which constantly brings up new ideas that break the monotony of life and often add real dollars to the bank account.

We frequently receive inquiries asking that we recommend some publication devoted to various phases of ranch life. To such inquiries we take pleasure in making mention of the many efficient journals published in the southwest, of which we have a list prepared to answer such inquiries. Write the Dept. of Agriculture, Wash., D. C. Ark for Farmer's Bulletin No. 355, entitled "The Home Vegetable Garden."
POLE BEANS—(Continued)

White Seeded Kentucky Wonder This variety of the many pole beans may truly be termed the Market Gardener’s Money-Maker. It is as hardy and rust-resistant as the Canadian Wonder or Black Valentine, yet tender as the Old Homestead. In the South where earliness and lateness mean so much to the market gardener, the White Seeded Kentucky Wonder is far ahead of other varieties. It is enormously prolific of firm pods that withstand shipping to almost any part of the United States. It matures ten days earlier than the Brown Seeded Kentucky Wonder. The seed is pure white, and on that account is a profitable commercial bean. (Pkt. 7½e) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).

Spreckled Kentucky Wonder or Cornfield Beans This is an old-time favorite throughout the East, where almost every home gardener and market gardener will plant some of these beans in the cornfield just after the corn has received the last cultivation, planting one hill at every other stalk in every other row, and as soon as the green corn has been marketed, the bare stalks are cut out, leaving a wonderfully prolific patch of beans that are very profitable at that late season. We believe it would be quite profitable if our market gardeners would pursue that method here.

The Cornfield bean has a green pod resembling in length the Kentucky Wonder, but is larger and broader. It is entirely stringless and much more resistant to mildew and rust than other varieties. The seed is a light buff color, striped with brown.

(Pkt. 7½e) (½ lb. 20c) (lb. 30c prepaid) (10 lbs. $2.00 f.o.b. here).

Celestial or Yard Long

Yard Long Bean

A good table bean as well as a curiosity. It is very prolific and a rank grower. Should have ample arbor to climb upon. It should be grown more extensively in the home garden. It is of Chinese origin and one of the best vegetables emanating from that source. It is also absolutely rust-proof. (Pkt. 15c) (1 oz. 30c postpaid).

Superior Kentucky Wonder

We have been growing this bean on our trial grounds for two years, and are now convinced it is superior to any of the other Kentucky Wonder types offered by us.

The illustration on this page is from a photograph of a single matured vine showing its immense prolificness. The large size pods fill perfectly and in the “snap” stage are deep green color, meaty, stringless and of delicious flavor. Vines continue to bear immense quantities throughout the season if kept picked closely. When allowed to ripen the shell beans of pure white color are more excellent for winter use. It is a pole snap bean that no home garden should be without. It’s the one pole bean for any garden and you will never regret planting it. It will prove a prize winner in any contest.

Mr. Pallini writes: “You have made no mistake in offering the Superior Kentucky Wonder. You cannot say too much in praise of it.”

(Pkt. 7½e) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f.o.b. here).
POLE BEANS—(Continued)

Lazy Wife One of the best pole beans for snaps. The large, fleshy pods are five to six inches long and entirely stringless when young, have a rich butter flavor. When nearly matured they are delicious when shelled and cooked while yet green. The dry beans, too, are unsurpassed by any. The seed is white, nearly round, and some larger than a pea. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. $2.75 f. o. b. here).

The Scarlet Runner An old-time favorite that heretofore has been planted chiefly for ornamental purposes. A few people know that the Scarlet Runner may be planted May 1st and in six weeks attain a height of eight feet, and rapidly cover an arbor with vines twenty feet long.

The Scarlet Runner is constantly bearing beautiful scarlet blossoms. The vines are positively rust proof.

The Scarlet Runner pod is one of the best green beans in the world when sliced and cooked as any other green bean. They are also a splendid shell bean. The Scarlet Runner planted May 1st will bear edible pods from July 1st until late fall. When the vines mildew trim them back to within a foot of the ground. The roots will survive the winter, and by the following May will have the arbor again covered and bear green beans until August when the vines again mildew. Cut back as before and with proper irrigation they will bear another crop in October, and so on for two crops a year indefinitely.

Be sure to build a permanent arbor, and plant some Scarlet Runner during April.

(Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid).

The Arbor Bean This bean is new to the American people, but popular in Sunny Italy, where it is grown in many back yards over arbors to shade a porch or window. What has been said of the Scarlet Runner applies also to the Arbor Bean. But bear in mind, it is a more rapid grower the second and succeeding years than the first. Like the Scarlet Runner it is excellent for table use. (Pkt. 10c) (½ lb. 25c).

Los Angeles Wonder This new lima proved to be all that we claimed for it when we first offered it. It is far ahead of the Burpee’s Bush for green beans, and will yield twice as many sacks of dry beans as the common lima. The beans are very large, and in flavor equal the Monstrous Lima.

(Pkt. 7½c) (½ lb. 15c) (½ lb. 30c) (lb. 50c) postpaid; (5 lbs. $2.00 f. o. b. here).

Bush Lima Beans

SPECIAL FOR MARKET GARDENERS

The Bush Lima cannot be recommended too highly. The beans can be grown and gathered much more easily than the pole limas as the vines require no support. They can also be grown closer together. Dwarf limas are fully equal in quality to pole limas and as a rule are earlier maturing.

Limass require a longer season for maturing than other garden beans. Do not plant till the ground is dry, weather warm and danger of frost is over. If possible select rich, light soil. Plant in drills two to three feet apart, dropping the beans three to four inches apart and covering one and one-half to two inches deep. Hoe often, but only when the leaves are dry.

Fordhook is the Gardner’s Favorite

Fordhook Bush Lima! In order to get the best returns 3½ feet apart. Although this bean has been offered for several years, it is comparatively a new variety. It is an improvement over the well known Bush Lima because it is more prolific. It is a strong grower, more resistant to blight, and is more profitable to grow for the market because the pods remain green. This is of great advantage to the peddler, retailer and shipper. It has received universal praise. We recommend it to our customers for both home and market gardens—for the home gardener because of its excellent flavor and productiveness; for the market gardener because it is demanded by the shipper. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. $3.50 f. o. b. here).

Henderson’s Bush—Small white Bush Lima, of excellent flavor and enormously prolific. It is grown so extensively here that it ranks commercially with common limas and other commercial varieties. It is used largely for canning. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. $3.50 f. o. b. here).

Burep’s Bush Lima—This bean has become very popular with the market gardener in all irrigation districts because it is earlier and more easily grown. There are no vines in the way when irrigating and cultivating. It is enormously prolific and keeps bearing a long time. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. $3.50 f. o. b. here).

A Little Hint to the Newcomer

You have purchased your land, but you are all at sea about season. What to plant and when to plant it is a puzzle: just read this catalog, and you will find the answer. But that is not all; you want more advice. Well, just write us, stating the nature of your ranch with regard to the following conditions—sandy, loam, adobe, swamp, mesa, foothill, irrigation, acreage, and proximity to market. Are you a gardener or rancher? We may advise you to plant beans in the fall during September and November. When they are marketed plant potatoes or corn (as your conditions may suggest). When this crop is harvested plant potatoes again and casabas. Thus you will have three crops within twelve months. Such information is often a surprise to the newcomer, but the great southwest is full of surprises and great possibilities.

As soon as you have learned the trick, you are one of “us,” and your letters home will cause your friends to say: “There is another California prevaricator.” You just can’t make them believe it until they come.

Write to College of Agriculture, Berkeley, Cal., for Circular 121 entitled “Some Things the Prospective Settler Should Know.”
The Monstrous Bush Lima

A Great Money-Maker

Two crops a year for many years. Originated in Orange County, Cal. Introduced by us in 1917. This picture shows actual growth of the bean.

In addition to this we have numerous testimonials to the effect that we have not exaggerated when we claim this to be the largest, most prolific, most profitable and best flavored Lima bean now in existence. Like every other vegetable, it must have proper culture. Plant 6 feet by 6 feet, leaving one staked in each hill. If convenient, plant in a bedded place, about April 1st. You will then be gathering beans during September and until January, and with frost has destroyed the tender growth, prune as you would a grape vine. Soon new growth will appear and by May 1st you have a new crop as profitable as peppers or string beans or any other early vegetable. During July the vines will show age and become mildewed; prune as before and in October you will be gathering from your third crop. Continue pruning twice a year; irrigate and fertilize. (Pkt. 15c) (½ lb. 20c) (½ lb. 35c) (½ lb. 40c) (1 lb. $1.50 f. o. b. here).

There is nothing more profitable in a city garden than a dozen stalks of this wonderful bean. It is a common occurrence for gardeners to tell us of its great productivity and excellent flavor.

Our home gardener writes us that from one pound of seed planted in 1912 he gathered forty-two pounds of dry beans, besides all the green beans the family could use, and in 1913 he planted five pounds dry beans, and the vines were then beginning to bear a second crop.

Monstrous Lima

This picture shows the enormous growth of the plants of the Monstrous Lima Beans. The stalks are seven feet tall. The vines are tied to the stakes because this is not a climbing vine but a bush.

ATTENTION MARKET GARDENERS

If you are located in a nearly frostless section and have water available for irrigation, we do not think there is any more profitable crop for you to plant than the Monstrous Lima. Two crops a year indefinitely, about $600.00 per acre each year. You will have green beans when all other varieties will not bear, and possibly you would accept this advice for its truth has been demonstrated.

Year after year we have new testimonials portraying the wonderful results obtained from this Lima bean. One grower near Redondo now claims to have picked more than seven hundred pods from one vine. Another Redondo grower realized $298.89 off 5½ of an acre from second crop during June and July, pruned the vines and began picking the third crop early in October.

READ

"I want to say a word for the Monstrous Bush Lima Bean. It is the best bus bean I ever raised. Had lovely beans for Thanksgiving, Christmas and New Year's. Had friends from the East and they thought the bushes the finest as well as the beans. Picked the last man Jan. 16th, 1916, but not the last on the vines, as they were loaded, but one month the frost was a little too heavy, so we trimmed them to get ready for the early crop. Thanking you for advising the special kind. Mrs. Frank J. Lightfoot."

Limas, Pole Varieties

Write for quantity price

Pole Lima

Pole varieties of Limas are far more profitable to grow than the bush varieties; what they lack in earliness they make up in continuous bearing. They should be planted from April 1st until September 1st.

The Skillman Lima

This bean has been the market gardener's favorite for many years. It is a cross between the Burpee's Bush and the common Lima. It will produce five sacks more per acre than the common Lima. Each year we carefully hand-pick the seed stock, selecting only the true type of seed. There are no runners like the Skillman. (Pkt. 7½c) (½ lb. 20c) (lb. 50c prepaid) (10 lbs. $3.25 f. o. b. here).

Large White Lima

One of the best shell beans. Either green or dried. Very prolific; pods large. (Pkt. 7½c) (½ lb. 30c) (½ lb. 50c prepaid) (10 lbs. $2.50 f. o. b. here).

King of the Garden

Very prolific, large and desirable for the home garden and for the market gardener. (Pkt. 7½c) (½ lb. 10c) (lb. 50c prepaid) (10 lbs. $2.50 f. o. b. here).

Carpenteria

This is just the Lima for the market gardener to grow for man crop. It is early and large, and can be run on a small scale. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. $2.50 f. o. b. here).

Early Leviathan

We recommend this variety to be planted where it may have a trellis to climb upon. It is the ideal Lima for the home garden. It is very productive. The pods grow in clusters. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. $2.50 f. o. b. here).

Some Bean Patch

A grower who is too modest to permit the publication of his name, remarked to us that in the fall of 1916 he sold his bean crop at five cents per pound and realized a gross receipt of $100,000.00 which gave him a good profit upon his investment.

In the fall of 1917 he sold his crop from approximately the same acreage, with slightly increased expense, at ten cents per pound, and realized a gross receipt of $200,000.00.

The extra $100,000.00 was invested in Liberty Bonds.

A Hint to the Rancher

The cold storage man conserves only perishable produce. You cannot very well do this with a Lima bean.

The warehouse man conserves products that are not readily perishable, such as potatoes, beans and grains of all kinds.

Would it not be advisable for you, if you can afford it, to be both grower and middle-man? If you can afford to do so, grow such crops as can be warehoused. Don't sell at harvest time, but hold until the time of advance and get the benefit that goes to the middle-man. If you cannot afford it, don't, but be industrious and the day will come when you can afford to do so.

W. G. Smith, California

I received your valuable twelfth annual Catalog on time, and have looked it over. It is a very valuable, instructive and artistic reference on the subjects treated.

Chas. P. Dabney, California

I think your catalog is the best I have ever seen. I have seen louder ones but none that seem to help the amateur to grow as well as sell.

H. V. Kimesman, California

We take occasion to compliment your firm on getting up such fine catalog and fine garden and field seeds.

Herman F. Heinkel, California

I am in receipt of your catalog which is the best I have ever received from any seed company and desire to thank you for same.

Imperial Valley

To our many patrons living in Imperial Valley, and wishing to seek further information concerning your possibilities, we advise you to read "Agriculture in the Imperial Valley" by Walter E. Packard.

In order that you may keep posted up to the minute we suggest that you write, College of Agriculture, University of California, Berkeley, Cal. for Circular No. 159, entitled, "Agricultural Clubs in California."

Broad Windsor—(See page —.) (Pkt. 10c) (½ lb. 20c post-paid). Write for quantity price.
Commercial Beans

Write for Quantity Price

BEAN CULTURE. In our 1918 catalog we included nearly two pages devoted to this subject, but since then the University of California has issued Bulletin 294 entitled Bean Culture in California. It is thoroughly Californian and complete in every detail from preparation of the soil, planting, cultivating, harvesting and marketing.

If you are interested even in a small way it will prove both interesting and valuable.

Address: College of Agriculture, University of California, Berkeley, California. Ask for Bulletin No. 294, entitled Bean Culture in California. Also write: United States Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 997. It contains some practical illustrations. They will be sent free.

Reading from left to right—Broad Windsor, Lewis Lima, Henderson Lima, Red Kidney, Pinto, Pink, Garbanza, Mexican Red, Blackeye, Lady Washington, Navy, Tepary, Navy, Lentil.

We have many inquiries from would-be growers for land suitable for growing beans. If you have any such land you wish to rent for one crop, we suggest that you list it with us. We may have an opportunity to send you a desirable reater.

Broad Windsor (Vicia faba) Sometimes called a tree bean, because of its upright growth, bearing its pods at the axil of every leaf. It is sometimes called Horse Bean. Cooked as a shell bean it is very good for table use, and is grown largely and sold at the packing stations. Because of the regularity of its stalks and its productiveness, there is nothing better to grow for healthy hog pasture, and owing to its propensity for gaining nitrogen, it is one of the best soil renovators.

The proper time to plant is in September. It will withstand frosts and a temperature cold enough to form this ice. Drill in rows as lima beans, using about fifty pounds per acre. It yields about two tons and sells for about four dollars per hundred pounds.

Henderson Bush Bean This is a small white lima, that yields largely for canneries. It is advisable to secure a contract before planting. It is harder than other limas, and will thrive under conditions that will cause others to fail.

The Lewis Lima The common lima is grown so largely in California that it easily surpasses in acreage all the other varieties combined. There are many strains of the common lima, but the Lewis is conceded to be the best. Our seed is all carefully rogued in the field, and we therefore insist that you use only our supervision at our warehouse. You will find no splits nor ratters in our seed. It is a short-sighted policy to buy cheap seed from grocers.

Tepary A small white bean similar to the Navy.

The Agricultural Experiment Station has recognized the great merit of the Tepary as a drought resistant bean, and recommended it to be grown on the mesa lands where it is too hot and dry for our common varieties to grow. It is also recommended for a summer cover crop and soil renovator, as it needs no irrigation. It yields 20 to 30 sacks of dry beans per acre. The vines should be handled when damp to avoid loss by shelving.

TEPARY and Navy planted in the same field early in June, Tepary had matured a full crop by Aug. 1st. The Navy was without a bean or flower. A hot spell destroyed the Navy, but the Tepary had already set the bean and had passed the danger period.

Pink, Mexican Red, Red Kidney All three of these varieties are good table beans. The PINK is grown largely because of its early maturity and yields profitable to the grower and finds ready sale. The MEXICAN RED is the popular bean in Mexico, and should be grown more largely here. As a table bean it is excellent, both as a dry bean and as a green shell bean, and will become more popular as it becomes better known. The LIME RED commands a higher price than other varieties. It is more hardy and more rust-resistant. The pods are long and straight, beans will weigh eighteen pounds, and is particularly easy to thresh, yet does not pop in the field.

The Blackeye This bean is always profitable to the grower because it yields 1500 to 2500 pounds per acre without irrigation, and on almost any kind of soil. It is a good cover crop and soil renovator. The beans find ready market at a fair price, but usually below that of other varieties. Rabbits will not eat the Blackeye.

French White was introduced at Vista, San Diego County, in 1897, by Mr. Peter Delpy, who brought the seed from France. It is an excellent, hardy bean, popular locally because it is earlier and more prolific than the Lady Washington. The Blackeye is a more rampant grower. The pods are tender and stringless.

Lady Washington and Navy These two varieties tie go hand in hand. Both are small white beans, but the Navy is slightly smaller and is often distinguished by being called the Small White. Lady Washington, is the Large White, yet the largest is a scant half-inch long, while the Navy is scarcely more than one-fourth inch long.

The Navy is more rust resistant.

Blue Pod Navy While this bean is no kin to the Navy bean, we have named it thus. It is earlier and more prolific than the Navy, which the dry bean so much resembles. The vine grows to a length of six feet and the pods are decidedly blue. They are also tender and good to eat as snapbeans.

BLUE POD NAVY thrives better near the coast in the fog belt. We advise against planting it where the temperature becomes excessively hot at time of blooming.
Commercial Beans—(Continued)

**Soy Bean**

Although this bean has been grown in the United States for more than one hundred years, it has been grown largely only in the East. The annual consumption within the United States is in value more than $500,000,000. R. A. Oakley, agronomist in charge of the soy seed distribution, Bureau of Plant Industry, estimates that 40,000 acres have been planted to Soy Beans within the United States during the year 1917. California has let the important product of the soil go un-noticed. Ban Churra alone exported in 1911 65,000 tons of Soy Bean Oil and 975,000 tons of Soy Bean Cake and 200,000 tons of Beans.

**Nicaragua**

Small White Nicaragua. This bean was brought to us direct from Nicaragua by Mr. H. L. Smith. It is supposed to be the Tepary. The bean is rather small and white, because the thin white coat conceals its yellow color. It is good flavored and more delicate than the Tepary bean. This is a bush bean which, when cultivated in the hand, has the appearance and texture of coarse sand mixed with enough finer material to make it extremely dusty in the dry season. Very few seeds are planted. It is too porous to supply sufficient moisture for most crops except in the rainy season when heavy showers are of daily occurrence and the vegetation luxuriant. A short spell of dry weather, however, soon parches the crops and soil and sinks a slow and the surface shows dry and dusty only a few hours after a tropical downpour, therefore, why, in spite of the copious precipitation during half of the year, practically arid conditions prevail during the months when no rain falls.

The Small White Nicaraguans are planted soon after the last rains of the season and mature in about sixty days. The preparation of the soil is very important in the growth of this variety. If the soil is too rich in vegetation and the surface being merely scratched to the depth of two or three inches by means of a stick tied to the horns of a ox), in new clearings even this poor preparation is dispensed with, the seed simply being dropped into holes made with a sharp stick. Cultivation of the growing crop is confined to a little haphazard weeding if and when the native happens to feel like it. The beans are left to dry on the plant, but many of these, however, have under cultivation it is a little difficult to ascertain the yield, but the most about fifteen hundred pounds to the acre, which, considering the methods employed, is an extremely good showing. Nicaragua grows about double the crop obtained from any other kind of bean grown in Nicaragua, but of this only, because all other kinds are planted as rainy season crops.

Owing to its heat and drought-resistant characteristics and quick-maturing habit, the Nicaragua should prove a valuable acquisition in California. It seems logical that it should thrive in many districts too dry or hot for the Tepary. The Nicaragua is a short bushy variety, more suitable for arid and semi-arid localities than inferior varieties such as the black-eye and tepary.

**Garvanza and Lentil**

Garvanza. Planted in April, should be ready to harvest in October. It will ripen with little injury. They grow a low branching bush, bearing the pods in the foliage about one foot above the ground. They are prolific, adding thirty to forty bushels to the acre, and commanding a higher price than beans. Cultivate the same as peas.

Lentils. Should be planted from January to May. They are nearly as hardy as the Winter Vetch, which the vine is more resistant. The Lentils have a time to double that of beans, and will net the grower the same crop. Cultivate the same as peas.

**Pinto Bean**

The bean that made New Mexico famous and added much to the wealth of that state. The 1917 crop in New Mexico alone estimated at $5,000,000.

One thousand carloads valued at four million dollars (.67,000) $26.00 per ton average.

It will greatly surprise you to learn that the Pinto bean is now next to the white bean in acreage, there having been more than 250,000 acres planted in 1917. This bean is well on dry land in the western part of the Great Plains, and its acreage has increased phenomenally during the last two years. The seed requirements now are about 3,000,000 pounds.

The Pinto thrives particularly well in higher altitudes where about fourteen inches of rain is the season's average. In the Pacific coastal region of the United States it is preferable to the Tepary because of a larger yield per acre and finds a ready market.

Along the Coast the fields from American-grown Pinto seed rusted abnormally while the fields grown from Siberian seed did not rust.

**Olive L. Congdon, California**

Your catalog at hand. It is what I say by in the vegetable line.

**W. H. Hughes, Texas**

By the way, your catalog is in a class by itself and has made a great impression in it than in all the other seed catalogs combined.

**Mrs. R. M. Dolve, Montana**

Your catalog certainly is filled from cover to cover with useful information. It is a book of great worth. I have been so interested in it and wherever applicable, I am going to apply it to my war garden this year.
MARKET—Besides the every-day demand at the local market places, there is the seasonal demand from outside points and for this purpose planting should range from August 1st until January 1st. See the shipper for further information. The canneries too use a large percentage. If you are conveniently located you will be fortunate to secure a contract with one of them.

Culture Beets may be planted all the year round where the temperature does not fall below 25 degrees. Sow the seed one inch deep in well prepared, moist soil in rows eight or ten inches apart, or on ridges same as lettuce. Drill twelve pounds of seed per acre. Thin out to one plant every three inches, and transplant the discarded plants in any convenient spot about the garden. The Egyptian is a small, dark red, flat, smooth variety. It is sweetest and best for the table. Irrigate about every two weeks, unless the nature of the soil is such that more frequent irrigation is found to be necessary. Mulch the soil after each irrigation. Beets are ready for use in ten weeks and continue in prime condition for another ten weeks.

Two ounces of seed for 100 feet of row.

Crimson Globe

Crimson Globe This splendid variety has now been grown quite extensively in many sections of the country and the many good reports received from old customers indicate that it gives most thorough satisfaction. It is of medium size, generally about three inches in diameter, very handsome in shape, with a remarkably smooth surface. It has a very small tap-root. Gardeners prefer it for summer planting because the large foliage protects the beet. (Pkt. 7½c) (oz. 25c) (1/4 lb. $1.25) (1 lb. $2.25).

Eclipse Is a favorite for the family garden, very sweet, tender and of fine texture. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1 lb. $2.00) postpaid.

When beet tops are young and tender they may be cooked as spinach and are as good. The stem may be par-boiled and pickled for immediate use.

Early Crosby A long time favorite for the family garden. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.10) (1 lb. $2.00).

A Word to Gardeners About Bunch Goods

This term is applied to vegetables that are tied in bunches, viz.—beets, carrots, radishes, turnips, parsnips, bunching onions, salify, kohlrabi, and spinach. Every one of the above are all-the-year-round vegetables, and every one may be cultivated as lettuce, see page 7. The growing of these vegetables is not only for Los Angeles consumption, but they are shipped with other vegetables in carloads to all parts of the United States. The tops are cut off for shipping.

Keep in mind that Southern California is the winter garden of the United States. Therefore make your big planting of these vegetables, also lettuce, cabbage and cauliflower, in August, September and October.

Read every page of this catalog. Then take good care of it, for you will need it from time to time throughout the year. Therefore keep this book until you get another.

Early Flat Egyptian

Early Flat Egyptian The market gardener's favorite on account of its beautiful appearance, earliness, and excellent flavor. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.10) (1 lb. $2.00) postpaid.

Early Blood Turnip Of large growth. Flesh very tender and retains its blood-red color when cooked. On account of its tall leaves it is a favorite summer time beet with market gardeners. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.10) (1 lb. $2.00) postpaid.

Half Long Blood Smooth, growing to good size; color dark red; top small, of upright growth. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.10) (1 lb. $2.00) postpaid.

A & M Bassano Beet Exceeds all other varieties for table use. Its delicious flavor, entire absence of fibre, smooth symmetrical shape and small root puts it in a class by itself for all-round good qualities. The market gardeners have recognized this for years and many will have no other. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.10) (1 lb. $2.00) postpaid.

Detroit Dark Red This is an ideal beet for all purposes. It cannot be excelled for the table; free from all fibre and very sweet. It is the best of all for pickling. Even the tops are good when pickled. (Pkt. 7½c) (oz. 25c) (1/4 lb. 65c) (1/2 lb. $1.25) (1 lb. $2.25) postpaid.

J. M. RUSK planted twenty-five acres to Extra Early Flat Egyptian Beet for a canny, using two hundred pounds of seed. Realized for his crop $1,127 or $35.50 per acre. The ground was occupied about four months.

No Excuse for Inefficiency on the Farm

Bulitines and Circulars

Write to the College of Agriculture, Berkeley, Cal., for a bulletin or circular on any agricultural subject in which you are interested.

Write for circular 113 entitled "Correspondence Course in Agriculture." This circular teaches you how to proceed to take correspondence lessons in one or all of thirty-eight different subjects, at no expense to you other than the time spent at interesting reading. Read this free and beneficial literature emanating from Berkeley, and if you still hunger for further information, write the Department of Agriculture, Washington, D. C., for a circular on any agricultural subject on which you desire information. All is free for the asking. (See list of books on page 8.) Read good healthy literature and be a good healthy and respected farmer and philanthropist.
A & M Stock Beets

Golden Tankard  Half Sugar Rose  Mammoth Long Red  Klein Wanzleben  Sludstrup  Golden Globe
Giant Yellow Intermediate

Note—Prices on half pound and pound quantities include postage or expressage prepaid. When sent otherwise deduct 10 cents per pound or fraction thereof. If desired sent by Parcel Post, necessary postage should be added. See our Parcel Post Schedule on cover page. If quantities are desired, do not fail to write for special prices, as all field seeds are subject to market fluctuations.

Half Sugar Rose A distinct type of Sugar Beet, producing not only a good crop, but roots of giant size and richest feed quality. It has yielded 5 tons per acre, several tons per acre more than the heaviest producers of other sorts on the list. They have a small top, and are easily trimmed. The roots are heavy, but are so easily harvested that they may be up-rooted by a push of the foot. The flesh is white, solid, tender and evry sweet and imparts a rich, pleasant flavor to dairy products, when fed to milch cows. Also particularly good for fattening hogs. Half Sugar Rose is a profitable Stock Beet to grow. (Pkt. 7½¢) (1/2 lb. 60¢) (1 lb. $1.00) postpaid; (10 lbs. $8.50) f. o. b. here.

Giant Yellow Intermediate A large variety always in favor with dairymen because it is rich, healthful to the stock, yields large tonnage per acre, and easily gathered. (Pkt. 7½¢) (1/2 lb. 60¢) (1 lb. $1.00) postpaid; (10 lbs. $8.50) f. o. b. here.

Mammoth Long Red Mangel The largest Stock Beet. Yields 50 tons to the acre. Will grow in land containing more alkali than any other beet. All stock except horses eat it readily. (Pkt. 7½¢) (1/2 lb. 60¢) (1 lb. $1.00) postpaid; (10 lbs. $8.50) f. o. b. here.

Golden Tankard Mangel. Contains more sugar and less water than any other Mangel. Rich in milk-producing qualities, hence a favorite with dairymen. Horses will eat it. (Pkt. 7½¢) (1/2 lb. 60¢) (1 lb. $1.00) postpaid; (10 lbs. $8.50) f. o. b. here.

Klein Wanzleben (Sugar Beet). This variety is without question the best in cultivation. Not the largest in size, but the richest in saccharine. It will fatten hogs as quickly as grain. (Pkt. 7½¢) (oz. 10¢) (1/2 lb. 75¢) (1 lb. $1.25) postpaid; (10 lbs. $10.00) f. o. b. here.

We have in this catalog studiously avoided listing a long line of inferior articles, but we offer only the best of everything, with instructions to the buyer when to plant each certain variety to procure the best results. If the instructions in this catalog are not followed with reasonable accuracy, failures may result. Therefore do not destroy this book as you need it constantly.

AGGELER & MUSSER SEED CO.
A & M St. Valentine Broccoli

Broccoli (a hardy strain of Califlower) is grown largely in Oregon. Eighty-four carloads were shipped from the Umpqua Valley in the Spring of '97. It is much harder than Califlower, readily withstanding a temperature of 15 degrees. Planted in July it matures in April, yielding nearly 100 per cent good heads regardless of weather conditions. Large gardeners will do well to plant it.

St. Valentine (a pure white strain) is the best. Our seed is of the English type grown extensively in the north.
(Pkt. 30c) (oz. $1.50) (1/4 lb. $5.99) (lb. $15.00).

White Cape
(Pkt. 20c) (oz. 60c) (1/4 lb. $2.00) (lb. $6.00).
Purple Cape
(Pkt. 20c) (oz. 75c) (1/4 lb. $2.50) (lb. $7.50).

A & M Swiss Chard

Culture—Same as for beets; transplant 12 inches apart in rows 18 inches apart.

Grown for its leaves only: one of the best early greens. Cook the leaves as you do spinach and the stems in cream as asparagus. Leaves grow to enormous size, 20 inches to 2 feet in length. The plant is almost perpetual if kept trimmed, but it is better to have a new crop every year. The tender leaves make it a desirable plant for poultry greens; much more desirable than alfalfa, because it can be grown with less care and in any convenient place about the premises. Try it for your hens.

Lucullus (Pkt. 75c) (oz. 20c) (1/4 lb. $1.00) (1/2 lb. $1.20) (lb. $2.00) postpaid.
White Swiss (Pkt. 75c) (oz. 20c) (1/4 lb. $1.50) (1/2 lb. $1.20) (lb. $2.00) postpaid.

For the Cabbage Worms—We do not hesitate to recommend Paris Green to be used up to two weeks before marketing the cabbage, because the spray only reaches the outer leaves that are not eaten, and because within two weeks the elements neutralize the poison. Also when only one tablespoonful of Paris Green is mixed with four gallons of water and kept well agitated there could not possibly be poison enough on a head of cabbage to even make an ant sick.

Mr. Smith, Demonstrator for the Home Garden Committee at the Examiner Garden, says there is nothing like Paris Green to clear the cabbage of both aphids and worms.

For Aphids—Spray with Black Leaf 40. Directions: One tablespoonful to two gallons of water. Add about 1/4 lb. of soap.
A & M Cabbage

A & M Early Drumhead Year by year this desirable sort becomes more and more popular. It is very early, tender, crisp, and just the right size for the dealer. Truckers like it because every stalk produces a head. (Pkt. 1 lb.) (oz. $1.00) (½ lb. $5.50) (lb. $10.00) postpaid.

A & M Scott's Cross

The introduction of this cabbage into the South-west means millions of dollars to the growers. An ordinary average yield of Winnigstadt per acre is eight to ten tons. Scott's Cross will average twelve to fourteen tons of a better grade. This means about fifty dollars per acre more at no greater expense. Scott's Cross is one of the best to grow for shipping. It is a cross between the Winnigstadt and the Flat Dutch. It promises to outrank the Winnigstadt, but up to the present time there has been some variation as to its type and uneven maturing, but it is such an excellent cabbage because of its hardiness that we have contracted with our seed grower to make a perfect type by selection. Our 1918 crop is a perfect type of the Scott's Cross, as pictured here. (Pkt. 1 ¼ lb.) (oz. $2.00) (½ lb. $6.65) (¼ lb. $10.00) (lb. $20.00) postpaid.

Henderson Early Summer A good medium-sized early flat head, very desirable for the table. (Pkt. 7½c) (oz. $1.50) (½ lb. $5.00) (lb. $15.00) postpaid.

All Seasons The heads are extremely solid, round, flattened on top and ready for market nearly as early as Early Drumhead, while considerably larger in size. It is called "All Seasons," because it is as good for autumn or winter as for early summer. (Pkt. 7½c) (oz. $1.00) (¼ lb. $3.35) (½ lb. $5.50) (lb. $10.00) postpaid.

Large Late Flat Dutch The standard sort for late crop. A large, sure heading. (Pkt. 7½c) (oz. $1.00) (¼ lb. $3.35) (½ lb. $5.50) (lb. $10.00) postpaid.

Bran Mash for Cut Worms—Paris Green 1 lb., lemons 3, molasses 2 qts., water ¾ gal., bran ¾ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly.

Danish Bullhead Since our introduction of this short-stemmed type of the Danish Bullhead, it has rapidly grown into popularity with both the grower and the shipper. Why? Because it is a sure header, adaptable to all soils, rarely shoots to seed even in most unfavorable conditions. Heads are solid and uniformly round. It is a good shipper and is not surpassed for table use. (Pkt. 7½c) (oz. $1.50) (¼ lb. $5.00) (½ lb. $8.50) (lb. $15.00) postpaid.
Milt. J. H. Beckham says—"I transplanted Glory of Enkhuizen Cabbage, September 26, and began marketing, December 16, just 80 days. At least 90% headed perfectly. None shot a seed. Heads run about 12 lbs."

Glory of Enkhuizen

The grower who introducing this variety pronounced it the ideal for the home and for Liberty Cabbage, surpassing all others in excellence of quality and flavor. It is similar in shape and habit to the Danish Ballhead, just ideal for the local market. (Pkt. 7½c) (oz. $1.00) ($2.00) (lb. $10.60).

Liberty Cabbage. From the Arizona agricultural extension service we have the following directions for making Liberty Cabbage:

Shred the cabbage finely, using a shredder which cuts it into long, thin strips. Have a barrel or keg perfectly clean and well scaled. Mix a pint of sugar and a pint of salt and sprinkle about a tablespoon over the bottom of the barrel. Shred the cabbage into the bottom of the barrel to a depth of about six inches, and over this sprinkle a heaped tablespoon of sugar and salt. Then pound the cabbage well shredded in some more, sprinkle on more salt and sugar, and pound again. This process is continued until the barrel is full, and the more the cabbage is pounded the better.

Place a cloth over the top of the cabbage and fit a board cover inside the top of the barrel so that it will settle down under the weight of a rock or something heavy placed thereon. Set this in a warm place to ferment. In about three days the juice will come up and cover the cabbage; fermentation will begin at once and it will be ready to eat in about four weeks.

Copenhagen Market

Our European grower has given great praise to this variety. It is earlier, larger and better than the Winnowed for the local market. It is grown more extensively for the markets of Northern Europe than any other variety. It excels because of its extreme tenderness and delicious flavor, which is compared with cauliflower. We give it urgent recommendation to growers for the home market and for home gardens. (Pkt. 10c) (oz. 5c) (½ lb. $2.20) (½ lb. $3.50) (lb. $6.50 postpaid).

American Drumhead Savoy

The best of all stump, large size, solid head. (Pkt. 7½c) (oz. $1.50) (½ lb. $5.00) (lb. $15.00) postpaid.

Improved Red

Heads of deep color and remarkably solid. Excellent for slaw. (Pkt. 7½c) (oz. $1.50) (¼ lb. $5.00) (lb. $15.00) postpaid.

Autumn King

For four years this Giant Cabbage has astonished all who have seen it at the market. Heads weighing from forty to fifty pounds are not uncommon. It is tender and of excellent mild flavor, ideal for Liberty Cabbage, and it will yield more tons of good cabbage per acre than any other variety. (Pkt. 7½c) (oz. $1.10) (½ lb. $3.50) (lb. $10.00) postpaid.

Plant a Home Garden Now

Vegetables from the home garden are always the best. No market vegetables ever have the sweetness or flavor of those just gathered from your own back yard garden. You don't need to plant lots of seed; a few feet of ground and a supply of vegetables for a family can be grown. A back yard containing a small, well-cultivated vegetable garden is an ornament to a neighborhood. Be sure to plant a vegetable garden this spring.

Be sure to buy A. & M. packet seeds.

A & M Packet Seeds

For Cleaning Seeds

We have the most complete and best equipment in the city for cleaning and re-cleaning seeds of all kinds and of every description. At an expense of several thousand dollars we have installed three Clipper fanning mills, one suction cleaner, and the lately invented Myer Gravity Separator, which is the last word in seed cleaning machinery. It readily separates the good seed from the bad by process of gravity. Every employee connected with the house has instructions to see to it that no unclean seed is allowed to pass. Therefore we request you to report to us any violation of these instructions.

For Testing Seeds

We have with us a graduate from the agricultural college at Davis, whose duty it is to test all seeds when they come to us and again in six months, a general test is made. You can write us at any time for a germination test on any seed you contemplate buying.
A & M Cauliflower

The California Pear variety is a favorite among Californians. It is thoroughly adapted to a semi-tropical climate and is particularly suited for shipping because of the flower being completely enveloped within spiral cut leaves, which protect the flower from injury exposure to rain, sunshine or frost, particularly from injury in packing and in transit. It retains its fresh appearance longer than any other variety. It is decidedly the shipper's favorite. It is the gardener's, the dealer's, and the consumer's favorite. To be packed for shipping it is only necessary to cut the stem at the base of the head, and the leaves about four inches above the head. This leaves foliage enough to cover the crown without wrapping in paper. These heads are packed two layers in a crate (15 inches deep), with the base at the top and bottom, the crowns facing in the center, usually 16 heads per crate. A small grower may plant at any time from May until November, but for profit the shipper should carefully pursue instructions given with each variety.

Early California Pearl

Attains a height of two to three feet. Plant seed from June 1st until November. In six to eight weeks transplant two inches apart in rows two and one-half feet apart. (Pkt. 15c) (1/4 oz. 35c) (oz. 75c) (1 lb. $1.50) (10 lb. $15.00) postpaid.

Late California Pearl

Attains a height of three to four feet. Plant seed from June 1st until November. In six to eight weeks transplant two feet apart in rows three feet apart. (Pkt. 10c) (1/2 oz. 65c) (oz. $2.00) (1 lb. $9.00) (10 lb. $90.00) postpaid.

Extra Early Snowball

Has proven perfectly satisfactory for early plantings. Plant seed from June 1st until November. In six to eight weeks transplant two feet apart in rows three feet apart. (Pkt. 25c) (1/4 oz. $1.00) (oz. $6.00) (1 lb. $21.00) (10 lb. $210.00) postpaid.

California Mammoth

Medium early. Is the largest in the world. It is not uncommon to attain 16 inches in diameter, while 18 and 21 inches is the average. It is of California origin. (Pkt. 25c) (1/4 oz. $1.00) (1 lb. $10.00) (10 lb. $100.00) postpaid.

Autumn Giant

Heads large, firm and compact, thoroughly protected by foliage. (Pkt. 25c) (1 oz. $6.00) (1 lb. $11.00) (10 lb. $110.00) postpaid.

Danish Giant or Dry Weather

Dry Weather Cauliflower merits the confidence of all growers as an all-year round variety. It has proven conclusively to be the best for early planting. We give it special recommendation for the first early and late planting. It requires rich soil and good cultivation, but will withstand more drought than any other variety. (Pkt. 25c) (1 oz. $5.00) (1 lb. $10.50) (10 lb. $30.00) (1 lb. $50.00) postpaid.

Market:first week of May is the usual time to transplant the heads when the plants are six to seven weeks old. When the heads become established in the bed they are likely to be shipped prematurely. Set out the plants in rows three feet apart. Cauliflower should be kept growing continuously, as it may be injured by a check in any period of its growth, and go to seed; hence, irrigate freely. Send along 2,000 plants; six ounces to plant one acre.

A crop failure in August must not be attributed to the seed.

Early Cauliflower

Scarcely a year goes by that does not bring out some complaint from someone that the Snowball variety is unsatisfactory. We, through the grower's impulse to blame the seed. It is almost impossible to account for the individual instance, but when a large number of customers, many having good crops and a few failures, it is unreasonable to attribute the cause to the seed.

We have always advised against too early planting, because of the danger of having excessive heat. Another cause of early heading and going to seed is the injury done by the cold of night, and to many customers, many having good crops and a few failures, it is unreasonable to attribute the cause to the seed.
Sow one ounce of seed to 100 feet of row, four pounds per acre.

Carrots are very profitable because of the large quantity that a small patch can produce, and there is no waste, as any surplus may be fed to rabbits, poultry or other animals.

Carrots may be planted all the year round. Sow the seed from one-half to one inch deep in rich, moist, loamy soil, well prepared. Sow in rows eight inches apart, and as thin as the drill can be set to sow, or, if sown by hand, aim to have two seeds to the inch, or sow on ridges same as lettuce.

Plant the Oxheart variety. It is the best for the table, and the most attractive for the market. The carrot has no insect enemies. It is a profitable crop to grow. Irrigate same as for beets. Carrots are ready for use in eight weeks and remain palatable for six months longer.

Market—The local demand for Carrots is all the year round, but the chief demand is from the shipper who wants them from December 1st until May. For this trade the seed should be planted in August and September. The shipper wants the Chantenay, Oxhart and Danver Half Long.

The canning of carrots is now a large factor, and favorable contracts may be secured.

There are many rabbit hutches within the city where carrots are used throughout the year. If you live a convenient distance from one of these places you may be able to secure a contract from the owner to furnish carrots.

**Early French Forcing**

A small sort, but desirable on account of its extra early habit. (Pkt. 7½c) (oz. 25c) (¼ lb. $1.00) (lb. $3.00) postpaid.

**Danvers Half Long**

The roots are smooth and of a rich, dark orange color. One of the best sorts for a main crop, because it remains edible in the field longer than other varieties. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. $2.25) pre-paid.

**A & M Early Gem**

Somewhat resembles the Guerande or Oxhart, but is more uniform in shape, of finer texture and almost entirely free from the core usually found in other varieties. Flesh deep red, very tender and delicious in flavor. The roots generally attain from four to five inches in length and about three inches in diameter. Quality first rate, very tender, like the Early Gem, is the market gardener's favorite. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. $2.25) postpaid.

**Guerande or Oxheart**

Beautiful shape and color. The roots generally attain four or five inches in length and about three inches in diameter. Quality first rate, very tender, like the Early Gem, is the market gardener's favorite. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. $2.25) postpaid.

**Improved Long Orange**

A deep orange colored variety adapted for farm or garden culture. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. $2.25) postpaid.

**Chantenay**

Flesh is a deep golden orange color, alike in appearance, but differs from the Early Gem in being long and slender. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. $2.25) postpaid.
A & M Stock Carrots

Carrots are healthy food for stock of all kinds, and should be more generally grown.

Culture—Drill in rows 12 inches apart, and thin to three inches apart in the row. It requires five pounds of seed to plant an acre. See page 5.

Half Long White Belgian is raised exclusively for stock. Grows to a very large size; is easily gathered. Makes splendid food for cattle, horses and hogs; known to yield forty tons per acre. Will keep four or five months after pulling. (Pkt. 7½e) (oz. 15e) (¼ lb. 50c) (lb. $1.50) postpaid.

Large Yellow Belgian is similar to the above, but with a light orange color. Said to be richer, but does not keep so well. (Pkt. 7½e) (oz. 15e) (¼ lb. 50c) (lb. $1.50) postpaid.

Half Long Giant White Carrots, and desirable because it does not grow to a great depth, and although six inches in diameter, there is no hard core. (Pkt. 7½e) (oz. 15e) (¼ lb. 50c) (lb. $1.50) postpaid.

Mastedon (Cow Horn) desirable because it stands well above ground, thus being easily harvested. Although six inches in diameter, there is no hard core. We give the Mastedon special recommendation to dairymen. (Pkt. 7½e) (oz. 15e) (¼ lb. 50c) (lb. $1.50) postpaid.

A & M Celery

Grown Seed for Flavoring Per lb. 50c postpaid.

Golden Self Blanching Celery from California-grown Seed Grown by Capt. Nelson

Golden Self Blanching Celery is now the accepted standard throughout the United States, and is giving such complete satisfaction that American growers are accepting it with absolute confidence, asking only to know the reliability of the seed. That ours is reliable is proven by a three-year record of satisfied growers.

Smooth Prague, Celeriac A large celery flavored root, used extensively for flavoring soups, pickles, etc.; also relished sliced as a salad with pepper and vinegar. It is also used to flavor sausages. (Pkt. 7½e) (oz. 60c) (¼ lb. $1.00) (lb. $2.00) postpaid.

A letter from Mr. Harry Bailey, who makes a specialty of growing Celeriac, says: "Save me ½ lb. of your Celeriac if it is the same I got last fall. It is the best I ever had,"
HINTS TO MARKET GARDENERS

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 29, entitled “The Late Blight of Corn.” See list of agricultural books, page 8.

Market—There is a uniform local demand for sweet corn throughout the season, from the earliest day it is offered until the last field is harvested. Therefore, if you have some coming out every week, do not fail to offer it at special prices.

Culture—Plant from February 15th to the 1st of September in hills 18 inches apart, in rows three feet apart. Allow two stalks to the hill, break off all side shoots; cultivate after each irrigation until the corn shows the ground; irrigate every two weeks until in the milk, then once or twice a week, and this will produce a solid, tight husk, which will prevent the worms from doing damage.

We are ever on the lookout for something better than that which we have. We are constantly trying out new varieties that show merit, but we studiously refrain from offering to our customers anything new unless it is better than that which we have. It is this policy that has kept the Oregon Evergreen so valuable to our customers, as I have been with them for twelve years as the money man for the gardener. Read what follows.

A & M Oregon Evergreen

Oregon Evergreen Corn now has the endorsement of every gardener that grows for the Los Angeles market. We are safe to say that any gardener growing this will show his customers its superiority over all other sweet corn. It is many years since we first offered this new and distinctive variety. The demand has grown each year until it is now probably the only variety offered on the Los Angeles market. This excellent sweet corn has made wide progress in popularity during the season past. It leads all other varieties at Portland, Oregon. The peddlers will have no other and one no longer hears the consumer complain about the quality of the California sweet corn. The advantages of this corn over all others is its earliness, its large size, rarely less than eight inches long, clear, of husk. The kernels are firm to the tip. The husk is very thick and folds so tightly over the grains that the worm does very little damage, compared with other varieties. It is desired by the peddler and grocer because of its thick husk, and it can be held over two days before it appears old or very productive, averaging three good ears to every stalk, often bearing five marketable ears. (Pkt. 75c) (1/2 lb, 25c) (1 lb, 40c) postpaid; (10 lbs, $2.00) f. o. b. here.

A & M Early Adams

This is a blend between the Oregon Evergreen and the Eastern Extra Early Adams. The superiority of this strain over other eastern-grown Adams is shown in its earliness, size and sweetness. It is nearly as good as the Oregon Evergreen, and is earlier and harder. It is one of the many good things that originated here. Years ago when frost destroyed all early vegetables, many gardeners planted Early Adams, thinking it, too, was destroyed, but one large grower near Los Angeles for some reason did not disturb his field, and was surprised to see it until late last year, and produce a good crop, as though undisturbed by frost. This grower was selling corn three weeks earlier than Oregon Evergreen, and demonstrated that frost will not destroy this variety when quite young. (Pkt. 75c) (1 lb, 20c) postpaid; (10 lbs, $1.50) f. o. b. here.

A & M Large Adams

This is the best market variety to plant in August and September for late crop. It will mature in 56 days. (Pkt. 75c) (1 lb, 20c) postpaid; (10 lbs, $1.50) f. o. b. here.

Golden Bantam

The early varieties are somewhat smaller and less showy than the larger varieties, but for private use, where quality is preferred to size, it is excelled only by the Golden Bantam. The corn is very small, giving great depth to the kernels. The great merit of "Country Gentleman" is its fine quality. I prefer this for field corn because it gave me the use of my ground a month earlier for fall planting.

Country Gentleman

A delicious sweet corn with ears are somewhat smaller and less showy than the other varieties, but for private use, where quality is preferred to size, it is excelled only by the Golden Bantam. The corn is very small, giving great depth to the kernels. The great merit of "Country Gentleman" is its fine quality. I prefer this for field corn because it gave me the use of my ground a month earlier for fall planting.

Stowell's Evergreen

If planted at the same time with earlier varieties and at intervals of two weeks until July 1st, it will keep the table supplied until November 1st. It is hardy and productive, very tender and sugary, remaining a long time in a fresh condition suitable for cooking. (Pkt. 75c) (1/2 lb, 25c) (1 lb, 50c) postpaid; (10 lbs, $2.50) f. o. b. here.

Black Mexican

One of the best sweet corns for this section. Deliciously sweet and tender and very productive. (Pkt. 75c) (1 lb, 50c) postpaid; (10 lbs, $2.50) f. o. b. here.
Pop Corn

Rice Sharp pointed grain is preferred by vendors, but it is not profitable to grow here at usual prices because of the devastations of the worm. Per (Pkt. 75c) (1/4 lb. 15c) (1 lb. 40c) postpaid; (10 lbs. $2.00) f. o. b. here.

Pearl This is the variety so extensively and profitably grown locally. It yields enormous and at three cents per pound is very profitable, but for several years the grower has received four cents per pound for the entire crop. (Pkt. 75c) (1/4 lb. 15c) (1 lb. 40c) postpaid; (10 lbs. $2.00) f. o. b. here.

Yellow Large smooth grains of Golden Yellow color. It pops large, has excellent flavor and is the most profitable to grow, but does not sell as readily as Pearl. (Pkt. 75c) (1/4 lb. 15c) (1 lb. 30c) postpaid; (10 lbs. $2.00) f. o. b. here.

The Vine-covered Cottage that Yielded $30.00 Worth of Chayotes

Cultural Directions One fruit envelopes one seed, which sprouts from the large end. Plant where you intend it shall grow. Cover only the large end, leaving the small end exposed. (See picture.) Or let the fruit lie around until it has well sprouted, and then plant the seed, leaving the sprout well above ground. Water freely and do not be alarmed if frost should destroy it. A new shoot will soon appear. Give it abundance of water throughout the hot summer season.

Because of many complaints of failure to get them started we offer them already rooted. Rooted vines 30c each or 2 for 50c postpaid. One Chayote not rooted, 20c, or 2 for 35c postpaid. At the counter, rooted, 15c; not rooted, 10c.

RECEIPTS

Parboil, chop and water with tomato, onion and green peppers.

Fry as egg plant. Prepare as summer squash.

Use small ones, without peeling, boil until tender, cut in half, put a small lump of butter, a little sugar, salt and pepper on each one. Fry in even a few minutes.

For larger ones. Peel and cut into cubes and boil; when done, drain, add butter and seasoning and fry in pan. Let simmer until butter burns. Just before serving put tablespoon of vinegar on them.

Parboil young ones and serve as salad with mayonnaise dressing or with boiled dinner as turnips.

Spanish Style: Can be cooked Spanish with tomatoes and chili or bake in roasting pan with meat.

Braised: Also to boil until tender, slice, dip in egg and cracker crumbs and fry it.

Chayote Pudding—Boil the Chayote, mash, and rub through a sieve. To one and one-half cupfuls add one-third cupful sugar, one well beaten egg, two powdered soda crackers, one teaspoonful ground ginger, one teaspoonful of lemon extract, and one tablespoonful of butter. Mix well, turn into a greased pan and bake. This is delicious, try it.

Chayotes cooked with sliced lemon, and sugar to sweeten well, make a fine "apple" sauce, one can scarcely tell the difference.

Mrs. A. de la Mix, Nalaeau, Kauai, T. H., writes that the Chayote was grown in Portugal from time immemorial and its Portuguese name is Pipinola. She also advises that when peeling, hold the hands under water as the liquid stains and draws the skin, but does no lasting harm.

Three Most Valuable Books for California

By Edward J. Wickson, A. M.
Professor of Horticulture in the University of California; Editor of the Pacific Rural Press; Member of the National Council of Horticulture, etc.

The California Fruits and How to Grow Them
Price $3.00; postpaid to Pacific Coast, $3.15

The California Vegetables in Garden and Field
Price $2.00; postpaid to Pacific Coast, $2.15

California Garden-Flowers, Shrubs, Trees and Vines
Price $1.50; postpaid to Pacific Coast, $1.60

These three books are standard and authentic works on these subjects of fruit growing, vegetable raising, and general flower gardening about the home. Written by one who knows California conditions thoroughly. Other books are listed on page 8.
A & M Cucumbers

Market—The hot-bed cucumber is here to stay because it is profitable. There is usually an over-production in mid-summer when the price drops to 15c per lug which should never sell for less than 30c to be profitable. Probably more money is realized from Cucumbers planted September 1st than from the main crop planted earlier, since the shipper has taken hold of the hot-bed cucumber the business has grown enormously.

Culture for cold frame—Make the frame 8½ feet wide and as long as is desired, using 12 in. boards. Select a place with good loamy soil, and half with horse manure. About February 1st sow liberally with seed, in hills three feet apart each way. Stretch wire across the frame and lengthwise. New muslin in widths and lengths to cover frame. Arrange to roll the muslin on a stick as a curtain. Cover every evening, and open each day.

Field culture—Plant from March to October in hills 4 to 6 feet apart. 8 to 10 seeds to a hill. Cover an inch deep. When danger of insects is past, thin out the plants, leaving 5 or 6 of the strongest in each hill. It is ready for the table in six weeks. From planting seed the ounces of seed will plant 50 hills; two pounds to the acre.

Klondike This cucumber has steadily grown in favor since it was first offered six years ago. It is the one variety that made carload shipments possible because it is firm, dark green color, and stays green until consumed; turns neither white nor yellow with age, but stays green. It is a desirable size, just 7 to 8 inches long, symmetrical in shape, and especially crisp and palatable. It is an excellent variety for pickling when young, as well as desirable for the market. (Pkt. 7½c) (oz. 20c) (½ lb. $1.60) (lb. $8.00) postpaid.

Davis Perfection This is the ideal cucumber. Long slender, dark green, tender and crisp. It is the best all around cucumber yet offered for the family garden, and is especially desirable for pickling. It does not hesitate to plant this variety, whether you plant a dozen hills or a larger acreage. (Pkt. 7½c) (oz. 25c) (½ lb. $1.75) (lb. $8.25) (5 lbs. $35.00) postpaid.

Arlington White Spine This has been a favorite one of the best sorts for early and also for organizer, and always a good table variety. It is very prolific, and excellent for pickling when young. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.75) postpaid.

Improved Long Green Dark green, firm and crisp; a long cucumber for slicing; this is ideal for such purpose. It is very prolific, and none better for pickling. (Pkt. 7½c) (oz. 25c) (½ lb. 75c) (½ lb. $1.15) (lb. $2.25) (5 lbs. $10.00) postpaid.

Japanese Climbing Cucumber This variety should be grown more extensively; it is equal to others in quality and can be grown on the same ground in a small garden by planting near a fence or trellis of any kind, and climbs by tendrils and yellowish vine. I recommend it. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $2.00) postpaid.

Lemon Cucumber At last after years of advertising and effort to educate the home gardener to grow the Lemon Cucumber in preference to the common long green type, we can now say that at least half the people are awake to the superiority of this delicious fruit. In the past we have often regret not having tried it earlier. Everyone who has tried it finds it so admirable in its praise and would not think of omitting it from the spring garden. It is cured of a lemon when ready to use, and similar in shape, being less pointed at the ends. Plant four or five hills for a family garden. Cultivate same as other cucumbers, water freely and you will have four times as many cucumbers as any other variety will produce.

There is nothing but praise for the Lemon Cucumber, it may now be found at almost any vegetable stand, and no home garden should be without it. (Pkt. 7½c) (oz. 25c) (½ lb. 50c) (lb. $1.25) (lb. $2.50) postpaid.

When you have tasted the Lemon Cucumber write us about it that others may know how good it is.

Our Everbearing Cucumber This variety is entirely distinct from all others on account of its close, bushy growth and everbearing character as shown in our illustration. The first cucumbers are ready very early and the vines continue to flower and produce fruit continually until late in the season, whether the ripe cucumbers are picked off or not. Differing in this respect from all other varieties of cucumbers in cultivation. A single vine will show at the same time cucumbers in every stage of growth, the smaller ones being perfect in shape, of a fine green color, just the right size for pickling. As they grow larger they are entirely satisfactory as a slicing cucumber.

We recommend this to be planted in home gardens at all times, but especially in September. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (lb. $1.20) postpaid.

Chicago Pickling This is the variety that is being shipped out of Orange County to the Los Angeles pickling factories. Thirty-five carloads were shipped in, and possibly as many more came out the truck. Our seed has given these growers satisfactory results for years.

This variety is chosen because of its delicious quality and its shape, being one inch thick and three inches long when at pickling size. It is enormously prolific, bearing in clusters. We can recommend it for the home garden, but not for the market gardener, because it turns yellow soon after being taken from the vine. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.00) (lb. $4.00) (5 lbs. $24.00) postpaid.

Italian Cucumber The most every county represented at the Exhibition in San Francisco had one or more jars filled with Italian Cucumber. It is excellent for the table when quite young, and under ten inches long. It frequently grows to thirty inches in length. Sold only in packets, 7½c each.

A Word About Cucumbers

Planted from September 1st to 15th, in a sheltered place, will produce delicious cucumbers all through December and into January. This has been done frequently, but so much depends upon the changeable climatic conditions each season that there is always a risk of failure, but it is worth a trial because the expense is small compared with the profit if you succeed. Six hundred dollars from one acre of cucumbers during the month of December is easily possible.

To prolong the vitality of your vines, pick all of marketable size once each week, and then take them when ready for pickling. To grow prize cucumbers, mix a handful of fertilizer with the soil about the hill when planting, and more as the vine grows.

Gherkin This cucumber is used only when pickled, but it is the most delicious of all the cucumber family. It is not extensively grown. Planted where it may climb on a trellis, one vine will cover a section of ground by its fruits feet high and twelve feet wide, producing possibly a thousand or more of the delicious and oddly shaped gherkins. It should be planted to shade a window or back porch. Pkt. 7½c.

Just think! 1,000,000 yards of muslin means 960,000 square feet of cold frame. All Klondike cucumbers planted within an area of a square mile, 350 carloads, shipped to Eastern markets during the months of April and May.

Klondike Cucumber

Our Everbearing Cucumber

Chicago Pickling

Italian Cucumber

A Word About Cucumbers

Gherkin
**A & M Chicory**

The roots, dug in the fall, dried, cut in thin slices, and ground, are used largely as a herb for coffee. Seed should be sown thinly in shallow drills early in the spring. When well started, thin out to stand two or three inches apart in the row, and given good cultivation all summer. (Pkt. 75c) (oz. 40c) (1/4 lb. $1.35) (lb. $4.00) postpaid.

**Witloof Chicory**

Sow the seed in deeply prepared ground during June, July and August. Thin out to eight inches apart in rows twelve inches apart. In the fall take up the roots and store them in a moist box in a cool place until used. The roots make a good substitute for cabbage for a month or longer. This can be done by burying them in sand. In December make trenches ten inches deep and twelve inches wide, and loosen the soil for ten or twelve inches deeper. Set the roots three inches apart in rows six inches apart, within the trench, so the tops of the roots are eight inches below the surface. Then fill with sand, water thoroughly and cover with manure. In two to four weeks tender heads will form and be ready to use as a salad with French dressing.

This is a most delicious salad, and many Eastern growers are making a specialty of it, selling to hotels at fancy prices. We suggest it to our many mushroom growers, believing it will go nicely hand-in-hand with the growing and serving of mushrooms. (Pkt. 10c) (oz. 30c) (1/4 lb. $1.75) (1/2 lb. $2.75) (lb. $5.00) postpaid.

**A & M Collards**

The Collard is an old-time favorite, adapted to all parts of the country as a producing of “greens” for boiling in winter and spring it has no equal. It will pay you to have a collard patch just to feed the chickens.

**Southern Georgia Collard**

This variety is the old-time favorite. Stands all sorts of adverse conditions without injury. It is very hardy. In many places where the soil is too poor to grow cabbage, the collard grows easily and makes a good substitute for cabbage. (Pkt. 75c) (oz. 20c) (1/4 lb. 65c) (1/2 lb. $2.00) postpaid.

**A & M Cress**

**Pepper Grass**

Sow curled or pepper grass thickly, in two to three weeks. It should be cut off when young, and will continue to grow. It is used not only for salad, but on the breakfast table and for making pickles, relishes, etc. It has a peculiarly, agreeable flavor. (Pkt. 75c) (oz. 15c) (1/4 lb. 40c) postpaid.

**True Water Cress**

Should be sown in damp soil or a stream of water can be utilized, it would be much better. It will also thrive in damp cold frames. Rightly managed, its culture is very profitable. (Pkt. 75c) (oz. 35c) (1/4 lb. $1.00) postpaid.

**A & M Corn Salad**

Culture—Sow any time from Oct. 1st until December. Plant and cultivate the same as lettuce. It is hardy in this climate and should continue to grow from season to season. (Pkt. 75c) (oz. 25c) (1/4 lb. 75c) (1/2 lb. $2.25) postpaid.

**CHERVIL**

(Pkt. 75c) (oz. 25c)

**A & M Dandelions**

Sow early in spring, in very warm, rich soil, in drills eighteen inches apart; thin to five inches apart and cultivate well. They will be fit for cutting the next spring. When grown for the roots, sow in September and cultivate well during the fall and the following summer; the roots will be fit to dig in October.

**Improved Thick Leaved**

Unsurpassed in thick-greenness of leaf and deep green color. It is compact and forms an upright regular tuft at the center. This cabbaging sort is much better in the common or uncultivated dandelion. Pkt. 75c.

**A & M Egg Plant**

**Market**—The sale of Egg Plant does not compare favorably with other produce, and the consumption is not large. As a result the producer of the Egg Plant which makes it at all profitable during the season of abundance. A small acreage yields enormously, but it is the very early Egg Plant which will make a profit, such as $100.00 per acre May and June are considered early.

**Culture**—The seed should be sown in hotbed during December or January; it is slow to germinate and requires warm and even temperature. The plants should be ready to set out by April 1st, and may be planted as late as August 1st. Plant eighteen inches apart. Keep well watered, and pick close as soon as large enough. In very warm protected spots they will survive the winter. Even though the foliage is destroyed sprouts may appear; the following spring from the stem beneath the soil and mature marketable fruit the following May. Egg Plants require four to six months to mature. One-fourth pound of seed is sufficient to plant an acre.

**New York Improved**

This variety has succeeded all others, both for market and home use. The large size and high quality of its fruit, and its extreme productiveness make it the most profitable for the market gardener. It is spineless, which is a great advantage in shipping. (Pkt. 10c) (oz. 75c) (1/4 lb. $2.50) (1/2 lb. $4.00) (lb. $7.50) postpaid.

**The Tree Egg Plant**

This variety is of medium size and extreme good shape, being particularly adapted to slicing. There is no waste of material. It resists drought and bad weather to a wonderful degree, partly on account of its strong, upright growth. It bears its fruit sometimes one or two feet above the ground, thus escaping liability to rot. It is very satisfactory for the home gardener. (Pkt. 75c) (oz. 25c) (1/4 lb. 75c) (1/2 lb. $2.25) (lb. $7.50) postpaid.

**Black Beauty**

Is preferred by growers for the early market because it matures marketable sized fruit earlier than any other variety, and because the fruit is dark colored, when quite young and uniformly over the entire surface. It is entirely free from spots. It is popular because it is a money-getter. (Pkt. 10c) (oz. 75c) (1/4 lb. $2.50) (1/2 lb. $4.00) (lb. $7.50) postpaid.
Culture—Same as for lettuce. Seed may be sown any time during the year. When plants are well started, thin out to ten inches apart, or they may be transplanted. When plants have reached a good size, gather the leaves closely together and tie loosely in an upright bunch. This blanches the inner leaves in about ten days and adds to the crispness as a salad, as it renders the flavor mild and delicate. One ounce will sow 400 feet of row.

This plant furnishes an attractive and appetizing salad for the fall and winter months, or by repeated sowings a supply may be had nearly all the year round.

**Green Curled Golden Heart** Leaves are finely cut or lacinated, giving the plants a rich, mossy appearance, which is greatly enhanced when the centers are nicely blanched.

**A & M Herbs**

**Green Curled Endive**

This is the variety generally preferred because it blanches to a beautiful golden yellow. (Pkt. 7½c) (oz. 25c) (½ lb. 75c) (1 lb. $1.15) (lb. $2.25) postpaid.

**White Curled** This beautiful variety does not need blanching to prepare it for use, the mitrebs being naturally of a pale golden yellow, the finely cut and curled leaves are almost white. (Pkt. 7½c) (oz. 25c) (½ lb. 75c) (1 lb. $1.15) (lb. $2.25) postpaid.

**Batavian or Escarole** Forms large heads of broad, thick leaves, which can be blanched for a salad or it will make excellent cooked greens, as well as being useful for flavor soups, stews, etc. (Pkt. 7½c) (oz. 25c) (½ lb. 75c) (1 lb. $1.15) (lb. $2.25) postpaid.

Devote a small plot in your garden to the growing of herbs. They add to the taste of things what daintiness adds to the looks of things, and many of them may be enjoyed all the year round.

There is an increasing demand for Basil, Dill and Thyme for use in canning and pickling. It may prove profitable to contract to grow these herbs for that purpose.

**Belladonna** We have the seed for sale fresh from the grower. (Pkt. 10c) (oz. 50c) (½ lb. $1.50).

The growing of Herbs promises a profit to the grower who will go about it intelligently. We would suggest that you write United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., and ask for Bulletin No. 372, entitled, "Commercial Production of Thymol from Horsemint," by S. C. Hood. Also, same address, ask for Bulletin No. 734, entitled, "Production of Drug-Plant Crops in the United States," by W. W. Stockberger.

**Drying Vegetables and Herbs**

Because of the great necessity for the conservation of food, the Department of Agriculture published a Bulletin (No. 841) on the subject of drying fruits and vegetables with the proper recipes for cooking them. As a result of this Bulletin there is some consideration given to the idea of forming companies to go into the drying of vegetables just as is now being done with fruit, and it is much cheaper than canning and will accomplish much toward lowering the high cost of living, and toward feeding the starving millions in Europe.

Write at once to the Department of Agriculture and ask for Bulletin No. 841.
A & M Gourds

Culture—Gourds are tender annuals, so planting or climbing habit. The seed may not be planted until the ground is warm. Plant in hills and cultivate as cucumbers. Leave only three or four plants in a hill, and allow the vines to ramble or train over a trellis and for shading windows.

Dish Rag Gourd The peculiar linting of this valuable gourd gives it its name. The fruit grows about two feet long. The interior fibre is serviceable for a variety of household purposes, being used as a dish cloth or sponge. The fibre is tough, elastic and durable. (Pkt. 7½c).

Orange or Mock Orange A good old sort, the fruit often finding its way into the family picking basket. A beautiful and rapid climber, quickly covering trellises. (Pkt. 7½c).

Dipper Bowl with long handle. (Pkt. 7½c).

Bottle Bowl with short handle. (Pkt. 7½c).

Pipe Often made into pipe for smoking tobacco. (Pkt.

Nest Egg (Pkt. 7½c).

Ornamental Small, odd shapes and colors. (Pkt. 10c).

Mixed Gourds (Pkt. 7½c).

Something New Yet Ages Old

AN EDIBLE GOURD

Lately advertised as New Guinea Bean. Has been a common table vegetable in China from time immemorial. It remained for some time before to advertise "A GIA＼.

New Guinea Butter Bean." One bean suffices for several meals. "Sliced like bread, one piece is a portion for each member of the family," and such talk.

The department advertised it, "Beware of the fraud, it is not a gourd!"

All of us have curiosities and many persons have reported to us how "Good is this New Guinea Bean." We tried it and sure enough we found it even better than the most delicious marrow.

Recipe: Take fresh from the vine a young gourd about sixteen inches long and three inches in diameter or smaller, while the fuzzy growth is yet on. Cut into cubes about 1 inch, bring to a boil, pour off the water once or twice. Season with pepper and salt, add butter. You will be surprised how good it is.

Our price is not 56c for 6 seeds as advertised, but 1.5c per pkt.

A & M Kohl Rabi

Culture—Seed may be sown every first month in the year. Drill on ridges same as beets. (See page 5). Thin to three inches apart. An ounce of seed will produce 2,000 plants.

Early White Vienna

The earliest sort, very tender, excellent for table use. (Pkt. 7½c) (oz. 35c) (½ lb. $1.00) (1 lb. $3.00) postpaid.

Early Purple Vienna

Similar to above, but has flesh of purple color. (Pkt. 7½c) (oz. 35c) (½ lb. $1.00) (1 lb. $3.00) postpaid.

A & M Kale

Culture—Seed should be sown thinly, in drills, about the middle of June for the tall sorts; transplant the young plants twelve inches apart in rows three feet apart. Later in the season the dwarf sorts may be sown rather thickly in drills to furnish small heads to be cooked like spinach. One ounce to 100 feet of drill.

Tall Scotch This makes a beautiful plant, about two- and-a-half feet tall. (Pkt. 7½c) (oz. 35c) (½ lb. $1.15) (1 lb. $3.00) postpaid.

Jersey Kale A tall variety with smooth leaves. Especially useful for poultry greens. (Pkt. 7½c) (oz. 35c) (½ lb. $1.15) (1 lb. $2.00) (2 lb. $3.50) postpaid.

Siberian Kale

Two years ago we received a complaint from a grower who had ordered Tall Jersey Kale. Investigation revealed the fact that he received the Siberian Kale. This proved to be so vastly superior to other varieties that poultry-men prefer it. It is not only a more rampant grower but more tender and succulent. Indeed it surpasses all other varieties. (Pkt. 7½c) (oz. 35c) (½ lb. $1.15) (1 lb. $2.00) (2 lb. $3.50).
How to Raise Lettuce

(SEE PAGE 7)

In the bulletin, No. 160, "Lettuce Growing in California," by Stanley S. Rogers, published by the University of California, it is predicted that the lettuce industry, which has been a success in California, will continue to grow. The bulletin predicts great development of the lettuce industry, even if a demand for California lettuce could be met. It is predicted that the lettuce will be grown on a large scale as soon as the winter season is over.

Experienced growers under favorable conditions can produce 2000 heads per acre, and at an average price of 15 cents per dozen, this means, for skilful growers, a large profit. The average cost of production is $175 per acre, with the use of water for irrigation, and the cost of soil preparation.

At the time of planting, the soil should be in the finest possible condition. Many growers apply 15 to 20 tons of composted manure to the ridges, 12 to 15 inches wide, four to six inches high, and ten to 15 inches apart. The water should be run between the ridges during the days following the rain, if it is to be allowed to cover the plants. There should always be an adequate supply of water, from the time the plants have commenced to grow until they have matured.

In the interior valleys and especially in Central California, plants should be set in the field during September, should mature during December. In warm weather the lettuce should be cut and harvested as soon as possible, and never when the heads are wet, as that condition they will wilt and rot quickly. The field is gone over from two to five times during the cutting period.

At the university farm vegetable garden, 80 different varieties of lettuce were grown during the past season, and most of them did well. However, now most in favor in California are the Los Angeles or New York Market, which is best adapted for long distance shipment and which withstands cold weather injury but is not adapted to maturing during hot weather.

The greatest difficulties the lettuce grower meets are lack of a satisfactory stand, due to unfavorable weather, seed of poor quality, and lack of irrigation or under irrigation; or diseases, such as "stem rot," a fungus disease controllable by good drainage, and "sunburn," a blighting of the leaves of the heads caused by a period of excessive hot weather from the time the plants are half grown until they have commenced to head, and prevented by an adequate supply of water in early spring and by frequent irrigation during the spring if the weather is very hot and dry.

Lettuce is usually shipped in the pony lettuce crate, which weighs 400 pounds gross. About 360 crates are loaded per car. However, a lot of them are not mature when shipped. Iceberg lettuce planted later than March 1st should be grown on dark, heavy soil, because it grows on light, sandy soil the heat of the sun reflected from the sand on the side of the leaves causes them to burn almost to the heart.

This light green, curled, red-tinted leaves of the iceberg form large heads which, in the Los Angeles or New York Market, but not in California, are large as the heart of the iceberg. However, it is tender and crisp, and is of excellent flavor. (Plt. 7b, 1 oz. 36c; $1.00; $1.75) (5 lbs. $5.00) postpaid.

Los Angeles Market or A & M New York Special

This picture was taken in 1906 from the first field of this variety grown in the United States.

Los Angeles Market or New York Special

One of Agger & Musser Seed Co.'s Big Money-Makers. This is one of the many vegetables introduced by us which have become of great value to the growers of Southern California. Like the Pearl Cauliflower, Winningstad Cabbage, and Golden Self Blanching Celery, thousands of carloads of this lettuce are being shipped from Southern California, Nevada, Arizona, and many carloads from Southern Texas. This is surprising when only a few years ago we were receiving orders for one shipper to get a lettuce that would stand better than the smooth leaved varieties. We experimented with a curled variety and developed this hard headed type that weights more than two pounds per head. We shipped the first crate to a friend in Philadelphia, Pa. It arrived in perfect condition and kept good on ice for a period of three weeks, until consumed. We then introduced this as the Los Angeles Market Lettuce. It at once created a sensation with the growers, and later with the shippers, when they learned it would carry to the far east as well as cabbage. It is now shipped more extensively than any other vegetable.

This Los Angeles Market lettuce was later offered by other seedsmen in other parts under other names, such as Wonderful and New York, but as it was introduced from here and grows to perfection around Los Angeles during the winter months, the name Los Angeles Lettuce is aptly applied to it by dealers and consumers everywhere in the United States. (Plt. 71/4c. (oz. 20c) (1/2 lb. 70c) (1 lb. $1.10) (2 lb. $2.00) postpaid.

Read—STANLEY BROTHERS, at Brawley, Calif., planted fifty acres of our Los Angeles Market. The first planting yielded 22 cars of 204 crates each, 52 dozen to the crate, and sold at $3 per crate. They shipped 54 cars from 3 acres. The December planting was blighted during April, therefore, we advise planting during September and October to obtain the best results in Imperial Valley.

WHY IS IMPERIAL LETTUCE LARGER?

Mostly because they allow it to mature to good size. Los Angeles growers are too impatient to fill orders, and this impatience is costing them one-fourth of their crop. This temptation to sell before the crops mature too often robs the grower of his profit. Remember almost all crops nearly double their tonnage the last two weeks of growth.

Iceberg This is next to Los Angeles Market as the leading variety for the Southern California grower. Iceberg is a good all-season lettuce, and hundreds of carloads of Iceberg are being shipped. The Iceberg lettuce planted later than March 1st should be grown on dark, heavy soil, because if grown on light, sandy soil the heat of the sun reflected from the sand on the side of the leaves causes them to burn almost to the heart.

Lettuce is shipped in the pony lettuce crate, which weighs 60 pounds gross. About 360 crates are loaded per car. This temptation to sell before the crops mature too often robs the grower of his profit. Remember almost all crops nearly double their tonnage the last two weeks of growth.

Los Angeles Market Lettuce being loaded in the field. This truck carries 120 crates, about 8000 heads. One-fifth of an acre, and is worth about $120.00.
Big Boston

Very large, smooth-leaved, solid-heading variety; grown more extensively throughout the east and south than any other. It is congenial to all climates, and is a good shipper in flavor if it probably excels all other smooth-leaved varieties. An excellent all year round lettuce. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (½ lb. 80c) (1 lb. $1.50) (5 lbs. $6.00) postpaid.

May King

Very similar to Big Boston, without the tinge of red. It is a good shipper and of excellent flavor. (Pkt. 7½c) (oz. 10c) (½ lb. 40c) (lb. $1.25) postpaid.

Way-a-head

A large, solid-leaved, smooth-leaved variety. All green, none of the red tinge that is so much objected to on the part of the shipper and the retailer because the red tinge suggests staleness where you have the day-a-head you will have the best smooth-leaved variety on the market. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (½ lb. 80c) (1 lb. $1.50).

Paris White Cos

Upright, crisp and tender. Cos lettuce is becoming deservedly popular, and should receive more attention from market gardeners. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (½ lb. 80c) (1 lb. $1.50) (5 lbs. $6.00) postpaid.

Marblehead

A lettuce of great flavor in the East because of its delightful flavor, and because it is grown to perfection from early spring until late fall. For the Southwest it is our best summer lettuce, but like all other varieties with us, it attains its perfection during our winter months. Plant all the year round. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (1 lb. $1.75) (5 lbs. $8.50) postpaid.

Early Curling Simpson

This is a very popular variety as a loose leaf lettuce. The leaves are large, thin, very tender and of very good quality. (Pkt. 7½c) (oz. 15c) (½ lb. 40c) (½ lb. 65c) (1 lb. $1.25) (5 lbs. $5.50) postpaid.

California Cream Butter

This lettuce is similar to the Big Boston, is a good shipping variety. One gardener sold from one-half acre of this lettuce nearly three hundred dollars’ worth. It is of good flavor and beautiful in appearance. (Pkt. 7½c) (oz. 15c) (½ lb. 40c) (½ lb. 65c) (1 lb. $1.25) (5 lbs. $5.50) postpaid.

Tennis Ball

Similar to the California Cream Butter, except in size and without the tinge of red. It forms a solid head and is best for early spring. (Pkt. 7½c) (oz. 15c) (½ lb. 40c) (½ lb. 65c) (1 lb. $1.25) (5 lbs. $5.50) postpaid.

A & M Mustard

Common Wild

(Pkt. 7½c) (oz. 10c) (lb. 40c) postpaid.

White

Better for salad or culinary purposes. (Pkt. 7½c) (oz. 15c) (lb. 75c) postpaid.

Southern Giant Curled

The true curled-leaf variety so popular in the South for planting in the fall. (Pkt. 7½c) (oz. 15c) (½ lb. 40c) (1 lb. $1.25) postpaid.

Ostrich Plume Mustard

is delicious as well as ornamental; the leaves resemble ostrich plumes. Hence the name. (Pkt. 7½c) (oz. 15c) (lb. $1.50) postpaid.

A & M Mushrooms

One of the most profitable crops for the outliers that can be grown. The market is sure, because the supply never equals the demand. Mushrooms can be grown in any dark room or cellar where the temperature can be kept at 50 to 75 degrees. The main conditions in mushroom growing are proper and uniform temperature and very rich soil. One pound of spawn is sufficient for a bed 2½ feet by 2½ feet. When the very best spawn obtainable. If interested, write for circular.

Chinese White

This is a delicious vegetable and flavorful with gruit sprouts, being less pungent than the American varieties. It is greatly relished by the Orientals, and can be seen all the year round at vegetable stands kept by the Japanese and Chinese. (Pkt. 7½c) (oz. 30c) (½ lb. $1.00) (1 lb. $1.50) (5 lbs. $7.50) postpaid.

Chinese Green

This is an Oriental vegetable, and like the White Mustard, is grown all the year round, but like our American Spinach, thrives best in the winter season. (Pkt. 7½c) (oz. 30c) (½ lb. $1.25) (1 lb. $2.25) (5 lbs. $11.50) postpaid.
Deep Planting for Dry Farming to Insure a Healthy Growth

READ CAREFULLY (STUDY PICTURE)

Pulverize the soil thoroughly 10 inches or deeper. Make your furrows deep; plant the seed in the bottom of the furrow, and cover one inch deep for vine seeds and two inches for potatoes. In one week the sprout should be above the ground and the plant well rooted. In two or three weeks the vines will be beyond danger from the beetle and should be thinned leaving two plants, and the earth drawn toward the plant until it is about level. In four or five weeks, with plow or cultivator, throw the earth around the plant until the soil is hilled up about the plant and the row system is ten or twelve inches below the surface, but bear in mind that the little feeders come to the surface, and after five or six weeks, cultivation should not be more than two inches deep.

This cut shows the method of planting when dry farming is intended. If available, irrigation will be beneficial. If this method is followed, there will be little danger from blight and the vines will be healthy enough to resist other diseases.

Remember—Apply this method also when transplanting Tomatoes, Cabbage, Cauliflower and almost anything but Sweet Potatoes.

Important Information on Culture

A good rule for planting and irrigating melons, squash, pumpkins, cucumbers and tomato plants.

The soil must be thoroughly pulsed by the spade about two or three feet deep, either by rain or irrigation. When dry enough spade or plow ten or twelve inches deep. Thoroughly pulverize the soil. Make the furrows six to eight inches deep.

Plant the seed in the furrow at regular distances apart four feet for cucumbers and bush squash, six feet for muskmelons, eight feet for casabas, and ten feet for watermelons, pumpkins and vining squash.

As the plant grows the soil around it until the roots are twelve inches or more below the surface. Thin out all surplus plants as soon as they are hardy and well established. The rows are now straight and an equal distance apart. This makes it easy to cultivate close to the hills, both lengthwise and crosswise. Cultivate deeply as long as there is no danger of disturbing the roots. Be always mindful that the rows are as long as the vine, therefore, when working close to the hills and among the vines, let the hoeing or cultivating be shallow.

Do not irrigate close about the hill. Always make the irrigation furrow nearly as far from the hill as the tips of the vines.

Always cultivate the irrigation furrow as often as it is dry enough to make it dry enough to make it easy to work.

Heavy soil or loam requires less frequent irrigation than sandy soil. The term irrigation means soaking the soil thoroughly, not lightly.

If this rule is intelligently adhered to your vines will never suffer from drought, or root blight, and will be healthier in every way, because the roots are deep in the cool, moist earth unaffected by the heat of the sun. This is the secret of success with all midsummer planting.

This method also applies to the transplanting of tomatoes.

<table>
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<th>Planting</th>
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<th>Fifth Week</th>
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<td>FOR ALL KINDS OF MELONS</td>
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FOR APHIS—First keep the vines hardy by deep planting and proper cultivation, irrigation and fertilizers. Then if the aphids appear, which is unlikely, spray with Black Leaf 40° and then again with a constant flow. Lady bugs in some instances are doing the work satisfactorily.

BULL'S EYE BLIGHT that is caused by a fungus at the root, spray the hill freely with Bordeaux so that the liquid will follow the stem several inches beneath the surface. This should be done as a precaution rather than as a remedy.

One grower reported to us that the melon wilt was destroying his vines. We advised him to apply a cup of Bordeaux to the stem of the plant at the surface of the ground, and soak it in until it was thoroughly applied. This is to destroy any fungus that may exist there. He did so and reported that it saved his field and some of the vines seem to have grown six inches during the first night. Try it.

READ THIS: If you would prolong the life of your vines, make a path between the rows by training the vines to grow along the rows, and not across from one row to the other. Then at picking time do not allow the picker to tread upon the vines. To do so makes many cuts and shortens the life of the vines and lessens your profit about one-third.

A New Remedy to Combat the Beetle from Wm. E. McAlie, Kentucky:

"I have found a very preventive remedy for the Melon beetle. We have one here that is very simple, profitable and effective. When you plant your seed, set an onion set in each hill close to the plant with a small piece of dirt between the plant and the onion set, when the plant is out of danger you can market the onion if you wish. I use them cut but I have had no trouble with the three bugs in my patch and these did no harm. I had the same experience with my cucumbers." READ

Mr. Butler of Lamanda Park says: "Last year I had Melon blight and tried your Bordeaux remedy with good results. This year I tried your deep planting method and had no blight."

Bran Mash for Cut Worms

Paris Green 1 lb., lemons 3, molasses 2 qts., water 3½ gals., bran ½ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly. Or use Cut Worm Killer. See page on Insecticide READ

This Catalog comprises a list of all vegetables and farm seeds offered by us, all of which have been tried and proven to be adapted to climatic conditions of the Southwest and Mexico, BUT always have in mind, each season, even each month requires not only different varieties of seed but different strains of the various varieties. For instance, Los Angeles Market Lettuce is the best of all when planted from August 1st or September 1st, but planted after that time is very inferior, while Marblehead and iceberg Lettuce are best suited to the summer months. This applies only to the climate of the Southwest. What is true for lettuce will apply also to potatoes, beans, melons, onions and many other vegetables.

Our Selected Melon Seed

Owing to our extensive trade with large melon growers and associations, we exercise every precaution possible to secure the best type of melons. Having procured the best seed obtainable, we have them grown especially for our seed fields proved the wisdom of this method, for they showed the highest percent of perfect melons.

Read inside front cover.
A & M Casabas

(if interested write for our Casaba circular)

The casaba can be grown successfully throughout the Southwest.

The casaba is now at full zenith of popularity. Previously it was grown as a late melon to mature after the cantaloupe season. As a late melon its popularity was confined to a limited section near the Coast of Southern California. But it is now demonstrated that it can be grown in all semi-arid sections side by side with the early cantaloupes and watermelons. The carloads of large perfect casabas of the Golden Beauty variety that were shipped from the San Joaquin Valley during the past two seasons, have proved the value of the casaba as an early melon and good shipper equal to the watermelon and cantaloupe. Casabas are shipped to Los Angeles and San Francisco without crating, as are watermelons.

Our prophecy made years ago is now fully realized. We then stated that casabas would be shipped to Eastern markets in carloads, becoming one of California's most commercial products of great value. Stanislaus and Los Angeles counties are most conspicuous as shipping centers. More than one thousand carloads were shipped from these points in normal times.

The Hybrid Casaba—Grown in the Imperial Valley with early cantaloupes and watermelons, shipped without crating in the same car, it appears on the market the latter part of June and commands a much higher price per pound than watermelons. It at once finds as ready sale as other melons, and continues in unabated demand until after the New Year, when all other melons have long since disappeared from the market.

Cultivate the same as muskmelons. Plant according to your locality, from February 15th until July 15th; for late shipping June 1st to July 15th seems to be the best time for planting.

Casabas may be taken from the vine as soon as they lose the green luster, but should not be eaten until the hard rind of the Pineapple and Golden Beauty will give slightly under pressure, but the Hybrid is not at its best until the thumb can make an impression as in a mellow apple.

The best way to keep the casaba late into the fall is to gather them together on the hill and cover them completely with the vines, but do not pick them off the vine.

A & M Hybrid

This is a cross between the Winter Pineapple and the Montreal Musk melon. It grows to a very large size and is of delicious flavor. It is a rampant grower and yields enormously; as many as seventeen large melons were taken from one vine. It is profitable, early and late. Plant from March 1st until July 15th. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. $1.10) (1 lb. $2.00) postpaid.

Golden Hybrid

ATTENTION GROWERS!—We first offered this Casaba last spring. We were disappointed that so few of them appeared in the market last season. We give the melon our personal endorsement; it is as excellent as the Green Improved Hybrid, and its yellow color is in its favor for selling purposes. It will supersede the Green Hybrid as the Golden Beauty superseded the Green Winter Pineapple. (Pkt. 7½c) (oz. 35c) (¼ lb. $1.00) (1 lb. $3.00).

Improved Hybrid

The melon that made Los Angeles famous. This melon is now grown as extensively for a mid-summer crop as the muskmelon, and finds as ready sale. It originated locally, and is as distinctly a Los Angeles product as is the Los Angeles Market Lettuce. Both have made Los Angeles famous. The local and traveling public are now fully awake to the delicious flavor of this casaba. For the home garden or for the market plant the Prince of All Casabas. (Pkt. 7½c) (oz. 20c) (¼ lb. 50c) (½ lb. $1.40) (1 lb. $2.50) postpaid.

The grower that will supply the market with the Golden Hybrid will be the first to sell and command the highest price.
Golden Beauty  Introduced by us in 1908, it at once became popular locally. It is now grown more extensively throughout California than any other casaba because of its beautiful appearance, excellent shipping qualities and delicious flavor. It is the casaba that added much to the fame of California, as well as adding a million dollars each year to the wealth of the state. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. $1.30) (lb. $2.50) postpaid.

A & M True Armenian Melon  This melon is in a class by itself, just as distinct as the Casaba or Musk melon, but it is here to stay and is growing more popular each year. There is a persistent tendency to variation as to type, but all melons are good ones. Do not hesitate to plant it. (Pkt. 7½c) (oz. 30c) (¼ lb. $1.00) (½ lb. $1.75) (lb. $3.00) postpaid.

Winter Pineapple  This is the first of casabas introduced into America. We have carefully maintained the purity of type so that it is now just as distinct as when introduced nearly forty years ago. This and the Golden Beauty are identical in all except color, which when mature is light green. The Winter Pineapple is more profitable as a late melon, therefore we recommend to growers near the coast that it be planted during June. Our type of Winter Pineapple is round, selected for its good shipping qualities. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. $1.30) (lb. $2.50) postpaid.

Honey Dew  The melon with an appropriate name. The Honey Dew again made good last season. It exceeded other melons in popularity on the local market and was profitable to the grower. It yields enormously, and every melon is a good one. It is ready to pull when the color shows the slightest tendency toward yellow, and ready to eat in a few days when it is slightly soft. The picture is typical of its shape; the average size is about as large as a coconut, but the smaller sized melons are not inferior in flavor. Every melon is a good one. Flesh is light green and sweet as honey. The rind is light green or silvery-gray in color, smooth as an egg and hard as the rind of a winter squash. It is therefore a good shipper, and unlike the casaba, it is good right off the vine, and will keep good for months. This is its favor for shipping. As a local melon, it advertises itself. The first one eaten creates a desire for more. The peddler soon discovers his customers are asking for it. He must have it. Plant it in your home garden. It will afford you more pleasure than any other vegetable you have. But don’t plant it near cucumbers or casabas. (Pkt. 7½c) (oz. 35c) (¼ lb. $1.00) (½ lb. $1.75) (lb. $3.00) postpaid.

Golden Honey  This is quite distinct from the other casabas, and you will believe it has some special merit not possessed by the others or we would not offer it. Its great merit is its good keeping, good shipping, good looking and good tasting qualities. It is round as a cannon ball, size of a cocoanut, yellow as an orange, hard and solid as a base ball. May be shipped to New York in November and served for breakfast at Christmas to the delight of the consumer. Size 6 inches in diameter. Wt. 4 lbs. (Pkt. 7½c) (oz. 35c) (¼ lb. $1.00) (½ lb. $1.75) (lb. $3.00) postpaid.

Santa Claus  The name is appropriate to the melon. It is a delightful present to send to your Eastern friends at Christmas. It is of delicious flavor, beautiful in its mottled gold and black coloring, and readily keeps until January. We advise that it be grown more extensively for the local trade. The supply has not been equal to the demand for several years. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. $1.30) (lb. $2.50) prepaid.
A & M Muskmelons

Yellow Flesh Varieties

The Famous Indiana

Introduced at a wayside market two years ago by a newcomer from Indiana, whose name is Mr. Emil Hauenstein. Motorists soon learned the excellence of this melon and it was not unusual to see a score of machines in front of this stand, packed with Indiana. The picture perfectly portrays the melon which has a rich yellow flesh and a flavor that may be compared with the Armenian melon. It is heavily netted, very thick and suited for all conditions. In offering this melon we are quite in line with our established policy of bringing to your attention only the varieties that have been tried, proven and known to be of exceptional merit. We did the experimenting, you take no risk.

Butler Brothers of Lamanda Park, say of it, “It is an improvement over the Tip Top, your seed is pure, the melons are uniform.”

“Our Pineapple and Triumph are hard to beat, they are the best green fleshed melons I have ever grown, very solid and heavily netted.”

Improved Osage

For many years been one of the leading varieties in the East because of its earliness and excellent flavor. It is of medium size, salmon flesh, with green skin, similar to the well-known Burrell’s Gem. Once a customer for Osage, always a customer. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

Improved Burrell’s Gem

Has established itself as a standard melon. It is one of the biggest yielders. The shipper calls for it because it is solid and carries well in transit. The consumer wants it because of its excellent flavor. The growers all want our seed because we have the best strain. Many growers who bought from us last year have engaged their seed for next season. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

Yellow Flesh Columbus

This excellent muskmelon originated here and was introduced by us three years ago. It at once became popular with the cafeterias and hotel trade, where the entire crop of the first year was consumed. The second year the peddlers discovered that it would carry two and even three days on their wagons without deterioration. The storekeeper, too, learned of its good keeping qualities, and the housewife learned to know that every melon is a good one, so that it is now one of the most popular muskmelons in the Los Angeles market. A slightly oval melon about seven inches in diameter, entirely without ribs, but roughly netted; color, outside light creamy, inside yellow. It is enormously productive. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

GREEN FLESH VARIETIES

A & M Nutmeg

This melon, in appearance, is so similar to the Pineapple that many growers fail to notice the slight difference in size and netting, but the greatest merit is its excellent flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. $1.50) postpaid.

A & M Triumph

Is similar to the Pineapple, but not so large. This is much in its favor, as gardeners are complaining that the Pineapple is too large. It excels the Pineapple in the excellence of its flavor, and it is two weeks earlier. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. 85c) (lb. $1.00) (lb. $1.75) postpaid.

Rocky Ford

(Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. $1.50) postpaid.

Our Gold Lined Netted Rock

This is the Rocky Ford with the tinge of yellow around the seed cavity bred up to the highest state of perfection from the rust-resistant strain. The heavy netting forms a skin so hard that it will ship to the far eastern markets with practically no deterioration. The flavor outclasses all other strains of Rocky Ford. Turlock growers and shippers will have no other. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. $1.50) postpaid.

Jenny Lind

An old time favorite; small, heavily netted, well ribbed, very early and of excellent flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. $1.50) postpaid.
A & M Tip Top This melon is very popular almost to the exclusion of any other variety. This is a fine, round melon of such attractive appearance as to always sell quickly in the markets. It is sweet, juicy and delicious. The flesh is firm, but not hard, and is edible almost to the rind. The melon is of medium to large size and is one of the best yellow fleshed varieties. {PKT. 7½c} (oz. 20c) {½ lb. 60c} {½ lb. $1.00} (lb. $2.00) postpaid.

Tip Top—The Popular Muskmeleon in Southern California.

Los Angeles Market This is the largest of all the Muskmeleon family, and we positively state that none will excel it in flavor. Gardeners object to its large size, but good profit will come to the grower who will plant it. It yields an enormous crop and all melons are very large and beautiful. {PKT. 7½c} (oz. 15c) {¼ lb. 50c} {½ lb. 85c} (lb. $1.50) postpaid.

Pomegranate, or Peach-Melon For Mangos. {PKT. 7½c}.

Large Hackensack A large, round melon, flattened at the ends and well ribbed. The skin is deeply netted. The flesh is green, of delicious flavor. It is a strong grower, and is very productive. An old standard melon, in favor with market gardeners. {PKT. 7½c} (oz. 15c) {¼ lb. 50c} {½ lb. 85c} (lb. $1.50) postpaid.

A WORD ABOUT SHIPPING

An independent grower may occasionally make a very advantageous sale to a chance eastern buyer and conclude that he would be justified in making a business of shipping individually or in the language of the trade, "Be an independent shipper." When that idea comes to you just sit down a minute and figure for yourself. To build up and to hold a regular trade you must grow crops in quantities of car lots and grow them at the right time. You must be your own bookkeeper, and packer; assure all the risk of loss in transit, the risk of collection unless you receive cash in advance which is not the usual way.

Would it not be a saving of nerves, energy and less chance to lose if the grower with twenty to one hundred acres would grow seasonal produce and have something for the shipper nearly every month in the year, he would be relieved of much tedious detail and risk of loss, because he would need only to deliver his entire crop when ready at the nearest packing house receive settlement and go about his business without any care other than his growing crops. These crops must be governed by the soil and climatic conditions.

But throughout the southwest and in California particularly there may be some vegetable crop ready for the market each month of the year.

Have ready for the shipper some crop in November, December, January, February, March, April and May.

Have something for the canner—spinach and beets in March and April; tomatoes in July, August, September and October; pumpkins in November and December.

If in doubt what to plant see us about it.

See the list of books offered on page 8.


A & M Watermelons


How to Plant. See Page 37.

AGGELER

the ripe, How Preferred appeared favorite A trace popular to prefer Pti low EXCEL KLONDIKE

It desirable so soil. This gives deep cultivation at the time It is needed, mulches the soil properly, makes proper rows slightly raised in the center, allowing a low place between for irrigating. Be sure to cultivate after each irrigation, as soon as the nature of the soil will permit. If these instructions are carefully followed you will have thriving vines throughout the season.

For Dry Farming Mr. Charles Richardson says plant 16 ft apart in rows 18 ft. apart.

For Melon Blight—Mr. Van Norman of San Gabriel says: "Cover the centers where the blight first appears, with clean earth. It gives new life to the vines and prevents the spread of the blight."

For Melon Wilt—Pour a cup full of Bordeaux Mixture at the main stem so that the earth will be saturated and the soil thoroughly applied to the stem. Here is the seat of the trouble, whether fungus or an insect, and the Bordeaux will remove the cause. Butler Bros., of Lamanda complained to us that their vines were dying of wilt. We recommended this remedy which they at once applied only to the vines attacked, with the result that the vines revived, and in one night appeared to have made a new growth of six inches. They then applied it to the entire field, and saved it for the season. But Mr. Butler says toward the close of the season it appeared again, and he believes the Bordeaux should be applied at least twice during the season.

Chilian For twenty years the leading melon and just as popular today as at any time, and is likely to continue its popularity for many years to come. Its thin rind and delicious flavor commend it to the consumer, but its good shipping and selling qualities make it a favorite with the grower and dealer. It is very prolific and just a desirable size for the peddler to handle, and every melon is a good one.

White Seeded Angeleno The most attractive in appearance of all watermelons,—its large size, beautiful dark green rind with a tinge of gold showing through the green. No other variety compares with the Angeleno in its bright red flesh, red to the rind and entirely free from fibre, simply melts to water, and not excelled in flavor. If the picker will observe the gold showing through the green as soon as it is ripe, he need never pick an unripe melon.

As a shipper it is extraordinary because it rarely breaks, even supporting the weight of a man weighing 170 pounds. A carload will average in weight from 25 to 30 pounds to the melon. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (½ lb. 80c) (lb. $1.50) postpaid.

Important Notice—Owing to the tendency of the seed of this melon to split open, we advise you to soak the seed in water for only a few hours. It soon closes and is ready to plant, and every seed will germinate, but if planted before soaking, the seed fills with dirt and decays. Please heed this notice.

EMMIT H. SMITH, Willows, Cali: "Your Klondike is the finest melon we ever ate." That is what they all say.

Black Seeded Angeleno Owing to the persistent demand for a black seeded melon, we have by hybridizing the Angeleno with the Black Seeded Chilian, and by four years of selection, succeeded in producing a pure Black Seeded Angeleno. It lost none of its excellence; indeed, if it were possible, it has improved. This improvement is noticeable in melons that show a trace of the stripe of the Chilian.

If you want a black seeded melon, do not hesitate to plant the Black Seeded Angeleno.

(Pkt. 7½c) (oz. 20c) (½ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

Red Seeded Angeleno In the process of breeding the Black Seeded Angeleno we have some Red Seeded Angeleno, This melon differs only in showing more of the stripe of the Chilian. The quality of the melon excels in sweetness the pure White Seeded Angeleno. (Pkt. 7½c) (oz. 15c) (½ lb. 50c) (½ lb. 80c) (lb. $1.50) postpaid.

Rattlesnake Has long been a popular melon with shippers. It is a long melon, having a white rind, with dark green stripes. Flesh of excellent flavor. (Pkt. 7½c) (oz. 10c) (½ lb. 35c) (½ lb. 60c) (lb. $1.00) postpaid.

Yellow-Fleshed Ice Cream Watermelon

This melon grows to a very large size, is long in shape and the rind an even dark green. In quality it is simply delicious, succulent and of a rich flavor peculiar to itself. (Pkt. (oz. 20c) (½ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.
Klondike This is now indisputably the most popular melon on the Los Angeles market. Why? Because it has a flavor quite as distinct from other watermelons as is a Bartlett pear from any other pear, and is sweeter even to the thin rind than any other. It is popular with the grower because it is wonderfully adapted to dry farming, wonderfully prolific, early, long and continuous bearing; the vines seem in their prime in September and October, long after other varieties have disappeared. Planted in rows twenty feet apart on dry soil that has been scientifically prepared the vines will interlace.

The seed is small. One pound of Klondike will number as many seeds as two pounds of other varieties. The color of the seed is brown, mottled black. Brown seed (Pkt. 7½¢) (oz. 20¢) (¼ lb. 65¢) (½ lb. $1.10) (lb. $2.00) postpaid.

Black Seeded Klondike Owing to the demand for a black-seeded melon we have done with the Klondike precisely as we have with the Angeleno. See description of Angeleno.

The Tom Watson has for several seasons been the most popular melon in the South. Its shape is similar to the Klondike Sweet, but the color is a lighter green. Its great merit is in its earliness, good flavor, thin rind, and good keeping qualities, making it one of the best of shippers. It is popular in the San Joaquin Valley. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 50¢) (½ lb. 80¢) (lb. $1.50) postpaid.

Blight-Proof Melon The Department of Agriculture sent out sample packets of a "Blight-Proof Melon." Mr. Bergman of Burbank had expressed to us his regret that he could raise no watermelons because of the blight which infested his soil. He planted this packet of seed in this soil, and sure enough there was no blight. Even without irrigation the vines looked抛弃, and the picture showed a good melon, on the dry, blight-infested soil. This melon, as well as every melon we opened, proved to be of excellent flavor and would prove to be a good shipper. We do not hesitate to recommend it for any purpose, but especially to be planted where blight is prevalent. (Pkt. 7½¢) (oz. 20¢) (¼ lb. 65¢) (½ lb. $1.10) (lb. $2.00) postpaid.

Kleckley Sweet This is an excellent melon either for the home garden or for shipping. It is of medium size, a very green melon, with deep red flesh of delicious flavor. Our seed positively cannot be excelled. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 40¢) (½ lb. 65¢) (lb. $1.25) postpaid.

Preserving Citron

Florida Favorite This melon is very popular with all shippers, because of its extra qualities, and all round good qualities as a good shipper. In appearance it is similar to the Rattlesnake, the rind being considerably darker. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 65¢) (½ lb. $1.25) postpaid.

Florida Favorite of our shippers, because of its extra qualities, and all round good qualities as a good shipper. In appearance it is similar to the Rattlesnake, the rind being considerably darker. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 65¢) (½ lb. $1.25) postpaid.

Preserving Citron

Citron Large Green Striped

Winter Melon This new melon is slowly but surely becoming one of the most popular because of its many good qualities which are not apparent at first acquaintance. Like the Casaba which required 12 years to establish its reputation, the Winter Melon might quickly be mistaken for a small white melon, and the dealer must be on his guard. The fruit is green and white, with a mottled mellow, and is of medium size. The fruit is green and white, with a mottled mellow, and is of medium size. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 40¢) (½ lb. 65¢) (lb. $1.25) postpaid.

A NEW WATERMELON

Irish Gray A New Watermelon. See the picture. This new watermelon has become very popular as a slipper, also as a late melon. The introducer describes it as follows: "The color of the skin is yellowish green, resembling a variety of Citron, and the rind is almost as tough as that of the Citron, it will keep in good condition for a long time after being taken from the vine, and stand long distance shipping better than any other melon, the flesh is bright sparkling red very sweet and firm. As a home market melon it is better than Kleckley Sweet, and for distance shipping it is far better than Tom Watson, it will produce 35% more good melons than Tom Watson under the same conditions." It is wonderful for the hot sun-bake, the vines are most vigorous and will resist.

Our seed was grown in San Fernando Valley, under our supervision. It has long been a favorite in the South, but we have now obtained it from Watson's and the balance is crisp, sweet and very palatable. It is enormously productive.

(Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.20) (lb. $2.25).

The Excel A new black seeded melon that has made a sensation in the South and in the San Joaquin Valley. Its surpassing merits are in the size (average weight per melon in car is 55 pounds), enormous yield, and excels all others as a shipper.

Read what the originator says of it:

During the last two years a great many growers of watermelons for market have demanded another melon. The Watson would not stand far distant shipping satisfactorily. During 1912 and 1913 I made numerous trial tests of a number of supposed new varieties, but none proved satisfactory excepting the ‘Excel.’ After my trials in 1913 I concluded to plant several hundred acres in 1914 for market, and the results of this crop was so satisfactory, and the melons pleased my customers so well, that I do not hesitate to recommend it as a market sort to every planter of melons. In fact, it will produce more large marketable melons under the same condition than any of the other sorts of the long variety, and its carrying and keeping qualities are unsurpassed.

We recommend it to all shippers who want a very large melon. (Pkt. 7½¢) (oz. 15¢) (¼ lb. 40¢) (½ lb. 65¢) (lb. $1.25).
A & M Onions

50 acres of Yellow Bermuda Onions grown for us on the ranch of Mr. Geo. Beach in Coachella Valley.

White Australian This excellent large white Onion was introduced by us in 1915 and at once proved itself a good keeper. It quickly found favor in New Mexico and Texas where it grows seed in ungentle climate. It now has a very large quantity of new seed which we offer. (Pkt. 15c) (oz. 60c) (1/4 lb. $2.25) (1/2 lb. $3.75) (1 lb. $7.00).

Crystal Wax and Yellow Bermuda

These two varieties are the same hand; they require the same climate and culture, where one thrives the other also thrives. They mature at the same time and bring about the same price on the market.

The Crystal Wax is a medium sized pure, waxy white onion. The Yellow Bermuda is a strong-set, firm, large onion of medium size. It is a yellow onion.

These are the varieties that are grown in Southern Texas and in Coachella and Imperial Valleys to the exclusion of every other variety. Why? Because they are adapted to that climate; because when planted in the latter part of September they mature in March and April, just when the market is bare and the price is highest. Onion growers are satisfied with 500 to 600 crates per acre, and 25% off color. Our seed produces 500 to 600 crates per acre, with less than 1% off color.

White Portugal, or Silverskin

A good second early white onion to follow the Extra Early White Queen. It should be planted any time from November 1st until April 1st. It is a good keeper and desired for shipping. It has long been a favorite, and probably no other variety is more generally popular with growers throughout the United States. Under good cultivation the average diameter is from four to six inches. The skin is a clear silvery white, flesh snow-white, sweet and tender. (Pkt. 75c) (oz. 50c) (1/4 lb. $2.00) (1/2 lb. $3.25) (1 lb. $6.00) postpaid.

Southport White Globe This onion now easily leads all other varieties in popularity on the Los Angeles market, and is selling readily and at higher prices. It is a good keeper, either in the field or in cold storage. It is a silvery white in color, globe shaped, and of delicious flavor. It is the popular onion with the shorter. (Pkt. 75c) (oz. 50c) (1/4 lb. $2.00) (1/2 lb. $3.50) (1 lb. $7.00).

GROWERS OF BERMUDA ONIONS

READ THIS!

We have a limited number of Prof. W. M. Mally's Bulletin on the seeding of Bermuda Onions. It is thorough and complete in every detail of the culture of this onion,—preparation of the bed, planting, culture, irrigation, cultivation, fertilizing and marketing.

Much of the cultural instructions in this book will apply to other than the Bermuda Onion.

If you wish this Bulletin, send five 2-cent stamps either to us or to the Commissioner of Agriculture, at Austin, Texas.
A & M ONIONS—(Continued)

Yellow Flat Danver

Similar to the Yellow Globe in color and quality, but somewhat flattened in shape, and is earlier. It is a fine large onion with a very small stem. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.35) (½ lb. $2.50) (lb. $4.00) postpaid.

Ohio Yellow Globe

This onion is the standard winter sort in many markets. The shape is almost globe form and the bulbs are quite large with thin necks. The skin is yellow, while the flesh is pure white, solid and of good quality. Its earliness makes it valuable for market. The crop is very uniform and ripens at one time. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.75) (½ lb. $2.75) (lb. $5.00) postpaid.

Extra Early Red Flat

This is the early onion grown in the Sacramento Valley for the San Francisco market, where it is in great demand. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.75) (½ lb. $2.75) (lb. $5.00) postpaid.

Red Weathersfield

Probably the most popular red onion, and the one grown more largely throughout the United States than any other. It is a large, medium flat onion of excellent mild flavor. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.25) (½ lb. $2.50) (lb. $5.00) postpaid.

Southport Red Globe

This beautiful onion is coming into favor here. It keeps better than other red varieties. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.75) (½ lb. $2.50) (lb. $5.00) postpaid.

Extra Early White Queen

This is by far the best early onion for this section. Seed is so very scarce that we can offer it only in small portions. (Pkt. 25¢) (oz. 75¢) (¼ lb. $2.50) postpaid.

Four Large Spanish Onions

Giant Gibraltar

Large, Brownish Yellow, somewhat flattened on under side, often weighing four lbs. Is a good keeper and is known to be adapted to climatic conditions of the southwest and Texas. (Pkt. 7½¢) (oz. 50¢) (¼ lb. $1.50) (½ lb. $2.75) (lb. $5.00)

Denia

One of the large Spanish types with extraordinary mild flavor, nearly a globe shape, slightly flattened, and nearly pure white. It is popular in the south and we recommend it to gardeners having a large local trade, and who want the heaviest yield possible. (Pkt. 7½¢) (oz. 50¢) (¼ lb. $1.50) (½ lb. $2.75) (lb. $5.00) postpaid.

Prizetaker

The handsomest, largest Yellow Globe Onion—A good keeper, of finest flavor, handsome shape and enormous size, many single onions having been raised to weigh five pounds or over from seed the first year. The Prizetaker grows always to a perfect globe shape with a bright straw-colored skin. (Pkt. 7½¢) (oz. 50¢) (¼ lb. $1.50) (½ lb. $2.75) (lb. $5.00) postpaid.

J. H. Peck, Selma, Cal., writes: "I planted ½ lb. of your Prizetaker onion seed last year on March 4th on just one tenth of an acre on reclaimed tule land, never irrigated at all. I harvested 36 sacks of 100 pounds each of fine marketable onions weighing from ½ to 3 pounds each."

Australian Brown

Quick to mature; a good keeper; solid and heavy; an excellent onion for shipping. The skin is a light brown. Its solidity gives it great weight and a sack weighs several pounds heavier than a sack of other varieties. The onions are thin-necked and ripen very early in all soils. As the plant makes a very quick growth it matures the bulbs before the hot, dry summer weather sets in, and this in connection with its exceptional keeping qualities makes it a most profitable variety. (Pkt. 7½¢) (oz. 30¢) (¼ lb. $1.50) (½ lb. $2.50) (lb. $5.00) postpaid.

Ailsa Craig

Large, Light Yellow, globe. Average weight of 600 onions from one row (not selected) 2¾ lbs. Extra selected 2 lbs. 8 oz. Probably the largest and heaviest cropping onion. (Pkt. 7½¢) (oz. 50¢) (¼ lb. $1.50) (½ lb. $2.75) (lb. $5.00) postpaid.
A & M ONIONS—(Continued)

A & M Onion Sets

Australian Brown, Yellow Dauver (lb. 35c) and Silverskin (lb. 40c) prepaid. Write for quantity prices.

The earliest onions are grown from sets planted in September. This brings them in the market in February and March, when prices are highest. About 250 lbs. of sets will plant one acre.

For the home garden no vegetable is so valuable as the onion, and for this purpose it is better to plant sets, because they are ready for the table six weeks after planting. Set them three inches apart in rows six inches apart. When ready for use, take up every other one as needed, allowing the balance to grow to mature size. One pound of sets will plant about fifty feet of row. (Lb. 35c postpaid) (10 lbs. $2.00 each, $6.00 per b. here.) Larger quantities write for prices, which range from $15.00 to $20.00 per 100 lbs.

A & M Imperial Garlic

Cultural Instructions from a Professional Grower—"I am of the opinion that it would take 256 lbs. to plant an acre of Garlic. I make my rows two feet apart; make double rows, the garlic about four inches apart in the rows each way. I believe in good soil I can raise between four and five tons per acre. Weeds will never grow in garlic, and it needs plenty of water regularly. If you leave it suffer for either water or cultivation it matures before good size. Imperial Garlic planted October 2nd, matured April 7th. The Large White Garlic planted same time matured in June. The Red Garlic is about half way between."

The Imperial Garlic Originated in the Imperial Valley, and is peculiarly adapted to that kind of climate. Like the Bermuda Onion, it matures quickly and must be harvested before the extreme heat of summer. Read what the originator says of it: "In reply to your note regarding the superior points in this garlic:" 

"1st—It is 6 weeks to two months earlier than any I have ever tried; will mature in about five months from planting. Last season I planted October 2nd and shipped the first April 7th, well matured. I bought 100 lbs. of the Large White and planted the same time. I harvested it June 1st, and got about one-half as much per acre, of an inferior quality."

"2nd—It will produce about as much again, bearing as high as forty cloves in a bulb, eighteen being the most in any variety I tried."

"3rd—It comes up readily and grows all winter and matures the first warm weather we have in the spring, while the other kinds will mature but very little growth in cold weather. This garlic is the kind that will succeed in the hot valleys of Imperial, Coachella, Yuma or in Texas, where the Bermuda Onion thrives."

"4th—My garlic was all harvested and marketed before the advent of the thrip, which did much damage to the late varieties. September and October are the proper months for planting garlic, but the Imperial Garlic may be planted as late as February." (Lb. 40c postpaid).

Market—The demand for garlic is limited but consistent and the prices have been high. Before 1914 the normal price ranged from six to twelve cents. The fall of that year and during 1915 the price advanced to twenty-five cents per lb. during the fall of 1917 the price dropped to no market at four cents. While the fall of 1918 it advanced to thirty cents.

With seed at this high price and scarce it would seem this would be a good year to plant Imperial Garlic.

Bunching Onion

Many think any white onion will do for a bunching onion, but this is not true. Our growers for fancy trade have learned that we have the best strain of seed for this purpose, and our sales amount to thousands of lbs. each year. The picture shows a sample of what our seeds produce. They are just the right shape. (Pkt. 75c) (oz. 55c) (1 lb. $1.75) (1/2 lb. $2.25, 1 lb. $5.50) postpaid.

Chives

This species of onion is extensively used for flavoring. A small spot in the garden planted to Chives will supply a family the year round. (Plants, 1 bunch, 10c) postpaid.

Chives are also easily grown from seed. Sow in beds and transplant as soon as they begin to multiply. (Pkt. 75c) (1/4 oz. 55c) (oz. 1.00).

FARM AND HOME DRYING OF FRUITS AND VEGETABLES

The bureau of plant industry, United States Department of Agriculture, has issued Farmers' Bulletin 484, "Farm and Home Drying of Fruits and Vegetables," by Joseph S. Caldwell, well. Imperative necessity demands nation wide conservation of those portions of our food crops which have henceforth been permitted to go to waste. A considerable portion of this wasted food material is made up of perishable fruits and vegetables produced in home gardens and fruit places in excess of the immediate needs of the producers and in the absence of accessible markets for the surplus drying offers a simple, convenient and economical method for preserving food materials and permits the carrying over of the surplus into periods in which fresh fruits and vegetables are expensive or unobtainable.

The bulletin may be had without cost by writing Division of Publications, United States Department of Agriculture, Washington, D. C.

FARMERS OF BERMUDA ONIONS

If you wish this Bulletin, send five 2-cent stamps either to us or to the Commissioner of Agriculture, at Austin, Texas.
A & M Okra, or Gumbo

A & M Early Greenpod
A good and healthful vegetable for a summer crop.
Culture—Plant seed from April 1st until Aug. 15th. Plant six to ten inches apart in rows three feet apart. One ounce will plant one hundred feet of row.
We have for a long time endeavored to produce an okra that is superior to the White Velvet, which has long been a favorite variety. It is a more productive variety, and has named it Aggeler & Musser's Early Greenpod.

White Velvet
On account of its attractive white color, good flavor and tender pods when young, it has long been a favorite variety. (Pkt. 75¢) (oz. 10¢) (¼ lb. 25¢) (½ lb. 40¢) (lb. 85¢) postpaid.

Mammoth Long Pod
We have greatly improved the original strain and now its productiveness is simply wonderful, the pods shooting out from the bottom of the stalk within three inches of the ground, and the whole plant is covered with them to the height of a man's head, five to six feet. Pods are an intense green in color, of unusual length, nine or ten inches, tender, and of good flavor. (Pkt. 75¢) (oz. 10¢) (¼ lb. 25¢) (½ lb. 40¢) (lb. 75¢) postpaid.

A & M Early Greenpod
75¢ postpaid.

A & M Parsnip

Our New French Parsnip
Just right for the market gardener. The picture shows the actual size at time of marketing. It grows slightly larger, but it attains this size in ninety days, which is a full month earlier than other varieties. It is crisp and succulent. It will at once supersede all other varieties because of its all-round desirability. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.20) (lb. $2.50) postpaid.

Devonshire
This Parsnip was recommended to us by our European growers. Today it is the most popular Parsnip with our market gardeners. It is scarcely more than half as long as the Hollow Crown, but it is often three inches in diameter. Tender, and has an excellent flavor. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.30) (lb. $2.50) postpaid.

Hollow Crown
Has long been a favorite in the family garden on account of its excellent table qualities. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.20) (lb. $2.25) postpaid.

Georgia Improved Peanut
Write for Special Circular

A & M Peanuts

Champion Moss Curled
Extra dark. Leaves crimped and curled, giving a most beautiful decorative appearance. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.15) (lb. $2.25) postpaid.

Emerald or Dwarf Extra Curled
Leaves tender, fully crimped; handsome, bright green color; very ornamental. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.15) (lb. $2.25) postpaid.

Extra Double Curled
A good curled variety for garnishing. (Pkt. 7½¢) (oz. 25¢) (¼ lb. 75¢) (½ lb. $1.15) (lb. $2.25) postpaid.

Hamburg Turnip Rooted
Fleshy vegetable roots for soups, etc. (Pkt. 7½¢) (oz. 10¢) (¼ lb. 25¢) (½ lb. $1.00) postpaid.

Spanish Peanut
More Profitable Than the Georgia
This is the small Round Peanut used so largely in confectionery lines. One would suppose that on account of the small size it would be unprofitable to grow. But not so. Mr. Moore, residing on the Laguna Ranch, says that it is more profitable to the grower than the Georgia because it is enormously prolific, and grows in a compact bunch on a small vine so that they may be stripped easily by pulling the entire stalk through the hand instead of picking one by one. This advantage together with the ready sale at a higher price makes the small Spanish Peanut more profitable than the Georgia. (Pkt. 10¢) (¼ lb. 25¢) (½ lb. 50¢) postpaid.

A & M Parsnip
(See Bunch Goods, Page 25)
A & M Garden Peas

Write for quantity prices on all varieties

The 1918 crops of garden peas have been very short throughout the country. Many varieties have failed entirely so that we have listed them we have none to offer until new is gathered next July.

Home Garden For the home garden we recommend Nott's Excelsior, to be planted for very early peas, and if they can be trellised, the Tall Telephone for later crop. If they cannot be trellised, plant Admiral, or any other of the later varieties offered here. All are good.

Culture—Peas are very susceptible to soil and climate. Within the radius of a few miles from Los Angeles, and in one locality or another pease may be grown every month of the year.

In a thermal zone plant peas from September 1st to February 1st; and in lowlands from January 1st to September 1st. In summer months, from May to September, plant three inches deep in heavy soil and deeper in sandy soil. From December to April plant not more than one inch deep. The object of this is to have the seed deep enough to lie in moist earth, and shallow enough to get warmth from the sun. Never irrigate after planting peas until they come up. Irrigate before planting, but do not plant until the soil is tillable.

Peas will rot in soil that is too wet, especially during the winter months. They will stand a great deal of frost and cold weather until they bloom, but after they bloom a heavy frost will destroy the pods, and if cool enough, will kill the vines. Many planters sow one hundred pounds of seed per acre, but fifty pounds of seed per acre drilled in rows and well cultivated will produce larger pods and more peas per acre besides, there will be less mildew. Put the rows north and south for winter planting to give them as much sun as possible.

At the first appearance of mildew, spray with the best sulphur obtainable, and do the spraying in the morning. If your soil is sandy it would be well to inoculate the seed with Nitrogen Bacteria.

Gradus The largest of all extra early varieties; medium to tall, quality superior to all other varieties. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here. Write for quantity price.

Dwarf Gray Sugar (Edible pods.) Of extraordinary yielding qualities. Of surpassing as an edible-pod variety. (Pkt. 7½c) (½ lb. 30c) (1b. 50c) prepaid.

American Wonder The earliest of all wrinkled peas. Of dwarf habit, growing from 9 to 11 inches high, and producing a profusion of good-sized and well-filled pods of the finest flavor. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here.

Premium Gem. A dwarf variety very prolific and sweet. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here. Write for quantity price.

Nott's Excelsior Although a few days later than the American Wonder, the pods will average fully one-third larger, containing 6 to 8 large peas, so closely packed together that they become flattened. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here. Write for quantity price.

Admiral This excellent variety was introduced locally two years ago with only a limited quantity to offer. Every grower who was fortunate enough to get some was extremely pleased with its good fortune. Has dark green foliage, profusely branching vines bearing abundantly of large, well-filled pods of delicious sweet peas that mature in twelve weeks from planting. The picture is of pods grown on our trial grounds, and shows the shape and actual size of the pod. It has had two years' trial, and every gardener that once grows it wants it again. That is the best recommendation. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f.o.b. here. Write for quantity price.

Tall Telephone Vines vigorous, growing about 4 feet high, with large, coarse, light-colored leaves and producing an abundance of very large pods filled with immense peas which are tender, sweet and of excellent flavor. Throughout the South and by some growers in California it is preferred to all other varieties because of the hardness of the vines and its large, well-filled pods, making it one of the best varieties to grow during the winter months for shipping. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here. Write for quantity price.

Stratagem A favorite in the San Francisco markets. The pods are of a dark green color and remain firm several days after picking. A very strong grower; very prolific, pods of good size and well filled. Vines stand upright about 2½ feet; an excellent variety. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here.

Yorkshire Hero A very popular market pea in this section. Abundant cropper and excellent in quality. Height 2½ feet. (Pkt. 7½c) (½ lb. 25c) (1b. 40c) prepaid; (10 lbs. $2.75) f. o. b. here. Write for quantity price.

Carloads of Green Peas

MARKET—Every Christmas day every household within the United States may have on the table green peas grown in Southern California, right fresh from the vines. If you are living in a district where peas may be safely grown during the winter months, we suggest that a number of neighbors agree to plant collectively enough acreage that shipments may be made in car lots. Not less than fifty acres should be planted to mature at one time. Thus a car load may be shipped at each picking.
A & M Peppers

Anaheim Chili Pepper

Green chilis in midsummer sell for about $3.50 per ton, bringing $300 per acre. Dried chilis bring a normal price of 26c per pound, bringing the grower about $100 per acre.

Culture—For early green peppers, sow seed in hot beds in December and January. Transplant as soon as weather and soil in your locality will permit. For main crop sow seed in February, March and April, in hot bed. Pepper seed needs the heat of a hot bed to germinate it during these months. For fall and winter crop sow seed in out-door beds well prepared, during May and June. Winter crops can be grown in places that are entirely frostless.

The popularity of this Pepper continues to grow enormously. A few years ago known only to growers in Orange County, where it was cultivated, it is now a staple article of commerce. The seed we have procured from selected pedigrees and not one pod was less than seven inches long. We grow our peppers, and have the seed taken out on our own grounds, under our supervision. It is selected pure, it is a safe crop to plant; it is not perishable. The price runs about twenty-five cents per pound dried.

The market for green chilis, too, is enormous, because of the large demand of the canneries who use the product of 1000 acres, grown in this industry is only in its infancy. The Anaheim Chili is desired above all others by the canner because of its fleshiness and slight pungency. Canned Chili was unheard of until we introduced the thick-meat, Anaheim Chili. (Pkt. 7½e (oz. 60c) ½ lb. $1.25) (1 lb. $2.75) (5 lb. $5.00)

There was such an enormous overflow of that in 1914 that the sale of chili was not a matter of price, but simply no demand equal to the supply. This has resulted in great good to the industry, because growers and canners alike sought new markets and carloads of dried chili were sold to cities that never before used them, with the result that the supply has not since been equal to the demand.

The average production per acre of green chilis is 10 tons per acre valued at $25.00 per ton, or one ton of dried chili now selling at about 20 cents per pound, this is a nice side issue for the man with a small acreage if he need money.

The supply of Anaheim and Mexican Chili has not kept up with the market for three years, and there is danger of overproduction in 1915. The market price and the demand has doubled within two years. We recommend a big planting of Chili, both Anaheim and Mexican.

The growing of peppers in Southern California ranks in importance with cabbage, cauliflower, asparagus and celery. The dried chili is being shipped East in car lots. The green chilis, Pimiento and Chinese Giant are grown all the year around for the produce markets throughout the United States, and hundreds of acres of Pimiento and Chili are grown under contract with the canned article to all parts of the world. The canned chili was unknown here until we introduced the Anaheim Chili and Pimiento.

PIMENTO

MARKET—The demand for the canned Pimento has grown to enormous proportions. It is very profitable to grow for the canneries because the Pimento is very prolific. When you contemplate planting the Pimento, figure on not less than five acres.

The Pimento as we imported it in 1906. The Pimento as we improved it.

It is now a Big Money Maker

OUR SEED IS PURE. Owing to the large acreage planted to Chili, the Pimento growers who planted seed of their own growing found their peppers badly hybridized with chili, resulting in a product that was ill-shaped and puny, therefore could not be sold on the market nor to the canner. Our seed is pure and true to type, as one large grower testified by ordering his seed from us, discarding his own. He said, "I shall hereafter depend upon you for my seed, because it is the purest I have ever planted." This pepper was introduced by us in 1911. It has already become one of California's many staples, far out-ranking the Anaheim Chili as a canned product. One cannery used the entire crop from 600 acres of Pimientos. This is because of its lack of pungency and its firm, thick fleshiness, which permits of its being scalded and peeled. It should be grown largely in the family garden, because it is delicious with salads or stuffed, and a healthy food to eat when ripe as you would eat an apple. Every home garden should have a row of this Pimento. If sausage parboil it to remove the skin. Stuffed and baked it is far superior to all other peppers. (Pkt. 7½e (oz. 60c) ½ lb. $2.00) 1 lb. $3.25) 5 lb. $15.00 postpaid.

Mexican Chili—For the first time in the history of growing Chili in California the Mexican Chili has out-classed the Anaheim Chili by several hundreds of acres. We were taught that people living in hot climates were fond of hot peppers, but it seems that it was only a local habit and that climate had nothing to do with it. The North and East have acquired the habit and our shippers are having difficulty getting growers to keep pace with the market.

Mexican Chili—For the first time in the history of growing Chili in California the Mexican Chili has out-classed the Anaheim Chili by several hundreds of acres. We were taught that people living in hot climates were fond of hot peppers, but it seems that it was only a local habit and that climate had nothing to do with it. The North and East have acquired the habit and our shippers are having difficulty getting growers to keep pace with the market.

If you have rich sandy loam with irrigation available, there is big money in growing Mexican Chilis at present prices.

If you contemplate growing Chilis consult us about it.

The Mexican Chili is in a class by itself, on account of its extreme pungency. It is not canned, but is sold almost exclusively for grinding and sold as cayenne, the trade of which is surprising. (Pkt. 7½e (oz. 45c) ½ lb. $1.35) 1 lb. $2.25) 5 lb. $14.00 postpaid.

Our seed is pure and taken from selected peppers. We recommend for planting in Southern California. The Mexican Chili is not only a big money maker but a health food. It has been proved possible again and again in this vicinity to keep a family of five provided with fresh vegetables the year around in an ordinary city lot. It only requires real interest and reasonable attention.

An amateur may at once become an expert with the aid of this catalog and A & M Seeds.
PEPPERS—(Continued)

Chinese Giant  A very large pepper of the Bull Nose type, often growing to five inches in diameter. This is the variety grown so extensively in frostless sections for the winter trade, when the grower gets as much as 20c per pound for the green pepper. One grower claims that his return from five acres was $400. (Pkt. 15c) (oz. $1.00) (½ lb. $3.00) (1 lb. $9.00) postpaid.

MARKET—For the market gardener the Chinese Giant is the big money-maker. There are instances—in the foot-hill sections where they can be grown throughout the winter—where the grower sold $900.00 worth from one acre, but as a mid-summer crop it is profitable because of its enormous production.

A & M Perfect Ruby King  Ordinarily they grow from 4 to 6 inches long by 3 to 4 inches thick. Plant is of sturdy, bushy habit, and each one produces handsome fruit. This pepper is popular because of its solid, thick meat and mild flavor. (Pkt. 7½e) (oz. 80c) (½ lb. $2.65) (1 lb. $4.25) (lb. $9.00) postpaid.

Floral Gem  This beautiful yellow pepper became popular two years ago. It is ¾ inches in diameter, 1½ inches long, delightfully pungent with a flavor quite distinct from other peppers, and commands an independent price. The supply has not yet caught up with the ever-increasing demand. (Pkt. 7½e) (oz. 50c).

Small Chili  This small pepper is ¾ inch in diameter and two to three inches long. Is very pungent and marketed when quite green, although it is also sold when it has become red. It is an old time favorite and finds a market with canners and at stores catering to the foreign trade. (Pkt. 7½e) (oz. 50c).

Cherry  A very pungent pepper round as a cherry about one inch in diameter, marketed when green. Used largely in pickling and by the foreign trade. There is a profit to the person who will specialize on this and other small pungent peppers. (Pkt. 7½e) (oz. 50c).

Chili Piquin  A very small but exceedingly pungent pepper, round as a cherry less than ½ inch in diameter. Marketed when thoroughly ripe and dried. Served on the table whole and used as wanted for seasoning. It is better than Cayenne. Also used extensively in pickling and spicing. (Pkt. 7½e) (oz. 50c).

Cayenne  A long, slim pepper, rather pointed, and when ripe a bright red color. Extremely pungent. (Pkt. 7½e) (oz. 50c) postpaid.

Tobasco  The plants develop into large bushes, bearing profusely the little bright peppers in sprays. A mature pepper measures about one inch in length. These peppers are extremely pungent. (Pkt. 7½e) (oz. 50c) postpaid.

Because this catalog is intended to be of the greatest benefit to the grower.
Because our seeds are selected to give the best results when grown according to instructions in the catalog.

THE SPACE in this catalog is devoted to hints and information useful to the grower: not "Literary rainbows" about seeds of doubtful merit intended for the "Rainbow Chaser." Our seeds are just what is claimed for them.

If this catalog pleases you, tell your neighbor to send for one.

Bell or Bull Nose  Do not confuse this with the Chinese. It is similar in shape but scarcely more than half as large. It is much more prolific and a very desirable variety for the home garden. (Pkt. 7½e) (oz. 65c) (½ lb. $2.00) (1 lb. $3.25) (lb. $9.00) postpaid.
Potatoes

READ THIS ARTICLE

Written for this Catalog by Prof. W. Y. Shear, State Horticultural Inspector.

Essential Factors in Successful Potato Growing

The best results cannot be obtained without the best seed. Over thirty per cent increase has been obtained through the use of treated seed when grown by the side of what was thought to be extra good seed stock but not treated. Plant deeply, 5 to 12 inches.

Treat seed stock before cutting. The very best seed may have traces of one or more of the many diseases to which potatoes are subject. It is, therefore, advisable to soak seed potatoes in a solution which will kill whatever disease may be lurking on the outside of the potatoes. Make this solution by dissolving four ounces of corrosive sublimate in about two quarts of hot water (be sure it is thoroughly dissolved) in a glass jar and then add to thirty gallons of cold water in wooden vessel. The potatoes should be immersed in this liquid and left to stand one or one-half hours, then drain and, if the potatoes are not to be cut immediately spread out dry. Use the same solution for only four or five lots as the strength becomes weaker the more it is used. This solution is poisonous and should be handled with care and kept where animals may not drink it. Treated potatoes should also be kept away from stock.

Cut potatoes to about two eyes and about two ounce pieces. Plant four to five inches deep, 14 inches between pieces, in rows 40 inches apart.

If potatoes follow alfalfa or Million good yields can usually be obtained without the use of commercial fertilizer; but on most soils the use of barnyard manure thoroughly worked into the soil, or commercial fertilizer will be found profitable.

Keep soil moist at all times. Do not judge moisture by appearance of the potato plants as when the plants become a very dark green or begin to turn yellow it is then too late to apply water for best results; and potatoes are likely to become rough and knobby.

Turn hill two weeks after planting a little higher at each cultivation; until at last cultivation the ridges are six to ten inches high and broad at top so that tubers will be kept cool and free from tuber moth infection.

MORE AND BETTER POTATOES

We realize that Southern California is not producing potatoes in quantity nor quality equal to other recognized potato growing regions. We have designed this advertisement to inform you how to grow potatoes in Southern California. If you have not already done so, start training yourself how to grow potatoes. It has been clearly proven by demonstration that clean seed will produce more and better Potatoes. Therefore the above slogan has been sent forth. On account of the almost universal presence in the soil of Scab and Rhizoctonia it is necessary to treat seed stock with a fungicide and use clean seed stock. Pursuant to our policy of doing everything possible to give our customers the best and cleanest seed possible we have installed a large vat in which all potato seed will be so treated there by insuring more and better potatoes for Southern California.

Our prices will be a little higher than elsewhere but clean seed will produce cleaner and 25% more potatoes per acre. As each batch of the results, we quote Mr. Crew, of Riverside County, who says:

"It was quite easy to distinguish in the field where the treated seed grew, both in the vines while growing, and in the quality of the potatoes. The seed was manured heavily, but I harvested above an average of 20% sacks per acre on a variety of less than 100 acres, and on potatoes one-half stock.

"Potato Inspection—All potatoes intended for seed purposes must be inspected by the County Agricultural authorities before they be received and again before they be shipped out. This is a great protection to the grower."

Early White Rose The greatest of our Big Money-makers.

This is the potato which stands out conspicuously among all other varieties as an all-round, uniformly good yielding potato of any kind of soil, and best in mid-summer or early. Always the best for main crops and for the table.

NOT RUNNING OUT

Now and then some alarmist will say the Early White Rose is running out. No such thing. It is more likely if anyone can be grown on sandy or sandy loam soil and if planted on rich sandy loam will produce potatoes like Mr. J. F. Robison grew at Anaheim. One potato weighed two pounds, six potatoes weighed a hundred pounds. Five potatoes laid tandem measured thirty-six inches.

This two-pound potato was handed to Jordan & Case of Redondo who cut it into 23 eyes and raised in 15 hills, 164 potatoes weighing 75 lbs. And this on sandy soil without irrigation and planted after the rainy season.

Oregon Grown White Rose

We received about December 1st, a carload of Oregon-grown White Rose Potatoes. This was from the second crop grown from the seed we sent there during the Spring of 1917. They are free from disease and as good in every way as the seed we received from there last season.

Caution—They have a potato in Oregon which goes by the name of Oregon White Rose. A potato expert says it is the British Queen, a good potato but a late variety, it is almost impossible to grow good early potatoes. This is different from the typical White Rose shown in the picture. Therefore, it will be your own fault if you allow yourself to be deceived after reading this caution.

Bliss's Triumph This is a round red potato, not a big yielder, but is the earliest potato we know of. It gets entirely ripe in nine weeks. The potatoes, after the earlies, are by far the best looking ones commercially. They are excellent for salad and are very attractive. They are large and very subject. They make small tops and the potatoes form very close together, hence they can be planted a foot apart in the rows and have room enough.

American Wonder This is a very popular early variety in the Southwest. It is a long white potato resembling the Burbank. It gets entirely ripe in three months. It is not advisable to plant them on very poor land, as you will have too many small potatoes.

Early Red Rose This is a long red potato about ten days later than the American Wonder. It is very desirable for selling in lug boxes on the early market and is better for poor land than American Wonder.

Burbank This is the best late variety, fully a month later than the White Rose. It sets heavily and yields a big crop on good land. We do not recommend them on poor land, as they make too many small potatoes.

PREVENT POTATO MOTH

J. R. Moeller of Los Angeles, writes: "I grow each year enough potatoes for my own use. I keep them free from moths between seasons by sprinkling them liberally with moth balls, then cover with newspapers and sacks over the paper."

We would advise trying this and we would be pleased if you will report.

Planted according to the phase of the moon, Arthur Wie- dumb writes: "My potatoes planted last fall at last quarter of the moon tripled in yield those planted at new moon,
A & M Sweet Potatoes

The handling of Sweet Potatoes for seed has been unsatisfactory to our customers as well as to ourselves on account of the perishable nature of sweet potatoes. However, if you wish us to secure sweet potatoes for seed purposes we will do so and send them to you at your risk.

Check or cash must accompany order.

We have no seed of any Yams or Red Jersey, only Plants, for sale only at the store.

Sweet Potato Plants We will have in large quantities, plants of the Yellow Jersey, Red Jersey, Large White, Porto Rico Yam, Southern Yam and Nancy Hall.

Georgia Yam

Believing the growing of Yams should be encouraged we offer to send by mail or express plants of the above varieties at following prices for all varieties. (50 plants 75c) (100 plants $1.00) postpaid: (1000 plants $5.00. f. o. b. here).

A word about the Porto Rico Yam—Our grower in Georgia says the Porto Rico Yams are much superior to Sweet Potatoes. The Yam on the Atlantic market sells for $2.00 per box, while Sweet Potatoes go begging at $1.25 per box.

Nancy Hall This sweet potato or Yam has become very popular in the south and east, almost to the exclusion of the common varieties of sweet potatoes. The vine shown in this picture was grown by Mr. Charles Richardson on land near the San Gabriel Wash. Soil so poor that he did not expect much of a crop but to his great surprise it turned out a record breaking crop of few to the hill but average sized potatoes. The hill shown in the picture is not exceptional. Notice the vine is only three feet in length. It is a type of Yam deliciously sweet. It is also a good keeper and shipper.

Read

During the cold weather and railroad blockade of last winter, Yams also became sold out of Jerseys, and a few commission men put some Nancy Halls on the Chicago market. They were passed on to the housewives, who soon returned for more of the "best Potatoes I ever ate." To use the expression of a commission man, Chicago went wild over the Nancy Hall Sweet Potato.

As a result of this sudden popularity, a few Illinois growers planted more Nancy Hall Potatoes this year. The indications are that the planting of this variety will be greatly increased next season. The Nancy Hall is a large Potato; it is a vigorous grower; it makes a relatively short vine; it is not so subject to disease as the Jersey or Nansemond; and it bears heavier.

A & M Pumpkins

For stock only, plant Mammoth Toure, California Mammoth, Estampes, Cushaw, Kentucky Field or Cheese, Sandwich Island, Pot Iron and Connecticut Field.

For the canneries, plant Estampes, Kentucky Field or Cheese, also Boston Marrow and Hubbard Squash.

For the home, plant Boston Pie, Seminole and Hubbard Squash.

Culture—Pumpkins delight in red, sandy soil that is perfectly moist, the soil that retains moisture by the dry farming method, because pumpkins do not want too much water, and to flood them would destroy them, so when irrigating make the furrows nearly as far from the hill as the tip of the vine, and when the vines intersect, run the water through the middle of the row. Plant the seeds every 8 or 10 feet, allowing only one plant to remain.

See Page 37—Deep Planting.

Estampes

We have the purest stock seed from which to grow this pumpkin. It is the heaviest pumpkin for its size that we know of, 100 pounds is not an unusual size for them to attain. It is the canner's favorite because of its thick, deep red flesh and the fine sweet flavor. It is without exception the best for dairy stock, and only the scarcity of the seed has prevented it from being more widely known. (Pkt. 7<2c) (1/2 lb. 50c) (1 lb. 80c) (lb. $1.50) postpaid.

The Estampes Pumpkin, weighing 131 lbs., was grown on the ranch of Mr. Hathaway. His boys are active intelligent farmers and dairymen, and give us the information that when they feed other pumpkins the cows just eat them because they have to, and the milk contains only 3% butter-fat, but when they feed the Estampes, the cows are just crazy to get at them, and the milk contains 5% butter-fat. "Just to try it out, we again fed other pumpkins and the butter-fat fell to 3%.

Sugar or Boston Pie

A small handsome variety, and very popular. The skin is a deep orange yellow; flesh fine strained and sweet in taste. Famous in Boston as a pie pumpkin. It sells better on our local market than any other variety, except the Jack o' Lantern at Halloween's time. (Pkt. 7<2c) (1/2 lb. 35c) (1 lb. 55c) (lb. $1.00) postpaid.
Kentucky Field or Large Cheese

This variety is locally called Sweet Pumpkin, and is grown more than any other of its kind for stock, because it is a good keeper, notwithstanding it has a soft shell. It is fleshy and very sweet; also very good for pie, and is largely used for canning. On one large ranch in the San Fernando Valley there was planted a large acreage to nearly all the popular varieties; this one was unaffected by the hot sun, and remained in perfect condition while other varieties were sun-burned and decayed quickly. (Pkt. 5c) (5 lb. 25c) (5 lb. 40c) (lb. 75c) postpaid.

Sandwich Island

The most popular pumpkin in Ventura County. It is as hard as a citron. A good one to plant where water is scarce. (Pkt. 7½c) (½ lb. 35c) (½ lb. 55c) (lb. $1.00) postpaid.

Mammoth Tours

Is one of our best stock pumpkins, and a most prolific yielder on good soil. It produces a pumpkin at every joint that will average fifty pounds, more or less, according to the richness of the soil. It is a very popular pumpkin where it is better known. Mr. Short, of the San Fernando Valley, says: "There is simply nothing like it for bearing." Mr. Richardson, of the San Gabriel Valley, says about the same. (Pkt. 7½c) (½ lb. 50c) (½ lb. 50c) (lb. $1.50) postpaid.

Cushaw or Crookneck

This excellent pumpkin ought to be planted more largely. It is the heaviest pumpkin for its size because of the small seed cavity. It is excellent for pica, and yields enormously. (Pkt. 7½c) (½ lb. 35c) (½ lb. 55c) (lb. $1.00) postpaid.

Japanese Pie Pumpkin

(Pkt. 7½c) (oz. 10c) (½ lb. 35c) (lb. $1.00) postpaid.

Iron Clad

This is the leading stock pumpkin in Australia. It has a silver gray color, thick fleshed heavy pumpkin with an average weight above twenty-five pounds but frequently weighing 75 lbs. Our seed was imported from Australia. It is pure. Mr. Soderberg of Van Nuys, who grew our seed, says: "I never saw a pumpkin grow such a vine. It ought to be planted twenty feet apart, even then the foliage would shade every pumpkin." (Pkt. 7½c) (oz. 10c) (½ lb. 50c) (lb. $1.50) postpaid.

MONEY IN GROWING SQUASH AND PUMPKINS. The canners consume enormous quantities. They use principally the Estampes and Large Cheese pumpkins, paying about $6.00 per ton. Next to the canners are the bakers, who use Hubbard Squash and Small Sugar, paying about $20.00 to $30.00 per ton.

PLANT PUMPKINS AND CITRON FOR THE DAIRYMEN

If you have an idle space of rich sandy loam plant pumpkins any time from May 1st to August 15th. If you have any suitably sized plot, you may plant the large green striped citron, you will be sure of a good crop.
A & M Radish

Culture—Seed may be sown the year round in California. Radishes thrive best in light, sandy loam, made rich with manure. Sow in drills, 10 inches apart. An ounce of seed will sow a hundred feet of row, 10 pounds to the acre.

Early Scarlet Turnip
One of the earliest and best sorts for forcing; its color is very handsome; flavor very mild, crisp and juicy; stands a great amount of heat without becoming pithy. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.75) postpaid.

French Breakfast
A splendid variety, medium-sized, olive-shaped, very crisp and tender; of a beautiful scarlet color. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.00) (lb. $1.75) postpaid.

Epicure Radish
Ready for the table within three weeks; always crisp, a delightful relish. The small round red and white radishes make a pretty showing. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.10) (lb. $2.00) postpaid.

Chartiers
A distinct, exceedingly handsome and attractive sort; color of top scarlet rose, shading into pure white at the tip. Attains a large size before it becomes unfit for the table. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.75) postpaid.

Early Long Scarlet
Every brittle and crisp; color a bright scarlet; small top. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.50) postpaid.

Long Black Spanish
A delicious, crisp winter radish. It sells well at the market. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.50) postpaid.

Large White Chinese
This is a winter radish of deliciously sweet flavor; can be eaten as a turnip as it is without stringency. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.00) (lb. $1.75) postpaid.

Scarlet Turnip White Tip Radish
White Tipped Scarlet Turnip
An early variety of medium size and excellent flavor, and of a very handsome appearance. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.15) (lb. $2.25) postpaid.

Long White Icicle
For the home garden we consider this a most excellent table variety. Its extreme earliness, beautiful pure white appearance, excellent flavor and crispness should make it a favorite everywhere. (Pkt. 5c) (oz. 25c) (½ lb. 75c) (½ lb. $1.10) (lb. $2.00) postpaid.

Crimson Giant Turnip
A variety extraordinary in that, while growing to an unusually large size, it is always tender, crisp and mild flavor. It remains in perfect condition a remarkably long time, and, unlike other forcing varieties, does not become pithy even when twice their size in diameter; root turnip shaped, color a beautiful crimson carmine; flesh firm, crisp and tender. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.00) (lb. $2.00) postpaid.

All Season Radish
A new one from Japan called "Tokishiraza," meaning all-the-year. It is a very large, long, snow-white radish; deeply rooted, does not extend above the soil, hence it always is tender and crisp and has a delicious flavor. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.00) (lb. $2.00) postpaid.

Japanese Summer Radish
This radish was introduced here by the Japanese several years ago. Its beautiful white color and mammoth size attracts great attention. It is very tender and the flavor is exceedingly mild. It attains perfection in California, growing twenty-six inches in length and three inches in diameter. It is a profitable radish to grow, as it sells readily and is relished by all. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.10) (lb. $2.00) postpaid.

California Mammoth
Pure white; the flesh is tender, sweet and crisp, keeps well. Plant from September 1st to March. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.10) (lb. $2.00) postpaid.

Round Black Spanish
Skin black, flesh white, of firm texture. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (½ lb. $1.00) (lb. $1.75) postpaid.

China Rose
A delicious radish, crisp, with little tendency to become pithy. A beautiful coloring from light red at the top to almost pure white at the tip. It is a good seller and is in great demand by the vegetable peddlers. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.50) postpaid.

Stump Rooted
Half Long Scarlet
This variety should be more popular because it is just the right size for table use, not too large, never pithy, but always crisp and sweet. (Pkt. 7½c) (oz. 20c) (½ lb. 60c) (lb. $1.50) postpaid.

[Images of radishes: Scarlet Turnip, French Breakfast, Epicure Radish, Early Long Scarlet, Long Black Spanish, Large White Chinese, Scarlet Turnip White Tip Radish, White Tipped Scarlet Turnip, Long White Icicle, Crimson Giant Turnip, All Season Radish, Japanese Summer Radish, California Mammoth, Round Black Spanish, China Rose.]
Horseradish

GROW MORE HORSERADISH
Big Money Maker

The local supply is far below the demand. This condition should not exist, because it is a profitable crop, and the writer realized $110.00 off of two acres. When asked why he discontinued growing it, he replied: "I have not the right soil. It requires good soil, free from weeds, and the soil must be kept clean by frequent irrigation, but it must be well drained so that the soil does not become too sandy or clayey. Then, too, there is no need of much disease or blight prevalent that one must get a clean start and keep clean by changing places as soon as the soil is infected.

One dozen will supply enough for the use of one family. It requires about 10,000 roots to plant one acre. Prepare the ground as you would for potatoes; stick each root upright into the bottom of the furrow 2 inches apart, and 3 inches deep, or drop the roots and cover as potatoes.

The Bohemian Variety is decidedly a more rapid grower than the other varieties. We have roots from the far East to avoid the disease so prevalent here. (12 roots $2.50) (100 roots $10.00) postpaid; (100 roots $8.00) f.o.b. here.

A. Curtis writes: "I found the horseradish disease comes from planting old crowns. In my field all crowns that were planted showed disease but those planted from roots were free."

A & M Roselle

Culture — Sow seed early in April in the field, four feet apart, in rows six feet apart. Cultivate as Okra. There is an early and a late Roselle. Be sure to get the early variety because the frost is almost sure to destroy the late variety before it matures. We offer only the early variety.

It is an annual plant that has been sufficiently tested to indicate its great value and to warrant more extended cultivation. The fruit is used for making jelly and jam. The jelly is superior to guava or currant, and is labeled as "Queensland Jelly." It is shipped from Australia to all parts of Europe. It is easily grown from seed if planted after the ground is warm; grows rapidly, resists drought and is very ornamental. Every home garden should have a row of this ornamental and useful plant. (Pkt. 75c) (oz. 75c) (½ lb. $2.50) (½ lb. $4.00) (lb. $7.50) postpaid.

NOTES—Our Roselle greens are not grown in other localities in advertising and educating the public to the uses of Roselle. The local demand has never yet been fully supplied, and only a few people ever heard of it. Someone ought to get busy.

We have been advised by a lady from Texas, also one from Cuba, to remove the seed pod, and the jelly is thus greatly improved. The jelly is an excellent substitute for cranberry sauce or pie.

Having received numerous inquiries how to use Roselle, we have decided to insert the answer here. Pick the pods that grow at the axil of the leaves, and boil until the juice boils and strain through a cloth. Add ½ pint of sugar and the juice of ¼ of a lemon to each pint of juice, and boil again until it jells. The pods are ready for use in September. We are advised that excellent jelly may be made from the leaves. Therefore it will not be necessary to wait for the pods to mature. We planted two acres of Roselle, I have made 200 pounds of jelly and have juice to make 2500 pounds more. I want your early variety, it gives me a longer season for harvesting."

A & M Rhubarb

Cultivate — Sow the seed any time from February 1st until July 1st. In drilled two feet apart, in order that you may cultivate with a horse cultivator. Within five months after sowing the seed, the Wagner’s Giant variety will be large enough to market, even though the roots are not larger than your thumb. Transplant at any time when the roots are large enough. Rhubarb requires a rich sandy loam, well drained. Never feed the crown nor bury it with soil. Therefore plant it on ridges or on the sides of an irrigating ditch. In our hot climate partial shading is beneficial. If you can cultivate it in an orchard, setting the roots three feet apart, but if in a sunny place, set the roots 18 inches apart, that the leaves of one plant will shade the crown of another.

The largest rhubarb ever brought to this market was grown by the side of an irrigating ditch on the peat lands of the West Adams Street Gardens.

Wagner’s Giant

Is undoubtedly the most profitable variety we have yet offered. It is displayed at the market places in apple boxes, and these boxes are barely long enough to accommodate the large, thick stems that will average one-half pound each, often weighing more than a pound. It is remarkably early, bearing large stems within five months from planting the seed, and grows nearly the entire year. The stems are so tender that they do not need peeling. It is pickled in the Winter Crimson, but of good color. (Pkt. 20c) (oz. $1.20) (½ lb. $4.00) (½ lb. $5.50) (lb. $12.00) postpaid.

Rhubarb Roots

Wagner’s Giant Seedling—(15c each) ($1.00 per dozen)

Truck Farmers Near Town Have Big Advantage in Retailing

Since the establishment of municipal markets in various parts of the city and a free license to the producer, the small truck farmers near town have a big advantage in retailing. The London Times is authority for the information that truck farmers, the Twelve men, who cultivated their garden plots in their spare time during the past year, added $250,000 worth of vegetables to the supply of the city food and added material in keeping down the high cost of living. The cultivation of back yards in California would go far to relieve the cost-of-food situation which is proving such a problem to the housewife.
A & M Salsify

Culture — Sow the seed in drills one foot apart and one inch deep. Thinning out plants to four inches. It succeeds best in light, well-enriched soil. One ounce of seed for 50 feet of drill.

Mammoth Sandwich Island
A large and superior variety, mild and delicately flavored. (Pkt. 75c) (oz. 40c) (½ lb. $1.35) (1 lb. $2.10) (lb. $4.00) postpaid.

A & M Sorrel

Broad Leaved

This is boiled and served like spinach, also delicious soup is made with it, and it possesses a very fine flavor. As the hot sun tends to increase its acidity, a northern exposure is advisable. It should be sown in drills 18 inches apart. It is hardy but the roots should be divided every four years. (Pkt. 75c) (oz. 25c) (½ lb. 25c) (1 lb. $2.25) postpaid.

Green Warted Hubbard
This variety is grown more largely probably throughout the United States than any other. It is used in many ways, but mostly for pies. It is a good keeper and because of its hard, warty rind, it is the best of shippers. Therefore many acres are grown in Southern California for that purpose, and many more for the Bakers, the Canners, and family consumption. When in doubt what to plant for a fall crop, plant Hubbard Squash if your soil is suitable. (Pkt. 75c) (oz. 20c) (½ lb. 45c) (1 lb. $1.10) (lb. $2.00) postpaid.

Banana
The squash grows from one to two feet in length. The skin varies from a bright yellow to a dark olive green. Flesh firm and solid, of beautiful orange-yellow and excellent quality. Mr. E. L. Van Ripper says it is the sweetest of all squashes and wishes everyone to try it. It keeps from one season until another. When quite young it is excellent to cook as a marrow. (Pkt. 75c) (oz. 15c) (½ lb. 50c) (1 lb. 50c) (lb. $1.50) postpaid.

The Banana and English Cream Marrow have made great strides in the commercial world. They are yet far behind the Hubbard, but they have the merit; the flavor and the keeping qualities that win. The grower who will plant largely of these varieties will not regret it.

A & M Squash

WINTER VARIETIES

Culture—Seed should not be planted until all danger of frost is past. In open ground plant in hills ten feet apart where irrigated, and fifteen feet apart where not irrigated. In orchard, plant only one row between trees. When the vine is well along, do not flood the hill, but keep the irrigation furrow nearly as far from the hill as the length of the vine. Keep in mind that the roots are longer than the vines.

Fordhook Squash
This is a most desirable squash for either summer or winter use. The vines are of strong, vigorous growth and wonderfully productive. Squash oblong in form, eight to ten inches in length, slightly ridged; smooth, thin, yellowish skin; flesh very thick and of a light yellow color. If gathered young for cooking, no other squash approaches it in flavor, while if allowed to ripen on the vine they can be stored and will keep in excellent condition until late the following June. Either for baking like sweet potatoes or making pies during the winter, the quality is very fine. (Pkt. 75c) (oz. 15c) (½ lb. 50c) (1 lb. 80c) (lb. $1.50) postpaid.

English Cream Marrow

It is as sweet as a sweet potato, and has none of that pumpkin flavor. It is good any way it comes on the table, and is better than Hubbard Squash for pie. It is 6 to 8 inches long and half as thick. (See picture.) Decidedly firm, it will keep from one season to another. (Pkt. 75c) (oz. 15c) (½ lb. 50c) (1 lb. 80c) (lb. $1.50) postpaid.
A & M SQUASH—(Continued)

Golden Hubbard The flesh is of a deep golden yellow—a much richer color than the Hubbard—fine grained, cooks very dry, and has excellent flavor. In its keeping qualities it is fully equal to the green variety. (Pkt. 7½c) (oz. 20c) (¼ lb. 76c) (½ lb. $1.10) (lb. $2.00) postpaid.

Acorn Every home garden should have a few hills of this delicious squash. For table use or for pies it is unsurpassed, uniform in shape and bright red color which makes it a desirable ornament for the table.

Recipe—Remove the blossom end, take out all the seed, and bake in an oven. When baked, remove the edible portion, season and serve in the shell. In this way it looks like a huge acorn, and it is quite ornamental. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. $1.00) (lb. $1.75) postpaid.

Pikes Peak or Sibley An excellent winter squash. Fine grained and superior in flavor and keeping qualities to the Hubbard squash, but not so well known. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 60c) (lb. $1.25) postpaid.

Boston Marrow Fresh, bright orange or rich salmon mon color; for sweetness and excellence is unsurpassed. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (½ lb. 60c) (lb. $1.00) postpaid.

A & M Summer Squash

Italian Squash is a bushy variety, and should be used when quite young. When served it has a rich creamy flavor not equalled by any other squash. Some gardeners have made considerable money making a specialty of it. For the family garden we would recommend its use instead of the small White Bush Scallop, because of its excellent flavor. Since our introduction of this squash a few years ago, it has now become one of the staple products on the market. It is listed with the daily market reports, and is grown largely by the gardeners in frostless sections for the early trade. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. $1.50) postpaid.

Golden Summer Crookneck The popular well known Crookneck. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. $1.25) postpaid.

A & M Improved White Bush Scallop

A & M Improved White

Bush Scallop As will be seen by the picture, this squash is similar to the well known White Bush Scallop, but it is more elongated toward the blossom, which makes it more desirable from the gardener’s point of view. It roasts better and sells more readily. It is very prolific. (Pkt. 7½c) (oz. 15c) (¼ lb. 25c) (½ lb. 60c) (lb. $1.60) postpaid.

Mr. Frank F. Myrick of Roosevelt, Calif., advises that he has found the White Bush Summer Squash to be excellent for pig feed.

Yellow Bush Scallop Similar to the White Bush Scallop in all respects except the color is yellow and claimed by some to have a better flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. $1.25) postpaid.

Cocozelle An excellent squash for many purposes. Equal to the White Bush Scallop for the table when taken quite young. It is enormously prolific. When gathered closely and fed to stock, the vines will keep bearing continuously all summer, and far into the fall. It survives drought to a wonderful degree. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. $1.25) postpaid.

Long White Marrow This is exceedingly delicious of all English Marrows. Steamed when quite young or fried as egg plant it is equal to egg plant itself. The squash is about 12 inches long when mature, and has a light creamy color. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. $1.25) postpaid.

C. F. DIXON, California. Last year I got of you a few squash seed with my order, called Long White Marrow, which proved so much superior to any other summer squash that I ever saw or raised that I could not help but inform you of my thankfulness for having it. I sometimes wonder if it was not some new kind that you sent me. At any rate, it grew on very dry ground without irrigation with only a very reasonable amount of cultivation. Growing vines like a pumpkin and matured before the Crookneck and continuing until Christmas, and I believe would have been bearing yet if frost had not killed the vines. For hardiness and tonnage, I believe it would be ahead of any pumpkin I ever saw. At least my pumpkins did practically nothing under even better conditions.

We add that the Italian and Cocozelle Squash are as good and is more prolific.
A & M Spinach

Spinach cultivation will be carried on much more extensively in California in the future, according to a bulletin just issued by Stanley S. Rogers of the University of California. This will be due to the great demand for this crop for canning purposes.

"Spinach is well adapted to a large area in California." Professor Rogers continues, "and may be grown wherever the conditions are favorable for the production of vegetables. Under normal conditions when growing spinach in large tracts, the cost varies from $25 to $35 per acre, exclusive of labor values of fertilizers. The yield per acre varies from three to five tons, with an average production of four tons. (As much as 8 tons have been grown.) When selling to the canner the customary price is $33 per ton.

"Spinach is best adapted to a rich, light loam and is not a satisfactory crop to grow on soils of poor quality or those which will retain moisture. The climatic requirements of this crop are very exacting. The plants will stand without injury a relatively low degree of temperature but are seriously injured by heat. Planting early in the fall and late in the spring should be avoided since the plants will not make a satisfactory growth during hot weather. When planting during the rainy season, it is provided to keep the soil or sandy nature and is free from weeds so that it will not pack wet, this crop may require no cultivation. The crop is ready to harvest in six weeks to three months after planting."

"Professor Rogers’ article, entitled “Spinach Growing in California,” may be given to the University of California College of Agriculture, Berkeley.

J. M. Rusk reports that seven acres planted to spinach for canning brought $746.84. The crop was all harvested within three months from time of planting.

MARKET—On the local market there is a uniform demand throughout the year for home consumption, but during the winter months the shipper requires enormous quantities. The canners contract for large acreage each year.

Culture—Spinach thrives well in deep, loose, friable soil and is not hardy except in areas having a particularly mild winter. The crop must be grown in rich, well-drained loamy soil. Spinach thrives in a warm climate and requires an average temperature of 65° to 75° F. for its best growth.

A & M Summer Success For several years we have endeavored to secure a type of Spinach that would prove profitable to grow in summer time, and after several trials this one produced the greatest success. Within this period it was found that the A & M Summer Success will grow leaves 14 inches long. The leaves are very meaty and crisp. (Pkt, 7/2c) (oz. 25c) (1/2 lb, 75c) (1 lb, $1.15) (lb, $2.25) postpaid.

Prickley Seeded, or Winter Spinach

This variety thrives best in the coldest weather, and is the money-maker for the market gardener. Our seed is now American grown, and for several years has given entire satisfaction. The leaves are large, fleshy and very tender. (Pkt, 7/2c) (oz. 25c) (1/2 lb, 75c) (1 lb, $1.15) (lb, $2.25) postpaid.

Virolay

Virolay During the seasons of 1917 and 1918 this variety has become popular as an all-round spinach. It is desired by the grower because it is harder than other varieties and will produce in tonnage per acre more than any of them. The canner and shipper like it because of its large smooth leaves.

The consumer prefers it because it is exceedingly tender and of mild flavor. (Pkt, 7/2c) (oz. 25c) (1/2 lb, 75c) (1 lb, $1.15) (lb, $2.25) postpaid.

A & M Improved Thick-Leaf Winter

This new variety is one of our valuable introductions and has proven its superiority over all other varieties for beautiful large thick-leaved bunches which bring double the returns to the grower; sells more readily to the peddler and pleases the housewife. For canners no other variety is equal to it. (Pkt, 7/2c) (oz. 25c) (1/2 lb, 75c) (1 lb, $1.15) (lb, $2.25) postpaid.

Bloomdale Large green thick savoury crumpled leaves, grows luxuriantly, producing twelve to fifteen tons per acre. Throughout the East and South, this variety is used more extensively than any other. Try it here. (Pkt, 7/2c) (oz. 10c) (1/2 lb, 35c) (1 lb, 60c) (lb, $1.00) postpaid.

Long Standing This is a good sort for market gardeners because it is slow to shoot to seed, and the quality is equal to the best winter variety. (Pkt, 7/2c) (oz. 25c) (1/2 lb, 75c) (1 lb, $1.15) (lb, $2.25) postpaid.

The Spinach Industry of California (From the report of R. G. Rissler, Assistant Truck Crops Specialist.)

In California spinach is grown commonly for local markets, extensively for canning, in an increasing area for seed production, occasionally for Eastern shipment, and is also coming into use for an evaporated vegetable.

As a canning crop, particularly the extension of the area of spinach cultivated has been so rapid that it has been nothing short of phenomenal and spinach is now entitled to a conspicuous place in the records of the California pack of vegetables. Although the pack of vegetables of various kinds in this state has been increasing greatly from year to year, none of the other products have shown the same high ratio of increase which has been shown by spinach. From experimental plantings in 1914 the acreage has grown by leaps and bounds until close to 3,000 acres were planted for the 1918 spring pack.

The maximum yield of spinach run high. On good soil under intensive cultivation 8 tons per acre is not uncommon in a favorable season. The normal production is estimated at 6 tons per acre, which was closely approximated by the 1918 yields.

The variety used is of utmost importance. Prickly Winter has been the favorite variety, but Long Standing has been used for late plantings and is well liked.
A & M Tomatoes

Culture—Tomatoes do best on light warm, not over-rich soil, and success depends upon securing a rapid, vigorous and unchecked growth during the early part of the season. Sow in flats from March 15th, and plant out of doors, which is when danger from frost is past.

Transplant three to six feet apart, according to the variety,—three feet for those varieties of upright growth, as the Dwarf Champion, and six feet is not too far apart for vining varieties which will soon cover the ground solidly. The soil should be plowed and pulverized to a depth of ten or twelve inches, the deeper the better, in order that the roots may keep in the cool earth, for as soon as the roots are heated by the hot, dry soil near the surface, the plant check blossoms and dies, and the grower can see no cause for it.

In the early fall when the nights have become cool and heavy dew prevails it is wise to spray with Bordeaux Mixture, to prevent blight. It may be necessary also to spray after each rain throughout the winter.

To prevent root-blight, pour a cupful of Bordeaux around the stem at the surface of the ground.

The time of planting and varieties depend upon your local market, soil and climatic conditions, and the purpose for which the tomato is to be grown.

On sandy loam soil near the foothills, where it is nearly frostless, we recommend planting seed of the A. & M. First Early and Early Stone in hot beds during November, December, and January for winter and early spring tomatoes. Tomatoes that mature the latter part of April are considered early for California. Plant seed of the stone and San Jose Canner varieties during April, May, June and July, for the summer and fall crops, for canners and shippers.

For the home garden plant the HOME TOMATO and the Pendergrass for shipping. For shipping, only the perfect tomatoes must be selected, and these should be picked just as they would be permitted to grow about $6.00 per acre. A community growing for car lot shipment should plant not less than one hundred acres, and they should plant their tomatoes six to eight feet apart, after which time the Southern tomatoes dominate the market.

MRS. E. C. KELLER, California.

I am sending you an order for seeds which you can send by mail, for the different varieties. I must tell you of my tomato plants which I planted from seed I purchased from you.

I put out the plants on our little ranch in Sonoma County. The frost (which came late) set them back but they are now filling in. I am very pleased with the tomatoes that excite the wonder of all who see them. All the farmers in the neighborhood of our ranch used to smile at the sight of my inadequately cultivated patch of tomatoes, but now their tears are gone and they all understand how I got so many tomatoes on such thin vines as the A & M Early or how I could produce such magnificent vines as the Hummer Globe.

A & M Main and Late Crop Stone Tomato

For Market Near and Far—the Tomato for Canning

The New Improved Stone This is the most popular tomato in Southern California. Several thousand acres are planted in this variety exclusively for shipping to Eastern points after other tomatoes have been destroyed by frost. For this purpose the seed is planted about June 15th, and the tomato brought to full size about October 1st, after which it gradually ripens to the market. The tomato itself is a large, bright red, solid and smooth, enormously productive. The canners prefer it because of its uniformly desirable size and value for canning. The grower prefers it because of its vigorous growth and large production extending throughout the season far into the winter months.

San Jose Canner

The Big Tomato for Big Yield

San Jose Canner For several years growers in the San Joaquin Valley have recommended this tomato. We are slow to offer our trade any new thing that we are not thoroughly familiar with. Therefore we tried this tomato and can say it is superior to the Stone for the market gardener's main crop, because it is just the size of the market wants, and a better keeper. The canners prefer it because of its vigorous growth and large production extending throughout the season far into the winter months.

Hummertime We consider this one of the finest tomatoes for the market gardener. It is early, solid, smooth, good size, bright red, and enormously prolific with abundant foliage to protect the fruit from scalding. As a shipper it cannot be excelled, even by the popular Stone tomato.

The Escondido Canning Co. had printed the following instructions and handed it to their growers:

SUGGESTIONS AND REMINDERS THAT WILL HELP RAISE A BIGGER AND BETTER TONNAGE PER ACRE

Irrigation—Watch the soil carefully. Dig down six inches to one foot and check up on your moisture.

Always keep an even moisture in the ground. An uneven supply of moisture has a tendency to cause blight, blossom end rot, and cracking of the fruit; also gives an irregular growth, making the vine go to growth more than to setting fruit.

Do not irrigate when the vines are in heavy bloom.

Do not furrow out too close to your vine.

Cultivation—The roots of the vines should be inspected, so that the grower knows his root system, what depth and how far out they have extended, and then let that govern the cultivation.

Do not cultivate too deep nor too close to your vine.

Do not leave your ground in ridges, as it has a tendency to dry out faster.

Keep a fine mulch on top.

During the last cultivation leave a shallow furrow in the center of your row for future irrigations.

Diseases and Spraying—Bordeaux Mixture—Four lbs. of bluestone, 1 lbs. of lime to 56 gallons of water. The formula 5-5-50 is used for good sized plants. One-fourth to one-half pound Arsenate may be added to either formula. The above spray is used for blight or a general repellent.

Blossom end rot is caused from an uneven water supply. The tomato stalk broken is generally found working in vines where weeds have been hoed and have been allowed to lay. After hoing weeds burn them. After the worm has been at work the leaves of the vine will turn yellow and show a heavy downward growth; also the stalk of the vine will have a golden appearance. Give vine a good pruning and spray with Bordeaux mixture.

Tomato Fruit Worm—Beware of this worm. The minimum damage that it can do is not less than 3% per cent. That represents lots of money.

Keep a close check as to when moths are working, which can be done by setting several was tubs or large pans in the field at night. Place a lantern in the tubs, filling the tub with enough water so that it will come up to the base of the lantern. Put a small portion of coal oil in the water. Let the lamp burn all night. That will get a certain percentage, but its main use is for a warning.

Picking and Hauling the Fruit—Pick carefully and watch your pickers.

Don't disturb the vines any more than can be helped. Impress that upon your pickers.
A & M First Early

Big Money Maker
In the $500,000 class.

A & M First Early for the early market and for early canning. We introduced the A & M First Early in 1909, and from that time to the present it has superseded all other early varieties throughout Southern California, and is continually growing in popularity here and elsewhere. For a first early money-maker, it has no equal in the tomato line. We cannot give it too much praise. The growers are not looking for an earlier one. It is good enough. (Pkt. $1.00) (oz. 50c) (1/2 lb. $2.00) (1 lb. $2.50) (10 lb. $20.00) postpaid.

Dr. E. L. Paulding writes: "Gentlemen: I just want to tell you how well your tomato has paid me. Last December I got some of the A & M Tomato seed of you. I have my own plan of forcing, but it is not all in forcing, for I planted some other early sorts the same way, and served all alike. Yours was fully two weeks ahead of Earliana, if not more. I sold tomatoes for four weeks before I had any competition, getting all I asked for them, and having still the lead and the finest tomato in the local market."

The A & M First Early made a record at Escondido.

W. F. Smith says, "I transplanted latter part of June, began picking Sept. 1st, and during the month of September, I delivered to the cannery from seven acres, forty tons, and the vines are yet so full of tomatoes I cannot miss the forty tons taken out. That is far from the half of them. They had only one irrigation, that about August 10th.

Some Success With A & M First Early Tomato

Mr. J. A. Newfield, residing ten miles east of Visalia, reports the sale of one-half acre of A & M First Early Tomatoes for $150 at wholesale prices. He has picked as much as 3500 pounds per week.

Mr. Hal Wood of Palo Verde writes as follows:

"Last season I planted one-third of an acre to A & M First Early tomatoes. June first I began marketing and for thirty days sold an average of $19.00 per day. After deducting the cost of growing and marketing I had a net gain of $175.00 from this plot."

Ponderosa, or Beefsteak A very large, purple tomato, with few seeds and of excellent flavor. Our strain is round and smooth, not the usual oblong wrinkled kind. It is a favorite for the home garden, for which purpose we have on hand from March 1st until June extra fine, large, strong transplanted plants. (Pkt. $1.50) (oz. 40c) (1/2 lb. $4.00) (1 lb. $5.00) postpaid.

Milton Bastable, Buckhannon, W. Va
I got a packet of Ponderosa from you last year and they were fine and were almost blight proof. Please send as good or better this year. Thanks for your catalog, it is the best I get.

Golden Beauty A large yellow tomato of delicious flavor, and when preserved with a slight flavoring of lemon, is better than preserves made of any other tomato, because it lacks the strong tomato flavor. It is an excellent variety for salad. (Pkt. $1.00) (oz. 50c) (1 lb. $10.00) postpaid.

Golden Ponderosa A very large yellow tomato, having a delicious flavor making a delightful salad. The yield is enormous.

Jordan and Casey of Redondo set out on May 22, 22 plants. On August 25 began picking; by November 15 they had picked more than 2000 pounds of tomatoes. The gentlemen are experienced tomato growers and say they never saw anything to yield so many large smooth tomatoes. (Pkt. $1.00) (oz. 50c).

CONSULT THE INDEX
You may want information that you cannot readily find.
Consult the Index.
Keep this book, you will need it until you get another.
John Baer

has exceeded every claim we made for it last season. It enabled the canners to begin two weeks earlier. The gardener brought to the market finer early tomatoes than he ever had before. Every tomato a smooth one. It is very prolific, every cluster bears four or five uniformly sized smooth tomatoes red from blossom to stem. We recommend it for heavy soils and for planting in young orchards. It has naturally a scant foliage suitable for early maturing but will yield ton for ton with the Stone. The John Baer is one of the best all round all season tomatoes ever offered.

For early market and early canning plant the John Baer. (Pkt. 7½c) (oz. 50c) (¼ lb. $1.75) (½ lb. $2.75) (lb. $5.00).

Earliana

The plants are quite hardy, with rather slender branches and moderate growth, well set with fruits, nearly all of which ripen very early in the season. The tomatoes are bright red and close together in clusters of five to eight; all of medium size, averaging 2½ inches in diameter. (Pkt. 7½c) (oz. 40c) (¼ lb. $1.35) (½ lb. $4.00) postpaid.

Bonnie Best

Extra early, bright red, uniformly smooth, medium sized, solid and very prolific. It is very popular among growers of early tomatoes throughout the United States and wherever it has been tried. (Pkt. 7½c) (oz. 50c) (¼ lb. $1.75) (½ lb. $1.75) (lb. $5.00) postpaid.

Dwarf Champion (Tree Tomato)—Has long been a favorite midsummer tomato. Pink in color, smooth and solid, making it a good shipping variety. This has proven very satisfactory in Arizona. Its dense foliage protects the fruit from sunburning. (Pkt. 7½c) (oz. 40c) (¼ lb. $1.35) (½ lb. $4.00) postpaid.

Dwarf Stone

(Tree Tomato)—Large, red, smooth and solid. The stalk is upright, with dense foliage protecting the fruit from the heat of the sun. It is a desirable tomato to grow in the interior valleys. (Pkt. 7½c) (oz. 40c) (¼ lb. $1.25) (½ lb. $4.00) postpaid.

Chalk’s Early Jewel

Excellent early tomato for home or nearby market; very prolific, red, smooth, and desirable size. Its mild flavor makes it desirable as a salad. (Pkt. 7½c) (oz. 40c) (¼ lb. $1.25) (½ lb. $4.00) postpaid.

June Pink

The most popular extra early tomato grown in the South and East. It is very prolific and may be compared with the A. & M. First Early except its pink color. (Pkt. 7½c) (oz. 40c) (¼ lb. $1.35) (½ lb. $2.25) (lb. $5.00).

Grape Tomato

It makes an attractive arbor vine with a profusion of delicious fruit for preserving. (Pkt. 7½c).

Get a Home Canning Outfit, and can your surplus tomatoes. Put them up right and establish your brand.
A & M Turnips

Culture—See page 7). Turnips may be sown broadcast on damp sandy soil or in drills as beets and carrots. Drill in rows ten inches apart, not too thick in the row. The Purple Top Globe variety is now leading in popularity because of its mild flavor and its adaptability to our summer climate.

Early Purple Top Strap-Leaf A very popular variety in this section for either family or market use: large size, white, purple above ground; flesh fine grained. (Pkt. $1.10) (lb. $2.00) postpaid.

Golden Ball or Orange Jelly A rapid grower of excellent flavor, bright yellow color; good keeper and a superb variety or for stock. (Pkt. 7½c) (oz. 20c) (½ lb. $1.50) (½ lb. $2.00) postpaid.

Early White Flat Dutch An early white-fleshed strap-leaved variety: for quick growth, mild flavor and excellent quality. (Pkt. 7½c) (oz. 20c) (½ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

Early White Globe A large, round turnip, with sweet flesh. (Pkt. 7½c) (oz. 20c) (½ lb. 65c) (½ lb. $1.10) (lb. $2.00) postpaid.

Mr. Walton and one plant of Home Tomato trimmed to fit the trellis. Mr. Walton counted 360 tomatoes

Home Tomato History of the Home Tomato—We are very much indebted to A. Brandenberger of Lan-
kershim, for calling our attention to this wonderful toma-
to. In his hotbed one plant grew far ahead of all the others. It was quite distinct in having large foliage. Mr. Brandenberger set it in a four-inch pot, and when only eight inches high, it blossomed, and when twelve inches high these blossoms developed three nicely shaped tomatoes. This plant was exhibited in our window as a curiosity. It was transplanted to the ground and grew to cover an area of fourteen feet in diameter, loaded with tomatoes. In order to keep pure, Mr. Brandenberger propagated from cuttings off the original plant. Therefore we termed it the Home Tomato, on account of its earliness, delicious flavor, nearly round smooth shape, solid meat, and productiveness. Just the tomato for a home garden, where it can be trellised when space is limited. (Pkt. 7½c) (oz. 50c) (½ lb. $1.50) (½ lb. $2.25) (lb. $5.00) postpaid.

Genuine Italian Red Pear Shaped

Used largely for making puree, preserving and spicing. (Pkt. 7½c) (oz. 50c).

Yellow Egg Excellent for pickling and preserving. (Pkt. 7½c) (oz. 50c).

Ground Cherry Grows like a tomato; fruits like a tomato, but the small fruit is en-
volved with a husk. It is good for preserves. (Pkt. 7½c) (oz. 50c).

DESTROY THE TOMATO FRUIT WORM

We received this interesting letter in response to our inquiry concerning the small worm that bores into the tomato:

I have examined the worms in the sample of Tomatoes you sent me and find them to be what is known as the Tomato fruit worm which commonly bore into the green and ripening fruit. This is not a new pest; I have known it for over twelve years and during that time I have noticed its increase from year to year until now it is quite a serious pest.

The best remedy I can advise is clean cultivation at all times and destroy by burning all weeds in and about the field; this will destroy all eggs that otherwise would be carried over through the winter.

The treatment for the growing crop—spray with Lead Arsenic, three pounds to fifty gallons of water, while the vines and fruit are small; this will kill many of the few worms that first appear, and every worm killed at this time means a great many later in the season.

In making war on all insects, we should realize the im-
portance of making the fight before the enemy gets strong and many of our insect troubles could be avoided if we would commence the control measures before the insects be-
come numerous.

Trust this is the information you want, I am,
Yours very truly, (Signed) William Wood,
Horticulture Commissioner.

Some interesting facts incidentally learned while propagating the home tomato

Cuttings from the original plants, which were grown in a sandy loam, planted in adobe and watered freely grew large irregularly shaped tomatoes quite acid in flavor, while cuttings from the same plant grown in sandy loam at Artesia even with some alkali, grew smooth, uniformly shaped tomatoes.

If soil will produce such varied results with cuttings, it is likely to make a similar difference with plants grown from seed, which would account for many dis-
appointments.

Also if soil will produce such varied results with tomatoes, it may do likewise with many other vege-
tables and also fruits.
Home and Field Canning Machines
Write for our Catalogue of Canning Machines

“Do not let valuable surplus Fruits and Vegetables go to Waste.” This is the precautionary warning sent out by the Agricultural Department to farmers and gardeners. Adults and children can, in a few hours, with one of our HOME CANNING OUTFITS, learn to preserve all the surplus fruits and vegetables off the farm for the family needs throughout the year, and sell the surplus, turning to profit the perishable products which formerly went to waste, thereby increasing the food supply and reducing the high cost of living.

INTRODUCTION BY THE MANUFACTURER
Our canners have been carefully designed to make them best adapted to the work for which they are intended and are the result of our long experience and careful investigation. We present them upon their merits and solicit an examination of their efficiency and durability.

Every machine we make is carefully tested before it leaves our shops. Those using the home canner on the farm naturally have the best fruits and vegetables that grow, and the products that are canned in the prime of their freshness within a few hours of harvesting. The advantages are the highest quality of goods that can be packed.

Vegetables canned fresh from the vine are never permitted to wither and they retain their natural fresh-like flavor the same as when picked fresh from the vines.

Our instructions on home canning are simple; sometimes we use sugar and sometimes a savory of salt, but nothing else is used.

NO PREVIOUS EXPERIENCE REQUIRED
Our home canning is written up so plainly, and our process is so simple you will make a success with the first lot you can. There are fruits and vegetables enough going to waste every year in this country to save millions of dollars if canned up and sold on the local market. Of the demand for canned goods it is hardly necessary to speak.

Marketing the Small Crop at Home
READ CAREFULLY

THE FOLLOWING ARTICLE TELLS WHAT OTHERS ARE DOING, AND MAY SUGGEST WHAT YOU MAY DO TO ADD TO YOUR REVENUE.

If your home is situated by one of the many highways, where hundreds and even thousands of autos travel each day, your home may enjoy a very convenient market for your produce.

If you have watched the growth of the many fruit, vegetable and flower stands by the roadside, you were interested and sometimes amused at the assortment of produce offered, and how the advertisements on the bulletins announce the commodities.

Market Place of Charles Richardson along the Sun Bernardino Blvd.

These stores are no longer supplied alone by the rancher on whose place they are located, but by neighbors who do not live along the highway, and thus a community of interests is advanced producing a market for a neighborhood. Men going to the general store, will probably be interested, for it is known that each community living within half mile or mile of highway, get together, select a cross-roads corner or other shaded place, build an appropriate and attractive rustic or wicker house with suitable fixtures, appoint a keeper, and each one supply the particular articles they may have in season.

A system of co-operation will soon determine what each one may set about to grow so that the store may be regularly and judiciously supplied. When there is a surplus of anything, let the store manager arrange to dispose of it with some commission house or dealer in the city. In this manner of co-operation a dozen ranchers may collectively have enough to market, while one man individually will have too little to be worth while, and thus many dollars worth of good things are sold which otherwise would be wasted, and the value of which would total many hundreds of dollars.

Read this catalog carefully, that you may know what to plant each month, in order that the store may be regularly supplied. In this way a dependable trade will be established. People who pass regularly will learn to depend upon this source for their regular supply of things in your line. But you should aim to have a constant stock of everything in season.

Earle D. Hartshorn, California.
Our War Garden has begun to do its part toward feeding the family. If ever you could see the way our store bills have fallen off they would all have one.

Mrs. M. E. Igo, California.
My ranch (which is small) and on which I raise truck garden, lies 40 miles from Milford, in Oneida County. It has three and miles this side of Forest home. I had a stand by the roadside under an apple tree. During July and August I sold almost $100 worth of vegetables and fruit during that time. Am sending a small order now taken from an old catalog, would like you to send me your 1915 catalog. I am an old lady in my 65th year, like to raise vegetables.

SOMETHING NEW
SPICED CARROTS—Stew Carrots until soft; make a syrup as follows: 2 cups brown sugar, 3/4 cup vinegar, 1 cup water, add mixed spices. Put into syrup and cook until the juice has permeated them thoroughly; add a little salt. Carrots prepared in this way compare favorably with spiced peaches. Large carrots should be quartered, but the small ones usually discarded when thinned out, are just the proper size. They are not only delicious to eat, but decorative as well.
Insecticides and Pest Exterminators

**Notice**—Poisonous insecticides cannot be sent by mail. Many of these s are dangerously poisonous, and are in liquid form. Send them by express, and strenuous care must be given to the packing to prevent leakage. It the weight and therefore the postage may seem out of proportion to the purchase price, or if the quantity is too large for the parcel post, we prefer to send by express, and shall do so unless requested to do otherwise.

If you choose to send parcel post, add sufficient money to the given price to cover postage. Estimate liquids plus package at the rate of 3 lbs. to 40 gallons, or 1 lb. to 14 pounds. See parcel post rates on inside front cover for rate. Prices fluctuate and are subject to market changes.

**ORTHOr Spray**
We are the Southern California dealers for these high standard insecticides. The Panama-Pacific International Exposition in San Francisco has won the Medal of Honor, the highest award given ever Sprays at any Exposition. Exposition Sprays cannot be sent by mail.

**ORTHOr Dry Arsenate of Lead** Neutral. This is the arsenic for spraying trees and flowers. It contains 45% arsenic and has a low water solubility. The dry Granules are mixed with water and used for the control of apple and pear trees. It is a slow acting ingredient, and the liquid is practically the same as the Standard Lead Arsenate. It has been used on peaches, pears, and all fruit trees and vines. It is used at the rate of 3 lbs. to 100 gallons of water. (1/2 lb. 45c) (1 lb. 70c) (5 lbs. $2.75). Write for quantity price.

**ORTHOr Dry Arsenate of Lead** Standard. A high arsenate of lead with low water solubility. It is of great value in spraying apple and pear trees to control tussock caterpillars and other insects which are not poisoned by Arsenate of Lead. It is also used for field crops, dusting or liquid application. Use 3 lbs. Zinc Arsenate to 100 gallons of water; dusting with one to five parts of arsenical lime or sulphur. (1/2 lb. 50c) (1 lb. 75c) (5 lbs. $3.00). Write for quantity price.

**ORTHOr Bordeaux Mixture** (Powder). Recommended for peach, potato, tomato, and small fruit blight, and all fungus diseases. Mixes perfectly with water. Use 1 lb. to 50 gallons of water. (1 lb. 60c) (5 lbs. $2.50) (10 lbs. $4.00). Write for quantity price.

**ORTHOr Lime-Sulphur Solution** (Powder). A standard remedy for San Jose scale and other scale on deciduous trees, also red spider, peach leaf curl and peach blight. For red spider use 1 lb. of the spray to 100 gallons of water. For scale the same spraying on deciduous trees. 1 gallon of spray to 10 gallons of water. (1 gal. 50c) (1 gal. $1.50). Also put up in barrels and steel drums. Write for quantity price.

**ORTHOr Dry Milled Sulphur** This is a fine powdered sulphur, prevents mildew on beans, peas, roots and grapes, and also destroys red spider. Applied by dusting the plants. (1/2 lb. 45c) (1 lb. 70c) (5 lbs. $2.25).

**Ant Exterminator, Talbot’s Power**
The best known remedy to exterminate ants and roaches. Put up in paper shakers. (25c) (50c) and ($1.00) size. Add 10c for package and postage.

**BlueStone** (Sulphate of Copper). Applied in time it will prevent mildew and all fungus diseases. Also prevents smut on barley and wheat, by soaking seed to be planted in a solution of 1 lb. to 6 gallons of water for ten to fifteen minutes. (Per lb. 25c). Write for quantity price. Can be sent by parcel post.

**Carbon Bi-Sulphide** (Liquid). For exterminating gophers, squirrels, ants or any vermin that live under the ground. Saturate the ground with other absorbent, put deep in hole and close all openings. For ants, pour into the openings. For weevil in grain, put grain in air-tight chamber; for 100 cubic feet of space use 1/2 pint Carbon Bi-Sulphide, saturate into any absorbent so that it will evaporate slowly; close the chamber tightly for three or four hours. It is not necessary to remove the grain from the sacks. Notice: It is very combustible. Do not store them in cellars or smoke, or have fire near while handling. (12 oz. 40c) (25 oz. 60c) (1 gal. 1.25c) Cannot mail.

**Formaldehyde** (Liquid). For destroying the germs of mildew, fungus diseases and rust. It also destroys fungus on potatoes. Dilute one pint in forty gallons of water, submerge potatoes one and one-half hours and drain well. It is long enough to moisten it. (2 pt. 50c) (pt. 30c) (qt. 81.05). Cannot mail.

**S. P. Gopher Balls** A sulphur preparation which is very effective in eradicating gophers and squirrels. Light the balls and insert them in the open run, after which close tightly. Put up in boxes of one dozen, (40c) postpaid.

**Gopher Candles** Place in gopher or squirrel runs, light the candle and close the openings. The fumes will kill all vermin. Per bundle of twelve, (50c). Add 10c for packing and postage.

**Gopher Poison** MOORE’S (Grain). A certain and specific destruction of gophers, squirrels, and mice. (Small size 20c) (medium size 90c) 5 gal. drums $6.00.

**Killscale-Soap** For scale, lice and any sucking insects on plants. (2 lb. cakes 25c). Add 10c for packing and postage.

**Lime-Hydrated** (Powder). Destroys snails and slugs, and eradicates insects in the soil. Put up in (4 lb. cartons 20c) and (16 lb. sacks 50c). Cannot mail.

**Mystic Spray** (Liquid). For the extermination of mealy bugs. This insecticide has recently been introduced into Southern California and is highly recommended by many horticulturists and nurserymen. Dilute one part Mystic to thirty parts water. Add one ounce of Gold Dust to each gallon and use abundantly as a spray on all affected plants. (Pt. 50c) (qt. 75c) (gal. $2.50) (5 gal. $15.00).

"To whom it may concern: We have found the "Mystic," a liquid solution, as an insecticide and we find that in the proportion of thirty to one, it is a very effective remedy for "Mealy Bug," as we have heard it called.

It also works effectively against soft scale, in a proportion of fifty to one. Respectfully,
J. A. NORRIS & SON,
(Signed) R. D. Norris.

**Nico Fume** (Liquid). For aphids in hot-houses. Similar to Black Leaf 40. Nicotine is especially prepared for greenhouses and hot-houses. Either spray or fumigate by vaporization, insert hot iron in the fluid. Sold in bottles. (1/2 pt. 50c) (5 lbs. $2.50). Add postage.

**Nico Fume** (Paper). Sold in tins of 24 sheets. Each sheet is sufficient to fumigate 100 cubic feet. Will rid green-houses and hot-beds of aphids, and chicken houses of lice and mice. Directions printed on each package. (24 sheets $1.00) postpaid.
Insecticides and Pest Exterminators—(Continued)

P. S. C. Rosin Spray Effective for black, red, yellow, low, purple and citrus scale, mealy bugs, wooly aphids, black peach and plant lice. Recommended by the Horticultural Commission. Dissolve 1 lb. of the spray in 2½ gallons of either hot or cold water and thoroughly mix before spraying it on trees or plants. (1 lb. can 30c) (2 lbs. 45c) (4 lbs. 75c) (40 lbs. can $5.00) (80 lb. $8.00) (bulk 7½c per lb.).

Slug-Shot, Hammond’s (Powdered). Destroys snails and slugs. For use on melons, lima beans, cucumbers and tender plants. Also for use on asparagus, roses and flowering plants. Easily distributed in the soil by mixing thoroughly to the depth of the planting bed. For spraying 1 lb. to 10 gallons of water. (1 lb. packages 25c) (5 lb. packages 75c). Cannot harm. Not injurious or dangerous to persons or animals.

Squirrel Poison See Gopher Poison.


Sulpho-Tobacco Soap Used as a spray for apish, thrip, mites, and a wash for skin diseases on animals. (Small size 10c) (large size 25c). Add 3c for packing and postage.

Tobacco Dust (Powdered). For aphids and small insects in plant beds and poultry houses. (1 lb. 15c) (10 lbs. $1.25). Add 3c for packing and postage. Also sold in 100 lb. bales at $3.75 per cwt. E. o. b. here.

Tobacco Stems For fumigating greenhouses, (1 lb. 15c) (10 lbs. $1.00). Add 3c for packing and postage.

Tree Tanglefoot Paste. This is a sticky substance that has the power of changing unavailable trees to protect them from all climbing insects and also rabbits. It will prevent, to some extent, the eating of trees (for months). (1 lb. cans 90c) (3 lbs. $1.75) 10 lbs. $5.00.) (20 lbs. $9.00).

Whale Oil Soap For scale and fungus. Should be mixed with Black Leaf 10 to eradicate aphids. (1/2 lb. 15c) (1 lb. 25c) (50 lbs. case $6.00). Add postage.

Fertilizers

Write for quantity prices on all fertilizers.

The most essential ingredients in fertilizers, to stimulate plant growth, are nitrogen, phosphoric acid and potash. The following are high grade fertilizers sold by the store.

Dried Blood Meal Is very rich in nitrogen and an excellent foundation for increasing the yield of vegetables and fruit, and also for stimulating the growth of flowers. There is from 12 to 15% nitrogen. Price (per 100 lbs. $2.75).

Bone Meal 3½% nitrogen and 16% phosphoric acid. Neither of these two elements are immediately active in their action. But if put into the soil in the Fall, some results will show the following Spring. Slow but sure. (Per 100 lbs. $2.50).

Bradley’s Fertilizers These fertilizers have been manufactured and placed on the market for over fifty years, and we have handled them for more than twenty years. The aim of the fertilizer company is to furnish the farmer grower, for his land, and plant mixtures as his special soil and crop conditions demand, and we can recommend the following kinds of fertilizer to be especially adapted to the needs of the various plant life.

Bradley’s Lawn and Garden This brand is a balanced complete fertilizer, intended for lawns, gardens, and is used for all plants that are annual and perennials. It is available on the market for over fifty years, and we have handled them for more than twenty years. The aim of the fertilizer company is to furnish the farmer grower, for his land, and plant mixtures as his special soil and crop conditions demand, and we can recommend the following kinds of fertilizer to be especially adapted to the needs of the various plant life.

Bradley’s Tree and Vine A complete fertilizer that will give immediate results. Just the thing for trees, shrubs, vines and roses. Analysis 2% nitrogen, 4% phosphoric acid, and 2% available potash. Per 100 lbs. $3.15.

Bradley’s Packers’ Special This has been especially prepared for the grower of strawberries, peaches, pears and other early bearing fruits. Analysis 6% nitrogen, 2% phosphoric acid and 4½% sulfate of potash. Per 100 lbs. $3.30.

Fish Fertilizer This fertilizer is composed of dried fish, finely ground, and is completely soluble. Excellent for vegetables and fruits, and especially adapted to the growing of tomatoes, cucumbers and sweet potatoes. Per 100 lbs. $3.00.

Gaviota Lawn Fertilizer The result from the use of Gaviota Fertilizer on plant life will be noted at once. It promotes the growth and appearance of grass and foliage, and increases the quantity and quality of flowers and fruits. May be used for house-plants as it has no offensive odor. Price (12 lb. cans 40c) (5 lb. cans 80c).

Leaf Mould Excellent for mixing with soil for potting house-plants, especially ferns of all kinds. Per sack $1.00.

Gypsum This is not a fertilizer, yet it has an indirect effect on crops. Gypsum is the element calcium to plants; it makes "sour soil sweet," changes an acid condition to a slightly alkaline one; it has the power to shrink clay and abrasive soils, making the number of grains from a sticky mass; it prevents packing, baking and cracking, makes cultivation easier; it promotes the normal decay of organic matter in the soil, prevents the accumulation of the refuse of organic life and promotes the change of nitrogen in organic matter into available forms. It liberates and conserves it. Hence, gypsum for potash and phosphoric acid already in the soil. It destroys fungus and the germs of insect life that infest the soil. Hydrated Lime, because of its fineness, high calcium content and concentrated condition, is the ideal agricultural lime for the best economy on the market. Use one-half less than other forms of lime. In cloth sacks weighing approximately eighty pounds. (Per sack $1.50). Write for prices in town and country lots.

Nitrate of Soda Contains about 15% nitrogen. Is very quick in action and entirely soluble. Is best applied after the plants are growing. Price fluctuates; write for prices.

Agricultural Hydrated Lime It supplies the element calcium to plants; it makes "sour soil sweet," changes an acid condition to a slightly alkaline one; it has the power to shrink clay and abrasive soils, making the number of grains from a sticky mass; it prevents packing, baking and cracking, makes cultivation easier; it promotes the normal decay of organic matter in the soil, prevents the accumulation of the refuse of organic life and promotes the change of nitrogen in organic matter into available forms. It liberates and conserves it. Hence, gypsum for potash and phosphoric acid already in the soil. It destroys fungus and the germs of insect life that infest the soil. Hydrated Lime, because of its fineness, high calcium content and concentrated condition, is the ideal agricultural lime for the best economy on the market. Use one-half less than other forms of lime. In cloth sacks weighing approximately eighty pounds. (Per sack $1.50). Write for prices in town and country lots.

Sulphur as a Fertilizer Experiments conducted during the past few years by noted soil chemists and practical cultivators have revealed the truth that Sulphur kills alkali, promotes nitrification, transforms potash and phosphates lying latent in the land into available plant food, thereby reclaiming and stimulating soil to produce greatly increased crops at a comparatively low cost per acre. The following are authorities for the statements here given.

Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.

Dr. C. Reimer, Reimer’s Southern Oregon Agricultural Experiment Station.

Professors F. E. Brown and E. H. Kellogg of the Iowa Agricultural Experiment Station, authors of "Sulphonation in Soil."

Sulphur, also known as "fire dirt," is a wonderful success of the fertilizing world. Several of the finest cultivators have been made by those who have fertilized soils with Sulphur. Here is one of the practical results.

Dr. C. Reimer, of the Southern Oregon Experiment Station, harvested powdered Sulphur into Rogue River Valley apples. He found in the proportion of 5 lbs. of Sulphur in 100 lbs. of dry alfalfa in this sulphurized soil and in an adjacent untreated tract under exactly similar conditions. At a total cost of about $10.00 per acre he harvested a crop of five times the yield of the adjacent field. He cleared about $60 per cent on this investment in money and time. The Sulphur remained in the soil as a nest-egg for the next year’s crop. He only handled the best brands of Sulphur, which are as follows:

Anchor Brand, 110-lb. sack $1.25
Diamond S Brand, 110-lb. sack $1.50

Lea Mould Excellent for mixing with soil for potting house-plants, especially ferns of all kinds. Per sack $1.00.

Wizard Fertilizer A high grade fertilizer, which we recommend for its high grade, general fertilizer value and up in a very condensed form. Excellent for house-plants and ferns. Use sparingly. (2 lbs. 30c) (25 lbs. 2.50).

Gopher Poison See Squirrel Poison.
Westrobac Nitrogen-Fixing Bacteria

"Living Nitrogen for Field and Garden"

R. Westrobac, the West (Westobac) the Golden Medal Bacteria, Pure, Virile, Acclimated, Nitrogen gathering Bacteria.

Four ounces properly applied to the seed for an acre of ground will put as much nitrogen into the soil as can be obtained in two tons of high grade commercial fertilizer with the labor and less expense.

This means profitable crops on poor or sandy soils, restoration of worn out lands, increased crops on good lands.

WHAT THESE NITROGEN-FIXING BACTERIA WILL DO

1. These bacteria furnish the best and most valuable fertilizer in the world, in unlimited quantities and at only a nominal cost of money or labor.

2. They take nitrogen from the air, convert it into nitrates available for plant food, and then give it to the plant. In return the plant supplies them with carbo-hydrates, thereby enabling the bacteria to grow and reproduce themselves at an almost incredible rate.

3. They increase crops, under ordinary conditions from 25% to 60%, with no extra work. They make possible profitable crops on absolutely barren soil, such as sea sand or even coal ashes. They also improve the crops on good farm land.

4. They store up on the roots of plants the excess nitrates which the plant does not use. This is done in the form of nodules, varying in size from a mere speck to about a half inch in diameter. Official reports show this reserve supply of nitrates thus stored in the ground has been in some cases equal to $50.00 pounds per acre, or more nitrates than are contained in several tons of the average commercial fertilizer.

5. They gather moisture from the air at the same time they gather nitrogen, and also make it available for the future use of plants. This enables an inoculated field to withstand semi droughts or dry seasons that would otherwise destroy the crop.

6. They work night and day making money for the farmer.

Cover Crops and Green Manuring Crops

1. Green Manuring is the practice of incorporating into the soil any green vegetable matter, which, upon decaying, becomes Humus.

2. The purpose of this practice is to increase and maintain the organic matter.

3. The most beneficial family of plants for this purpose are the Legumes.

4. But better than the Legumes are the Legume plants treated with Westrobac, because of their increased ability, through the agency of their bacteria, to draw nitrogen from the atmosphere and deposit it in the soil.

5. Legume plants when associated with their own bacteria make better top growth and a deeper and stronger root system. Westrobac is the leader of all commercial Bacteria for Legume inoculation.

6. The Clovers and Vetches decay more quickly than other plants, and are converted into Humus in the shortest period of time, usually about 30 days.

7. The deep roots of Legumes are able to bring up plant food from greater depth than the shallower roots of other plants.

8. "Westrobac" is the trade name of our product, a Pure Culture of Bacteria bred to order only, thereby assuring freshness and virility.

9. No danger of fungus or weed diseases in using Westrobac; it is absolutely pure.

10. A few moments only are required to apply Westrobac to the seed and the process is very simple.

Westrobac has over 6,000 customers in California—five years ago it had only a few—the large number results from the success the few had at first and the subsequent users had later. Over 50 per cent of this years' business comes from former users. That tells the story of Westrobac's success.

A ton of stable manure adds to the soil less than 10 pounds of nitrogen—a tube of Westrobac that costs $2.00 will add when used with the proper seed, from 120 to 200 pounds of nitrogen per acre, at least 12 to 1 against stable manure. Nitrogen is one of the essentials of plant life and the element that in nearly all cases might be called the limiting factor—especially in California where our long hot summers bake and destroy the humus—and as nitrogen is available to the plant as the land productive. If you have plenty of nitrogen you should have big crops, and when you can get this plant food at $2.00 an acre, it is folly to take a chance of getting a small yield when you can have paying returns.

Over every acre you have 20,000 tons of nitrogen—why buy it in a sack when Westrobac can take it from the atmosphere and put it in the soil. It is easy to apply, a 10-year-old child can inoculate seed for one or five acres in a few minutes. No chance to do harm—only good—and only a few minutes required.

Do not apply the bacteria to the seed in the sunshine or exposure to the sunshine to dry after mixing. Remember that strong sunshine kills every form of bacteria. The best results are obtained when planting is done in the early morning or late afternoon on cloudy days. If you drill the seed in moist soil you can plant any time.

Do not use the bacteria marked "Soy Beans" for clover seed, but use for the plant only whose name appears on the box.

The prices on Westrobac in the Post Office now in effect are as follows:

<table>
<thead>
<tr>
<th>Garden Size</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 acres and under</td>
<td>2.00 acr.</td>
</tr>
<tr>
<td>100 to 200 acres</td>
<td>2.00 acr.</td>
</tr>
<tr>
<td>200 acres and over</td>
<td>2.00 acr.</td>
</tr>
</tbody>
</table>

This culture is bred in San Francisco laboratories especially for California soils. We do not put out any culture over thirty days old. It is our contention that the best results are only obtainable through the use of fresh, virile culture.

We are breeding the best commercial nitrogen culture on the market today and we are in no way competing with chap Eastern cultures. In selling Westrobac, we are selling to our customers the very best.

Immediately upon reading this page consult us with regard to your requirements for the season that you may place your order for delivery about your time of planting. Fresh bacteria will then be made to your order at the time required.

Agricultural Hydrated Lime promotes a slight alkaline condition which is ideal for the development of the bacteria, it furnishes calcium which is essential to them, and its physical effect produces good air and moisture conditions necessary for the bacteria above described. See page 45.
A & M Greatest Soil Renovators

NEW SCIENTIFIC DISCOVERY
GRAIN FARMERS READ THIS
Less Seed and Harvest More Grain

For fifteen years or more leguminous crops have been increased by the application of nitrogen bacteria; but this bacteria could not apply to non-leguminous crops.

Now a method has been found by which grain and other non-leguminous crops can be benefited by this bacteria.

The simple method of planting inoculated Vetch seed with your winter crops—wheat, barley, oats and rye, 20 pounds of barley with 30 pounds of Vetch will produce more barley grain, more hay and in addition Vetch seed enough, the sale of which will more than pay for seeding the entire crop and leave enough seed for subsequent plantings. Try it, others have done it.

Credit must be given the Western Soil Bacteria Company for this discovery and proving it beyond a doubt by demonstration. Therefore if your soil is sandy or adverse or any intermediate stage, sow Vetch with your grain, whether for hay or for seed it will double your yield and improve the soil for the crop to follow.

Another method by which to increase the yield.

By intercropping beans or other legumes with tomatoes, corn, cotton or other field crops, also squash, egg plants or other garden crops.

Another method of getting results from the nitrogen of legumes is the rotation of crops.

It is now well established that barley following beans, yields 25% more grain or hay than formerly. Likewise will any other crop be benefited that follows a leguminous crop.

Scientific Farming Pays

A farmer in Stanislaus County planted 20 pounds of barley and 20 pounds of inoculated vetch seed per acre and harvested 36 sacks of barley per acre. A buyer happened along and bought this ranch at $200 per acre when he could have bought the adjoining ranch at $200 per acre on which the owner has sowed 100 pounds of barley seed alone with the results that the crop barely paid for harvesting.

Scientific farming pays if practiced by a practical farmer. But the study alone of scientific farming cannot make a practical farmer. It requires experience and a great amount of hard work guided by common horse sense.

Read Campbell's Progressive Agriculture. Price $1.10 postpaid.

Vetch

For many years was considered the best legume for planting in orchards during the rainy season. It is only because Melilotus Indica is a little harder that Vetch is now second place for that purpose; but Science has discovered a new use for Vetch. It is true that Oats have been planted together with Vetch for the purpose of supporting the Vetch that it may be easy to harvest. Now the new discovery is that Vetch be planted with oats, wheat, rye and barley in order that the grain will be fertilized by the Nitrogen gathered at the roots of the Vetch thus greatly increasing your crop of grain, or if grown for hay it doubles the yield. Twenty to thirty pounds of grain sown with twenty pounds of Vetch per acre will yield more grain than sixty pounds of grain per acre if sown by itself.

Per lb. 25¢ postpaid. Write for quantity price.

A certain market gardener in the east made the statement at a gardener's convention that "For twenty years he intensively farmed the same plot of ground without fertilizing." In explanation he said that immediately after he completed the last cultivation he sowed Vetch, which made a good growth until frozen. He then plowed it under, thus putting the ground in excellent condition for spring planting Scientific farming pays.
Soil Renovators Suitable for Winter Planting

Scarcely more than ten years have passed since these two valuable clovers were considered as weeds to be despised.

Their value is incalculable because they are supplying the deficiency in stable manure, giving better results with less expense.

Melilotus Alba

This is a valuable addition to the farm as a forage crop. When quite young, it may be pastured or cut and cured for hay. This should be done just before the bloom appears. It is harder than alfalfa, more drought-resistant, and better for renovating the soil. It may be cut twice the first season and three or four times the second season, yielding 2500 to 3000 pounds of hay each cutting. It is as easy as alfalfa to eradicate, is biennial. Hence it must be seeded every second year. On account of its hardness it resists extreme cold, heat, and drought. It is grown largely in the middle west for pasture. It is highly recommended by the department of agriculture.

Melilotus Indica

Could reclaim all that waste of alkaline land lying east of Clearwater and afford good grazing while the land is being made valuable. On the beet ranch of the Montana Land Company just east of Hynes, was planted last year twenty acres to Melilotus alba with such gratifying results that this year, they planted five hundred acres.

Write for price.

21 Reasons for Planting Melilotus Alba

1. It is not a weed.
2. Like alfalfa it is rich in protein.
3. Will not bloat cattle or sheep.
4. Equal to alfalfa for pasture.
5. Is a great milk producer.
6. Furnishes early spring pasture.
7. Contains more protein than red clover.
8. Fits well in the crop rotation.
9. Is a great soil enriching crop.
10. Better than any of the common clovers as a green manure crop.
11. Is a valuable plant for honey bees.
12. Prepares the soil for alfalfa.
13. Roots are soft and give no trouble in plowing.
14. Roots being tender become inoculated more readily than alfalfa.
15. Never damages cultivated crops.
16. Its roots decay rapidly, adding much nitrogen and humus to the soil.
17. Grows and will produce a crop in all parts of the United States.
18. Sows freely in both humid and dry sections.
19. Sweet clover prevents erosion.
20. Will grow under conditions where clover and alfalfa fail:
   (a) On land too low, too wet, or too alkaline for alfalfa;
   (b) On land too hard and compact for alfalfa;
   (c) On soil too poor for alfalfa, especially where there is lime.
21. It is immune to nematodes.

Now read again these twenty-one reasons for planting Melilotus Alba, and see wherein it suits your particular case.

For information concerning Melilotus Alba (Sweet Clover) write United States Department of Agriculture, Washington, D.C. for Farmers' Bulletins No. 797 and 820.
SOIL RENOVATORS FOR SUMMER GROWING

Velvet Bean

This bean has long been popular in the south as the best soil renovator, best for summer grazing, or cut and dried for winter forage for horses, cattle and hogs. Thousands of acres are now grown for the bean which is ground into meal for food for all kinds of livestock.

It will yield far more tonnage of green forage, and more tonnage of seed beans than any other Cow Pea.

It will also add more tonnage for green manuring than any other Cow Pea. Mr. T. J. Walker of San Fernando planted several acres to try them. One glance at the field would convince anyone of the truth of the above statement. The seed is large and requires about forty pounds to plant one acre.

The advent of early-maturing varieties of velvet beans has resulted in an almost phenomenal increase in the acreage of this crop in the southern United States. For the year 1916, it was estimated that there were more than 5,000,000 acres of Velvet beans, mostly grown along with corn, in seven states in the cotton belt. It is safe to say that this is five times as great as the acreage of 1915.

Alabama, Florida, and Georgia have five-sixths of the Velvet bean acreage of the South and harvest as dried beans over 60 per cent of their crop. The Velvet bean meal industry has developed rapidly, and this furnishes a ready market for the beans. The acreage planted in 1917 required at least 92,000,000 pounds of seed.

Sesbania (Native Hemp). This is nothing new to Southern California for it is a native legume growing in the Colorado River basin. A field of mature Sesbania resembles a field of mature mustard bearing pods higher but much longer than mustard.

It is an ideal summer crop to grow in Coachella, Imperial and Palo Verde Valleys for green manuring. With sufficient rainfall, they can start growing in mid-summer, it will produce an abundance of foliage to plow under. This is the wild hemp that is grown largely in Imperial Valley for fiber. The seeds are extremely rich in protein and as valuable as cotton for the oil and fertilizer.

Broad Windsor Bean

Sometimes called Horse Beans, grows upright on a single stem bearing a profusion of large well filled pods. It is extremely productive of nitrogen. It will withstand 28° temperature; therefore, may be planted as late as September for best results as a winter cover crop.

Per lb. 25¢ postpaid. (Write for quantity price.)

Mr. E. H. Mann of Onesi says, "The Broad Windsor Bean in my trial last year proved so much better than anything else that I have tried, that I am sure it is just what I have been looking for the last seven years to grow on poor winter-wet but summer-dry soil.

Whip-Poor-Will Cow Peas

This Southern Cow Pea has proved the we have

satisfactory in this climate. It is a forage crop, or just the thin planting, grow the late summer to plow under to enrich the soil for a crop of winter vegetables. Cow Peas are excellent this fall planted. Write for quantity price.

Soy 'Beans

(See page 20.)

They are wonderfully valuable as a soil crop because of their nitrogen gathering properties. Green manuring they should be plowed under when the pods are set. (Per lb. 30¢ postpaid. Write for quantity price.)

Virginia Peanuts

(See Page 17)

Dry Farming Pays

With the present scientific method of dry farming as it is practiced today, every acre of land planted to winter or summer crops can be brought to yield 100% more than by the old method of scratching the surface. This assertion has been proven repeatedly, and practical recognition of this fact has done much toward feeding our armies and alleviating the suffering of neutral nations. This was brought about when Mr. Thos. D. Campbell, the author of "Scientific Dry Farming," contracted to plant 200,000 acres to wheat on the arid lands of Montana.

This method of dry farming is scientifically pursued on all large cattle ranches in California, and by all large beef growers throughout the southwest.

If dry farming is a practical success for the large grower it must be equally practical for the small grower. But the small grower is frequently too busy with his diversified farming to do the work necessary to properly prepare the soil for dry farming and therefore half of a small ranch is often unproductive.

This picture illustrates what can be done on soil that "Old Timers" for years have allowed to lie idle, believing it worthless without irrigation.

Mrs. Muriel Edwards of Santa Ynez, Cal., writes: "The taller specimen of Sudan Grass was grown on a clay loam, the shorter one on very gravelly loam. The soil for both the corn and the Sudan grass was prepared as if for beans.

I also have some wonderful barley that volunteered in the corn field. None of these crops received any irrigation, not a drop of water, only intensive cultivation."

This land was supposed to be worn out and worthless. What this Farmerette can do, others can do.

Mr. Campbell's demonstration has by this demonstration enhanced the value of all lands in that mountainous section, and increased its productivity 100%.

What has been done you can do. Invest $26 in a book—"Campbell's Progressive Agriculture," offered on page 1, read it and practice its teachings, thereby increasing the value and productiveness of your land.

An Invaluable Book for the Arid Farmer is "CAMPBELL'S PROGRESSIVE AGRICULTURE"

Price $1.10 postpaid.

The following are some of the subjects Farm Possibilities; Preparation Before Seeding; New Problem in Corn Culture; Time of Planting; Does Tillage Increase Fertility?; Summer Filling for Wheat; Amount of Seed per Acre; Disking After Harvest.

Mr. H. D. Campbell practiced dry farming and reduced it to a science. His book entitled "Progressive Agriculture," is his latest publication in this educational work.
Alfalfa

This may well be called the King of Forage Plants; all stock relish it; it may be grown in nearly every state in the Union and it is essential to the best interests of every ranchman, small or large. To the "Little Landers" with a few chickens and rabbits, as well as to the large ranchman with hundreds of cattle, horses and hogs, it may be cut and fed green; judicious grazing does not injure it. If mixed with sorghum in the silo, it improves the ensilage and as dry hay it is unexcelled. It is leguminous and, therefore, a soil renovator.

Pursuant to our policy of protecting the customer wherever possible we have gone to the expense of having our fields of Hairy and Smooth Peruvian Alfalfa inspected by the County Agricultural Agent. Every sack of seed is sealed by him with a tag which certifies it to be the variety indicated on the tag. No matter where you buy it look for the tag on every sack you buy. Write for price.

Smooth Peruvian Introduced by us a few years ago. Our claim to superiority over the Chilian was in the fact that it was harder, yielding one to one and one-half times as much and more each cutting.

Being hollow stemmed it is softer and eaten entirely by stock. The leaves adhere to the stem after it is dry, adding greatly to its merit.

All of these claims held good and the smooth Peruvian rapidly grew in popularity and is now preferred by many satisfied growers.

Hairy Peruvian Recommended by the Department of Agriculture as being more hardy than the smooth Peruvian and because it is more hardy, it has a longer growing season and will yield more tonnage per acre per year, and on that account is more valuable in some localities than in others.

Professor F. W. Mally, County Farm Advisor of Laredo, Texas, has discovered and proven his discovery that this variety is immune to the Nematode. This adds much to its value. Professor Mally states also that smooth Peruvian is more immune to the Nematode than the Chilian.

Burr Clover The native Clover, and one of the best nitrogen-gathering crops and very satisfactory for orchards. There is an increasing demand for Burr Clover, and the seed is very scarce and hard to obtain. It is the very best cover crop for poor or dry land, as it needs but little moisture. If your grazing land lacks native grasses, plant Burr Clover; it re-seeds itself, starting to grow with the first rain, and continues growing far into the dry season. Per lb. 35c postpaid.

Alsike or Swedish Clover This is one of the hardiest varieties known. It is perennial and does not winter kill. It will do better on moist land than any variety of clover, and is suitable for either hay or pasture. When sown with other grasses, it forms a thick undergrowth and greatly increases the yield. Write for quantity price. (Price per lb. 30c) (by mail 40c).

Lespedeza or Japanese Clover (If interested, write the Department of Agriculture, Washington, D. C., and ask for Farmer's Bulletin No. 441.) Lespedeza is a summer annual and grows from Central New Jersey, through all the southeastern states and Texas, and grows luxuriantly in the southwest under irrigation. It is a summer-growing crop, re-seeding itself. Lespedeza grows readily with Bermuda Grass and is just the thing to grow in meadows where Bermuda abounds. No danger of blowing stock that feed upon it. Lespedeza and oats make an excellent combination, sowing the oats in the fall and the Lespedeza in March. After the oats have been harvested, the Lespedeza will yield two tons of hay per acre. It cures readily, drying in one day, and it is an excellent crop to rotate with cotton or corn. Sow 15 to 25 lbs. per acre. (Price per lb. 35c postpaid.) Write for quantity price.

Certified Alfalfa Seed

Pursuant to our policy of protecting the customer wherever possible we have gone to the expense of having our fields of Hairy and Smooth Peruvian Alfalfa inspected by the County Agricultural Agent. Every sack of seed is sealed by him with a tag which certifies it to be the variety indicated on the tag. No matter where you buy it look for the tag on every sack you buy. Write for price.

Mr. C. Sebilius cutting his Smooth Peruvian Alfalfa

Chilian This variety has proven so entirely satisfactory to everyone for more than forty years that nothing better was looked for and is indeed now so thoroughly satisfactory that many will hesitate to believe that any variety of alfalfa can be better, therefore we have an ample supply of the Chilian seed.

White Clover For lawns. (See page 81.)
Grasses
(See Back Cover).

The war conditions have brought about a realization of the enormous waste of resources that passed unnoticed or if noticed, was given little thought.

One great source of waste exists in the barren condition of lands that are not irrigated, swamps, lakes, alkali, and many other conditions.

If these lands were not frankly abandoned there would be much benefit from the results obtained under these conditions. For instance, if possible, there is somewhere some good palatable grass suited to all these barren places could be made to support countless herds of cattle, goats and sheep.

A great many of applications to this subject we have found a number of grasses and millets that are now growing on ranges and in places such as we have described. We are not aware of any sources and pounds of various grasses and millets that have proven practical for the purposes and conditions described.

Therefore if you have any barren lands, or acreage that is unproductive, read carefully these pages devoted to grasses and millets. They have been the result of careful selection and are self-sustaining.

If you have any untilled lands describe the condition to us, we will recommend some forage plant suitable to that condition.

Grasses

Pampas Grass
(See figure No. 1 on back cover.)

Pampas Grass is very hardy, will endure zero temperature. It is not priced for forage but only for ornamental purposes.

Alfalfa
(Erodium Cicutarium).
Cardinal points:
For the range—Any kind of soil—endures little alkali—very hardy—thrives—brightens the range during winter, spring and early summer, then it is retired by all stock—becomes parched by heat in late summer, then it is less palatable to stock, but they will thrive if by hunger to eat it—it seeds freely. Requires good preparation of soil for seeding. Can be cut and dried freely. (Per lb. $1.00 postpaid.) Write for quantity price.

Australian Salt Bush
(Atriplex semibacenta).
Cardinal points:
For range, very hardy, and do not require much moisture—endures in dry places. Will grow on any kind of soil. Requires little preparation of soil for seed. Can be cut and dried freely. (Per lb. $1.00 postpaid. Write for quantity price.

Bermuda Grass
(Cynodon dactylon).
Cardinal points:
For range—any kind of soil—endures very well—best—very hardy—good for permanent pasture. Can be cut and dried freely. Will thrive as grasses will thrive in pastures. Will stand heat and heavy foot traffic very well. Will withstand cold well. It is suited for growing in the West.

Rhodes Grass
(Chloris virgata).
Cardinal points:
For range—any kind of soil—endures very well—good for permanent pasture. Can be cut and dried freely. Will stand heat and heavy foot traffic very well. Will withstand cold well.

Napier or Elephant Grass
(Pennisetum purpureum).
Cardinal points:
For range—any kind of soil—endures very well—good for permanent pasture. Can be cut and dried freely. Will stand heat and heavy foot traffic very well. Will withstand cold well.

Grasses

Napier Grass
(See No. 8, back cover.)

Napier Grass is the hardiest of all grasses and the most practical. It is the fastest growing perennial grass I have ever seen, especially after it has been planted one year and the roots are thoroughly established. It produces a stalk somewhat like cane. It grows readily from the joints of the matured stalk and multiplies wonderfully in a short time. It can be cut when young, should be cut and dried for hay for twenty to fifty days old. Its millet-easily eradicated—propagated by planting joints of cane like potatoes three feet apart in rows four feet apart—seeds freely.

We have no seed, therefore we offer the joints. One joint in one season will increase by 500. (Per 100 joints $5.00 postpaid.)

The following is from Mr. E. J. Spencer:

"It is the fastest growing perennial grass I have ever seen, especially after it has been planted one year and the roots are thoroughly established. It produces a stalk somewhat like cane. It grows readily from the joints of the matured stalk and multiplies wonderfully in a short time. It can be cut when young, should be cut and dried for hay for twenty to fifty days old. Its millet-easily eradicated—propagated by planting joints of cane like potatoes three feet apart in rows four feet apart—seeds freely.

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We have no seed, therefore we offer the joints. One joint in one season will increase by 500. (Per 100 joints $5.00 postpaid.)
GRASSES—(Continued)

Natal Grass

*(Trichlorum rosen*, See No. 11, back cover. Cardinal points—A recent introduction—a local experiment indicates it will grow in any kind of soil—endures little alkali—stools and seeds freely—seed stems grow four feet high—may be propagated by transplanting rooted joints or divided stools—is grown extensively in Florida—is about as hardy as millet—valued highly for meadow pasture or cut and dried hay. When the roots are cut, the relish afforded is exquisite. Five pounds of seed will plant one acre broadcast. (Per lb. $1.00) postpaid. Write for quantity price.

**Teff Grass** *(Eragrostis Abyssivica*, See No. 14, back cover. Cardinal points—Not particular as to soil—endures much alkali—valuable range grass; fed drought; little annual—ideal for meadow or meadows—for summer and fall pasture. One packet will grow enough plants, if transplants, to set ½ acre. This would produce two crops of seed which would be sufficient to sow twenty acres.

**Para Grass**

See No. 9, back cover. Cardinal points—Excellent for swamp or overflow lands or with irrigation—any kind of soil that has sufficient moisture—endures little alkali—roots survive winter and months of drought; foliage is dormant in winter but will grow three or four feet high in the warm weather; it is checked by drouth. When irrigation grows rambunctiously, may be cut and dried for hay every fourth weeks; it is relished by all stock—seeds not at all in this climate—is propagated by transplanting joints or stems—difficult to eradicate from the soil. There is no seed available. We offer stems. (Per 100 stems 75c postpaid) (1000 stems $1.00 f.o.b. here).

Dr. Wm. R. Livingston of Oxnard, California, writes: "I have many hundreds of acres of Para Grass in Mexico, where we consider it the most valuable forage plant. I have worked 200 mules at a time, feeding them freshly cut Para, as roughage with some corn. I know of no other green plant that will sustain working animals; the amount of forage per acre is enormous."

**Giant Wild Rye Grass** *(Elymus condensatus*, See No. 7, back cover. Cardinal points—Not particular as to soil—endures much alkali—grows luxuriantly in meadows, along the sandy wash, on hillsides with brush, on rich loam, or on clay or sand. It will survive two temperatures, with only slight precipitation of rain it will mature seed which affords food when all else has disappeared or has been covered with ice. .Per lb. $1.00. Write for quantity price.

**Smilo Grass** *(Oryzopsis millea*, See No. 12, back cover. Cardinal points—Not particular as to soil—a hardy evergreen perennial—drought-resistant bunch grass—thrives on dry hills, among rocks and brush, and under trees; it will grow under all conditions any time of the year on high hills or on decomposed granite banks, but is most luxuriant and productive when cultivated on good soil.

Stools and seeds freely—may be propagated by transplanting divided stools. It is an ideal range grass for Southwestern United States. One ounce of seed will grow sufficient plants to cover one acre.

**Paspalum Dilatatum** See No. 6, back cover. Cardinal points: Any kind of soil—endures little alkali—excellent for permanent pasture—marsh or meadows—grows winter and summer with moisture—excellent for hay—may be cut every four or five weeks; it tolerates cold and winter; it is not particular as to water; it withstands cold and winter; it is the finest grass for permanent pasture in meadow or on mesa where it must depend solely upon the season's rains. Paspalum is one of the best grasses for permanent pasture in meadow or on mesa where it must depend solely upon the season's rains. Paspalum planted on ridges between alfalfa checks. The first season only demonstrated it would grow throughout the winter. The second season proved its worth. It had seeded to a wonderful degree. The seed grew, taking root among the weeds and devil grass, choking out everything in its way. The dense put of grass made a thick mat capable of supporting the cattle. The stock relish it fully as well as alfalfa. It makes a fine hay free from any wood. It is as easy to eradicate as timothy or any other bunch grass. Ten pounds is sufficient to sow one acre broadcast.

**Orchard Grass** Price—Per (lb. 50c prepaid) Write for quantity price.

**Italian Rye Grass** Excellent for damp land; grows rapidly; makes good hay, but is at its best in moist low lands. It grows continuously until allowed to run to seed. Dairymen having moist land should avail themselves of this valuable pasture. Price—(Per lb. 35c prepaid) (100 lbs. $10.00) f.o.b. h.e. Here. Write for quantity price.

**Australian Rye Grass** Very similar to Italian Rye Grass, but will resist more drought. It survives the dry season and starts new growth when the rains set in. Price—(Per lb. 35c prepaid) (100 lbs. $10.00) f.o.b. here. Write for quantity price.

**Timothy** Does very well in moist land and will mature a fine crop of hay in 110 days from seed. We do not recommend it for Southern California. Per lb. 25c prepaid. Write for quantity price.
GRASSES—(Continued)

The Wonder Forage Plant

The crop for the silo 75 tons of silage per acre

The Wonder Forage Plant
A New Forage Plant
Surely a boon to Dalymen and Stockmen

This valuable forage plant first appeared during the summer of 1918 on the ranch of Mr. Benedict in Riverside County. Mr. Benedict realized he had something extraordinary; he therefore saved all the seed from this one plant and in 1919 grew a small plot that further convinced him and his neighbors that he had a wonderful forage plant. The seed from this plot was carefully harvested and in 1919 a field of ten acres was grown. This field by a roadside has attracted the attention of all persons who pass. It has been visited by government experts who have given favorable expression as to its merits. For want of more exact history we express the opinion that it is the result of a cross pollination between Amber Cane and Sudan Grass because it has the appearance of gigantic growth of Sudan and the seed is very similar to Amber Cane. It stolts from six to forty full sized stems the thickness of a thumb and smaller. When the main stems mature, separate branches grow from each joint forming other seed-heads. We exhibited at the Liberty Fair one stool with thirty-eight main stems and one hundred and thirty-two seed heads and more stems growing from the base.

The stools are succulent and sweet as saccharine cane, not dry as non-saccharine cane, therefore it is as good as sorghum for dairy cows. Stock will eat every particle of it and when shredded or cut for the silo it is ideal silage. We are undecided whether to class it as a grass or a sorghum but incline toward the latter because of the nature of the stalk, although it has a seed panicle like Sudan. The seed we offer is of the third year's selection from the original hybrid and the stools may not be uniform but the smallest stool will greatly exceed any sorghum. It is capable of further improvement by seed selection from the best stools. The stools will grow, on good soil, 12 to 16 feet tall with an indefinite number of canes, because they continue to come throughout the season which would add enormously to the value of this crop for silage and pasture.

Judging by other forage crops that are well known to yield 40 tons silage per acre, this Wonder Forage Plant should easily yield 100 tons silage per acre. It may be cut three times during the season.

Mr. D. W. Lewis, Pres. and Mgr., Riverside County Title Guaranty Co., writes:

"My friend Mr. C. H. Benedict has originated a wonderful forage plant which resembles Sudan Grass but is as much ahead of Sudan Grass as that grass is ahead of ordinary grasses. I saw his field recently and though growing on sandy soil the grass had stolled wonderfully and each crown was composed of many stalks of great height and covered with many long slender leaves. This had been irrigated. A crown standing alone and grown without irrigation was also very thick and above my head, while much of the irrigated growth was from 12 to 16 feet high. As a forage and silage plant I think it is the greatest I have ever seen or read about. I hope to grow considerable of it myself this season."

Mr. B. B. Bush of Riverside, writes: "This I believe is the most productive and best silo plant, producing one hundred tons per acre, (conditions being right). A splendid fodder feed, stalks heavy, heavily bladed from ground to top, drilled in rows three feet apart, 16 inches apart in the row, good soil, irrigated will grow 12 to 17 feet high, one seed producing from 15 to 40 stalks.

It will stand cutting every month, with irrigation will keep stooling and shooting getting thicker and finer.

One cutting September first was cut again October seventh, being four feet high, and shown at the Riverside County Fair.

Every Dairyman should try a few acres this year."

The supply of seed is limited. (oz. 10c) (lb. 75c) (10 lbs. $5.00) postpaid; (100 lbs. $40.00) f. o. b. here.

CERTIFIED SUDAN GRASS SEED

All our seed of Sudan Grass is certified by the horticultural inspector to be free from Johnson Grass.

Sudan Grass

Cardinal points—Not particular as to soil—endures much alkali—an annual—planted during April first cutting in sixty days may yield four tons of dry hay per acre and three to four tons may be cut each thirty days until October.

Twelve pounds of seed is required to plant an acre in order to produce hay of fine quality.

The seed may be planted with a Superior beet drill or other drill with extra plate or broadcast.

Sudan Grass thrives with excessive moisture and endures extreme drought.

The foregoing points are not all the best features of this new grass. In the months of August and September, when all other grasses are drouthy, the time that Sudan is most valuable for fall pasture for cattle and hogs, and by having it fenced off in small lots, it will yield food for five times as much stock as any hitherto irrigated without irrigation. For milch cows and hogs there is no better or more abundant pasture than Sudan. We believe it will solve the hay proposition as nothing else can or will do in this climate.

Sudan Grass is ideal for growing with the Whisp-poor-will Cow Peas. The stem is stiff enough to support the vines, and the mixture makes a better balanced ration for the stock. It is a good silage.

Per lb. 50c postpaid. Write for quantity price.
Field Corn

About Corn.—More than 2,000,000 bushels of corn is produced in California annually, yet this is scarcely half enough to meet the local demand. This condition ought not to exist because there is ample acreage where corn may be grown under irrigation, and near the Coast where it may be grown without irrigation. Where corn cannot be irrigated, plant the "King of the Earliest" variety.

Fortunately, Southern California had no failure of its crop of corn, but the greater part of the acreage was cut for the silo, and the high price of corn for feed and mill use combine to make seed corn scarce. We have endeavored to provide for an ample supply, but some favorite varieties will be inadequate to meet the demand.

We are listing only those varieties that have been tried here and have proven highly satisfactory. Prices of all varieties of field corn subject to market change. (Per lb. 15c postpaid) 10 lbs., 75c f. o. b. here.) Write for quantity price.

Orange County Prolific

Eureka Ensilage

Champion White Pearl

Wisconsin White Dent

Iowa Silver Mine

Hickory King

Reid's Yellow Dent

Golden Beauty

King of the Earliest

Pride of the North

Minnesota King

King Philip Yellow Flint

Read This.—When grown without irrigation, our Pride of the North and King of the Earliest varieties are the most dependable. They are always a sure crop because of their extreme earliness, and they surpass the grower because of the great yield of grain.

ORANGE COUNTY PROLIFIC

For Ensilage as well as Corn

This White Dent variety is strictly a California product, and will surpass in amount of fodder or grain any other variety we have ever offered. It will readily yield one hundred and ten pounds of grain per acre, and when grown for silage it will yield more than thirty tons of ensilage per acre. 10 lbs., 75c f. o. b. here.

Eureka Ensilage

This variety has been grown around Norwalk and Artesia for several years. It is not only prolific of large ears but produces an enormous tonnage of silage it produces. 10 lbs., $1.50, f. o. b. here.

Mexican June

The corn for the arid southwest. When the white man was a pioneer in Arizona and New Mexico, he tried to grow corn but failed. The country and climate was condemned; corn could not be grown, but thanks to the good work of the various state and federal experiment stations, we have the Mexican June. This has been bred up by years of selection from seed which has existed among the Indians from time antedating the Aztecs. Imperial Valley growers realized its merits ten years ago. In Arizona, New Mexico and Texas, it is now grown where no other variety will thrive.

Mr. Schultz, of Orange County, says: "A friend gave me a few ears of Mexican June corn; I planted it on sandy soil, expecting to irrigate it, but could not do so. I thought it would die and did not even expect fodder, but see for yourself, good, big ears that would yield fully a ton of grain per acre. (10 lbs., $1.00 f. o. b. here).

Silage Corn

Mr. A. Y. Handorf says: "Hickory King Corn is hard to beat for silage. I planted about forty pounds of seed per acre and cut about 25 tons of silage. That is good enough."

Orange County Prolific
The Silo

Write Department of Agriculture, Berkeley, Cal., for Circular No. 138, September, 1915, by Professor F. W. Wolf; also Circular No. 173; also Bulletin No. 252, issued August, 1917.

This picture is given space that it may suggest to you when you contemplate improving your homestead that you will consider your location from a sanitary point of view, that you will consider the cost of stock and doctor bills, besides giving health and leisure to your family.

The above picture shows scientifically up-to-date farm buildings situated on an ideal location with regard to drainage. All storm water drains away from the house, away from the barn, chicken house and hog pen, far into the field where it will do the most good. This farmer need not worry about his stock or poultry no matter how hard it rains. There will be no pools of water about the premises to become stagnant mud holes that breed diseases for the stock and ill health for the family.

Aside from sanitary considerations this picture shows an ideal plan for farm buildings.

The house fronting the main highway; the garage a convenient distance away; the large barn built on an embankment where it will be easy to drive into the barn floor, under which the stock are comfortably stabled. The hog pen and chicken houses are built apart from other buildings for sanitary purposes.

The large silos could not have been located at a more convenient place.

If there is no naturally drained location on your land, the Fresno scraper will do much toward making such a location.

THE MODEL FARM

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<tr>
<th>The Silo</th>
<th>THE SIZE OF SILO TO BUILD</th>
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<tr>
<td>No. of Cows</td>
<td>Pounds Required Daily</td>
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Based on 40 lbs. per cow a day. One ton of hay requires 500 cubic feet of storage space, while one ton of silage requires only 50 cubic feet.

The best dairymen feed about forty pounds of ensilage, with two pounds each of bran and oil meal daily to each cow in order to secure the maximum milk production.

THE SILO IN IMPERIAL VALLEY

Chiefly through the influence of the county farm bureau and State agricultural experts, silos and sorgums are transforming Imperial Valley pastures and grazing lands into intensive dairy and hog raising ranches. Methods of feeding stock have greatly changed during the year 1917. Dairy cattle, hogs and sheep are now largely stall fed, instead of being turned out into vast pastures unattended. The change has worked wonders with the farmers' check books.

It is estimated that more than $7,000,000 gross was received this year by valley farmers for butter, beef, hogs and sheep. The stock industry is second only to cotton raising. County Fair Adviser Sullivan is confident that more than a million dollars will be added to this figure during next year because of the adoption of the Kansas style of feeding.

Tall silos now dot the landscape of the valley. More than three score were erected during the past three months. They were erected principally to take adequate care of thousands of acres of silage planted under the direction of the farm bureau. The silage propaganda of the farm bureau this year was directed towards the development of the sorgums, which seem more adapted to the interior valleys, with their warm summer climate.

DWARF SILO

One man can attend to the planting, irrigation, and cultivation of 160 acres, paying only for the harvesting and threshing. The cash outlay to grow 160 acres is approximately $300.00. The gross returns, estimating one ton of seed per acre which sold last season for $60.00 per ton, would be $9,600.00. This is a very conservative estimate.
SACCHARINE SORGHUM OR CANE

It is usually planted in rows 3 ft. feet apart, using from 4 to 10 pounds of seed per acre. Grows from 10 to 15 feet high.

This kind of Sorghum is distinguished from the Non-Saccharine because it is from these varieties that syrup is made.

Read This News Item from Imperial Valley

The high cost of sugar and honey have induced many farmers to plant hundreds of acres of sugar sorghum in this vicinity to be brought to the syrup mill of Cox and Sillman. A yield of from 150 to 175 gallons per acre is reported by Mr. Sillman in Texas fields, and the gross income from $10 to $15 per gallon. It is believed that in the Imperial Valley the yield may be increased.

Write College of Agriculture, University of California, Berkeley, California, ask for Circular 128—Concerning Syrup from Sorghum.

But these Sorghums are more generally grown for forage because they will thrive well with little moisture, and on good soil with irrigation will produce 30 to 40 tons of silage per acre.

Silver Tip

The Sorghum for syrup, Mr. McWilliams, a manufacturer of Sorghum syrup, residing near Norwalk, says: "The Silver Tip excels all other Sorghums for sugar and syrup. A yield of 90 to 100 gallons per acre was the average obtained from my field. It will yield 20 tons of silage at one cutting. It is later in maturity than many grains and a variety that once the first cutting can be used for syrup." Per lb. 25c. postpaid. Write for quantity price.

Honey Sorghum

This variety was only recently introduced into California and at once proved to be very desirable because of the large yield of grain as well as enormous growth of forage.

It is given special recommendation in the Farm Bureau Monthly and has proven highly satisfactory to all who grew it last year. Per lb. 25c. postpaid. Write for quantity price.

Early Amber

The Early Amber has been grown in California for more than thirty years and always proven entirely satisfactory. It grows twelve feet tall with a very long stalk to a wonderful extent when cut about every four weeks. Per lb. 25c. postpaid. Write for quantity price.

A Word About Amber Cane

Mr. R. N. Atwood, of the Imperial County, California, for the following statement: "For more than twenty years I have planted sorghum about the first of April. About the time it is well seeded I have some hogs ready for fattening for the market. I turn the hogs into the field of Amber Cane every day toward evening. In this way they eat all they want without waste, and about the time it is all gone the hogs are ready for market. This is all the feed they get for fattening. Saves me much labor, and the exercise is healthful for the hogs. I sow one acre of Amber Cane for every twenty hogs."

If you need forage for your horses, cattle or hogs Sorghum planted about April 1st will furnish you the best feed in the shortest space of time. One half acre will feed four head of stock all summer if only enough is cut each day for one day's need. In this way one can cut continuously all summer. As much as 40 tons may be cut from one acre.

It usually yields three cuttings a season, but is should not be fed before maturing as it is liable to bloat. The sugar content is very high and hogs and cows can be brought to prime condition with no other feed.

Address: University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 128, also Bulletin No. 283.

WHEN TO HARVEST SORGHUMS FOR SILAGE

This year for the first time many farmers are growing sorghum for silage. The question of when to cut it is now perplexing some. The experience of farmers who have grown this crop for silage purposes is that it should be fairly mature before cutting. The stalks may look rather dry but sorghums should not be cut for silage until the seeds are hard, if cut early the silage is apt to be acid and much inferior to silage cut at the right time.

Texas Seeded Ribbon Cane

Texas Seeded Ribbon Cane is one of the best crops that can be grown to use as ensilage or silage. Mr. Geo. L. Miller, of the 101 Ranch, states as follows: "We have experimented on a large scale with every variety of Kafir, Milo and Sorghums, Milo Mais has done well, but the stalks and fodder has not the feeding value it should have. Sorghums seem to be the best and surest and have better feeding value than any of the other forage crops."

"Of all the varieties of Sorghums grown, there are none that are more able to compare in yield with the Seeded Ribbon Cane. It has produced a yield of 55.98 TONS OF GREEN WEIGHT PER ACRE."

We recommend that all farmers should plant 10 to 15 acres or as much more of the Seeded Ribbon Cane as they have room for. It will mature a crop under conditions where the other sorghum will fail.

At the United States Dry Land Experiment Station at Woodward, Okla., it out-yielded any other cane and sorghum.

ITS GREAT MERITS

The stalks are sweet. Cattle eat it down to the roots. Horse will eat to three feet unless the alfalfa is cut for it. Stock prefers it to sweetest hay. Matures earlier than kafir. Makes a very short of Kafir. Easily two weeks in advance of Amber Cane. Seldom yields less than 3000 lbs. per acre. Frequently yields as high as 6000 lbs. per acre. It matures early and produces hay. Readiness for cutting before any other Cane. It is of dwarf growing habit. Is very stalky and a great stalker. Very nutritious as a silage. Exceeds Sudan and superior to white Kafir Cane for feed. Or is better suited for cattle than Pastor. Matures with exceptional uniformity. Yields are remarkable for even growth. Branch heads keep coming up till frost. Grown from 3 ft. to 2 feet high. Very easy to cut by hand or by hand. It never lodges or droops its heads. Better feed producer than any of the Sorghums. Now 10 lbs. per acre. (1b. 20c.) (10 lbs. 8.50) f.o. b. here.

A Word About Sorghum Silage

A report just submitted by Mr. Sullivan, Imperial County Farm Advisor, includes the proof that, by raising silage sorghum, three times as many farm animals can be raised on the same area as used for the same crops. The following yields were obtained:

For each ton of dry plant obtained, there were 100 pounds of Sorghum. 440 pounds of Texas Seeded Cane per acre.

Seven of the different plots were personally weighed by the farm advisor. The following yields were obtained:

For each ton of dry crop obtained, there were 100 pounds of Sorghum. 440 pounds of Texas Seeded Cane per acre.

Before this demonstration, fifteen tons was considered a good yield for a silage crop. The demonstration showed that three times as much silage can sometimes be grown on an acre as was formerly grown.

It is a common thing to hear farmers who have come here from the corn belt say: "Oh this sorghum corn is all right, but it doesn't begin to have the food value of good old Indian corn." Yet from the analysis of over 500 samples of different kinds of grain sorghums it compares favorably with Indian corn.

KAFIR SORGHUM READ THIS

Wonderful for Fodder and Grain

Mr. B. F. Taylor of Los Angeles called our attention to this wonderful and added this: "I have grown several varieties of Saccharine sorghums. He says that he harvested about 6000 pounds of grain from approximately one acre: that it is away ahead of anything else in that one box that I ever had."

The stalks are grown until frost, long after other sorghums have dried up. It excels as a pasture and makes excellent fodder. It will mature a crop under conditions where the other sorghum will fail.

At the United States Dry Land Experiment Station at Woodward, Okla., it out-yielded any other cane and sorghum.

At the United States Dry Land Experiment Station at Woodward, Okla., it out-yielded any other cane and sorghum.
Non-Saccharine Crops for Grain and Forage

If larger quantities are wanted by mail send the necessary postage. See inside front cover page.

Dwarf Milo Maize heads the list for grain, and Feterita a close second. These crops are given special mention because being drought-resistant they grow very well in the southwest.

Non-Saccharine Sorghums follow in choice for grain with Dwarf Milo in the lead because of the enormous yield of grain adding much to the value of the silage. Feterita yields more tonnage but less nutritious value. These should be cut after the seed is hard, never when green.

Actual Photograph Dwarf Milo Maize

6000 lbs. of grain per acre.

57 Heads on This One Stool of Dwarf Milo

Grown by Wm. Kruger, Woodlake, Cal.

Dwarf Milo Maize

The King of all Sorghums for Grain, is much preferred to the tall variety because it stools wonderfully and matures a large head of seed on each stool, producing 3500 pounds of grain per acre, and the stalk being shorter and having more foliage, makes it more desirable for fodder. Dairymen find that the cows will give more and richer milk when fed on it. It is the right crop to plant in young orchards because it will not shade the small trees.

We have Dwarf Milo Maize grown from pedigreed stock. For the past four years the heads were carefully selected in the field before harvesting. Now we have a strain that grows about four feet high and produces forty per cent more than it did three years ago under the same climatic and soil conditions.

It is highly recommended by the State Department of Agriculture for silage. Per lb. 25c postpaid.

Mr. W. W. Fletcher of Lindsay, California, writes: "I wish to state that the Dwarf Milo Maize I received from you last year yielded over 6000 lbs. of grain per acre, much more than you claimed for it."

Read what Mr. E. S. Richards says: "I got eleven sacks of Dwarf Milo Maize of you in June and distributed it among my neighbors, and it turned out the best of any in the country. I only sowed twenty acres and some of that got no water, and I never cultivated it but got over 400 sacks of Dwarf Milo completely outclasses the others in real merit. I had last year comparatively little milo, planting it partly because some seed was in the planter, and partly because I secured some first class seed, and the small amount grown far outyielded equal amounts of either Feterita or Egyptian corn.

Likewise the heads were round, solid, very heavy, and even the smaller ones of nice size and well developed. Likewise harvesting is very much easier and very much quicker than either of the other varieties, and there is no loss in the grains shelling out of the head.

"Part of these advantages may have been due to having first class seed of milo and common seed of the others, but except for occasional fields of poor milo in this section milo appeared to run far ahead of the others in all the ways named."

Actual Photograph Feterita

6000 lbs. of grain per acre.

Feterita

Of the many non-saccharine sorghums offered in this book—none have proven more popular from the start than Feterita, on account of its astonishing growth after it has been planted. Every testimonial received expresses astonishment at its rapid growth.

The grain has about the same feeding value as Egyptian Corn, but it is superior for fodder. It yields from two to three tons of grain per acre. It is bothered very little by birds, as they are unable to shell it out and waste it. The seed is more susceptible to cold than other sorghums, therefore should not be planted so early, nor should it be planted in cold soil.

In Imperial and Orange counties growth and it is ahead of the common non-saccharine crops. For both excellence and abundance of forage it cannot be excelled when cut young, and for grain it is equal to any.

The second growth stools wonderfully, producing several tons of excellent forage for pasture or for ensilage after the seed has been harvested. It thrives luxuriantly on soil so alkaline that field corn will not thrive. The heads are upright.

Price—Per (lb. 25c prepaid) (10 lbs. $1.00) f. o. b. here. Write for quantity price.

J. A. Clipper, Imperial Valley, advises 12 pounds of seed per acre drilled two feet apart, by so doing it yields 5000 to 6000 pounds of grain per acre.

Egyptian Corn

Like the preceding fodder crops, it is used for the growth chiefly for the foliage to pasture when young, but yields largely of grain. The chief merit of these fodder crops is in their hardness to produce fodder and grain with almost no rainfall or irrigation. Sow eight pounds per acre drilled. Price—Per (lb. 25c prepaid) (10 lbs. $1.00) f. o. b. here. Write for quantity price.

POISONING BY SORGHUM: Many are reluctant to feed Sorghum for fear of poisoning stock but we herewith give the facts:

When cut before flowering, it must be allowed to wilt in the sun for several hours before being given to the stock. At this stage it contains a prussic acid and must be poisoned. This disappears after the flowering stage is reached. This poisonous quality is more noticeable in the second crop, or, when after a period of drought or frost when it has been stunted. In the form of properly prepared silage or dry fodder, Sorghum is never poisonous, but it is dangerous to pasture or to feed green sorghum after it has been frosted or stunted; it should then be cut and dried or ensilage.

In Imperial Valley during the summer of 1918 some cattle strayed onto a field of milo about six inches high. About forty head died within an hour after entering the field.

The sorghums, kastras and related plants are frequently attacked by a fungus which causes the destruction of the kernel. This is known as kernel smut.

Since the disease is carried on the seed, seed treatment is an effective remedy. It is sufficient to immerse the seed for a few minutes in a solution of formaldehyde and water. The solution used is one pint or pound of formaline, or 40 per cent formaldehyde, in 50 gallons of water.

For full information concerning Sorghums write College of Agriculture, University of California, Berkeley, California. Also Bulletin No. 278 and 292. Also circular entitled, "Precaution Against Poisoning by Johnson Grass and Other Sorghums."
Kafir Corn Grows similar to the Milo Maize except the head is upright instead of hanging over like Milo Maize and Egyptian Corn. It will yield two to three thousand pounds of grain per acre. Sow 8 pounds of seed per acre drilled. Price—Per lb, 25c postpaid. Write for quantity price.

Shallu, or Egyptian Wheat Read the following letters:

Mr. de Venelle, "I planted 15 lbs. of you Shallu and harvested 1900 lbs. of grain and 50 tons of fodder, without irrigation."

Mr. E. S. Cook, Imperial Valley: "It grows as thrifty on alkali soil as any other; it produces from two to three tons of seed per acre.

Per lb, 25c postpaid.

Millets

CULTURE—Lumpy or hollow land is bad, therefore, it is essential that the soil be well worked and a fine, firm seed bed be made. With shallow surface soils, deep plowing is not advisable. Roll or drag before seeding, particularly, on loose or open soils. The secret of success in growing millet is shallow seeding and only when the ground is warm, 1 to 1 1/2 inches is deep enough. Sow any time after April 1st if the weather is favorable; broadcast 15 lbs. of seed per acre, or 8 lbs, when drilled 16 inches apart.

When desired for hay the seed should be sown in drills 16 inches apart and cultivated with a hand cultivator or a beet cultivator and worked between the rows until it is about three feet tall. This is the place three years successively.

Hog Millet Grows rapidly and abundantly. Hogs pastured on Millet need no further fattening. It attains perfection anywhere in the Southwest. Price—Per lb, 25c postpaid.

Japanese Millet It grows from 5 to 7 feet high, stands up remarkably well before the seeding stage and about one inch. Our millet was grown in Imperial County from a thoroughly acclimated strain of Egyptian Cotton. Price—Per lb, 25c postpaid.

Chinese Millet This is a most wonderful producer, single heads measure twelve inches in length and many weigh two ounces or more. Mr. Nichols of La Habra is an enthusiastic grower of this millet, claiming it will produce two tons of seed per acre. The foliage is very heavy, the leaves broad, it therefore produces an immense amount of excellent fodder which cures rapidly. (Oz. 10c) (lb. $1.00) (10 lbs. $7.50).

Golden Millet Produces from 4 to 5 tons of hay to the acre, or from two to three thousand pounds of seed. Sow 200 pounds to the acre. Price—Per lb, 25c postpaid.

Common Millet It is an annual grass, its luxuriant leaves being very juicy and tender, are much relished by all stock. It makes a very good hay. Sow 50 pounds to the acre. Price—Per lb, 25c postpaid.

Hungarian Millet It germinates readily and stands great drought. Has numerous succulent leaves, broad and a foot in length. Furnishes an abundance of green fodder, relished by all kinds of stock. Sow 40 pounds to the acre. Price—Per lb, 25c postpaid.

Cotton

Write for quantity price.

Egyptian A tall long staple cotton, largely grown in the Imperial Valley, and is now one of the standard varieties. Our good was grown in Imperial County from a thoroughly acclimated strain of Egyptian Cotton. (Per pkt. 5c) (1 lb, 25c prepaid) (10 lbs. $1.50 f. o. b. here.

American Long Staple Peeler This variety was recommended to Imperial growers by millmen of the Mississippi Delta. It has proven congenial to Imperial County and found to produce a cotton that sells at a special price because it can be used for larger bale stock. The yield is from 1 to 1 1/2 bales per acre. (Per pkt. 5c) (1 lb. 25c prepaid) (10 lbs. $1.50 f. o. b. here.)

Durango Another popular variety in Imperial Valley. (Pkt. 5c) (1 lb, 25c prepaid) (10 lbs. $1.50 f. o. b. here).

Tobacco

About every six or eight years some section comes into the limelight with wonderful success, growing tobacco. But you never see it in the same place three years successively.

Having come from a tobacco growing section in the east we were expert in the business. We decided the winter climate was not suitable for curing it.

Later it was tried at Sherman by professionals from European Turkey, yet it grew, but one year settled that section. A few years later it was tried at Exeter by Armenians. It lasted two years.

Last year it was tried at Sacramento by Greeks. Some pictures we have seen show a fine growth.

Several small plots have been grown by Japanese about Los Angeles and many local smokers are raising small plots in the hopes to be converted into smoking tobacco for the pipe at home for strictly home consumption. We have brought from Pennsylvania seeds of the best types of tobacco. Grown exclusively for cigar fillers and the pipe. Pennsylvania No. 1—Light Green foliage. Pennsylvania No. 2—Dark Green foliage.

These two are the best curing types in America and should be planted 30 inches apart in rows 42 inches apart. (Pkt. 10c)
Grain and Field Crops

When field seeds are desired by mail, add the required postage. See inside front cover page.

Write for quantity prices on all grains.

With our up-to-date facilities for cleaning all kinds of seed, we aim to have all field seeds as clean and free from foreign materials as it is possible to make them.

Grain and other field seeds that pass in the open market as clean will often show ten per cent or more of broken grain, foul seeds, and weeds. These appear higher than others, you will find upon investigation that they are cheaper, because of the purity of the seed.

A sample of our Milo Maze Seed sent to this key was reported as follows: "Germination 70% Cracked Seed less than 1/2%"

Legal Weights—Pounds per Bushel

Barley 48 Clover Seed 60 Potatoes 60
Beans 60 Millet 50 Rye 55
Corn 54 Oats 60 Wheat


Wheat

Write for Price

Wheat is the most important of all the cereals because of the world wide use of it. Particularly important at this time because of the world wide shortage. So imperative indeed is the need for wheat that the Government has enacted special legislation in order that Thomas D. Campbell of this city, a representative of the Clay County Experiment Station, the several Indian reservations in Montana and Wyoming for the purpose of growing wheat.

It is not intended that this article give attention to the subject in order that they will plant the variety best suited to their locality with regard to soil and climate conditions.

Defiance

One big drawback against growing wheat in California has been rust, but this has been largely overcome by planting the Defiance variety where cool, moist weather conditions prevail. This variety is practically rust-proof.

Defiance is a late wheat, should be planted early and a choice variety for the farmer who has no time. It is a non-shattering, non-leafy, hard as a hard white wheat, and number one for milling.

Twenty-five acres grown by Mr. A. F. Thirlwall, Chino, averaged 68 bushels per acre.

Sonora

This variety is recommended because of its high yield, earliness, and drought resistance. It is susceptible to rust and inclined to shatter but it has long been a standard variety in Southern California back from the coast. It is classified as a soft white wheat.

White Australian

This variety has long proven satisfactory for California. It is medium early, drought resistant, non-shattering, hard yielding and classified as a hard white wheat.

Early Baart

Following is some information we have at Berkeley, in regard to Baart Wheat. Early Baart is one of the first class varieties and does well in Southern California, especially in localities removed from the coast and relatively free from strong winds after it ripens. This wheat is not rust resistant, hence under those climatic conditions where rust prevails it is not so suitable as Defiance, although it is a better milling wheat and when not affected by rust yields fully as well if not better.

From the California Cultivator, Sept. 1918.

"Of reports from all parts of the state the most interesting one south of the Pebblebed received from Roft. A. Tod, Imperial Valley, who says: "If I had followed your suggestion in entirety and planted all of the acreage to Early Baart which was damaged a great deal more money than I did from my White Australian. We had a few warm days, and the year's crop was damaged by the White Australian. The Early Baart grew perfectly and yielded 39 sacks to the acre. The berries were plump and carried 28 per cent. above the premium price from the government. The yield from White Australian was much less than from Early Baart. I intend to plant about 400 acres to this wheat next fall."

"Like reports from points scattered through the San Joaquin and Sacramento Valley have been received."

Oats

Sow 70 to 100 lbs. per acre

Texas Red (Rust Proof)—This is the only variety that is rust proof. A small quantity is shipped here. We have this on hand during the planting season.

Texas Red Oats—Grown in Texas.

Texas Red Oats—Grown in California. Write for prices.

We cleanse all our Texas Oats to eliminate any Johnson Grass.

Winter Rye

Sow 60 lbs. per Acre

Although Rye is sown largely for early winter pastures growth, the variety grown for best acreage for the straw should be grown more largely for the grain which is now in great demand. It had not been considered a profitable crop because of a small yield of about 1000 pounds per acre. But since the Rosen Rye has come into prominence the yield has increased to 2000 pounds per acre, which together with the straw, nets a good profit to the grower.

Rosen Rye

The Rosen Rye was brought from Russia in 1909 by Mr. Rosen, a student from Russia, attending the Michigan Agricultural College. This rye has been grown only recently and is very superior to the straw. For the Rosen Rye is much longer than of common rye, and the yield per acre is 25 to 46 bushels while 15 bushels per acre is all that may be expected of common rye.

Speltz (Emmer Wheat)

Sow 80 to 100 lbs. per acre

A grain for dry lands, introduced from Russia. This is a remarkable grain, and should receive the attention of all farmers. It is a species of drought-resistant wheat, and not inclined to rust. It will produce a fair crop under almost any kind of climate, but grows best in dry prairie regions with hot summers, giving excellent results. Thrives on poor land or where only a small amount of water can be obtained. Following the Dakota's report that it resists drought better than oats or barley. All animals eat it green, greedily, and as good a winter feed as the straw. It is sure to head. You will have grain even if you have but light straw. Sow 80 to 100 pounds per acre very early, same as winter rye. Write for quantity price.

Barley

Sow 50 to 60 lbs. per acre

We aim always to have the best it is possible to procure. We cannot fix a price because of the fluctuations of the market.

Bearded Barley, Barless Barley and Bald Barley. Write for prices.

TRY THIS

One rancher whose name we cannot recall, told us that he sows his barley early and cuts it three times for hay, early in the season before it is up, and then it allows it to head out for grain. Try it.

Flax

If interested write the U. S. Dept. of Agri., Washington, D. C., for Farmers Bulletin No. 782.

Russian Flax will undoubtedly grow as luxuriantly in the Imperial and San Joaquin Valleys as it does in Sane and Mexico. It is also grown in Oregon. It yields about two tons of seed per acre. This at a normal price of $7.50 per hundred pounds, f. o. b. San Francisco, means $90.00 per acre to the grower, less the freight. This is better than wheat and corn, and no more expensive to grow. Sow 40 pounds of seed per acre. It requires the same culture as barley.

Price—20c (per lb. prepaid).

Write for quantity price.

Rice

Rice growing as an industry is now established in certain sections of California. It is now only a matter of local conditions.

If interested write to United States Department of Agriculture at Washington, D. C., for Farmers Bulletin No. 800, and Circular No. 97.

Price—(Per 100 lbs. 80c. f. o. b. here. Write for quantity price.

Tall Evergreen Broom Corn

This Broom Corn grows about eight to ten feet high, stands up well and has ears of corn from crooked brush. The fibre is long and fine. Its great value is that it will not get red in the field before it is cut, but is strictly a green straw. It is of great commercial value when grown for perfection in all sections of Central and Southern California. It is from the same family as the Tall Corn.

Price—(Per 100 lbs. 80c postpaid) (10 lbs., 90c f. o. b. here). Write for quantity price.

Dwarf Evergreen Broom Corn

This is more desirable than Tall in a locality where a strong wind prevails. It also is less trouble to harvest and the yield is nearly the same as the Tall variety.

Price—(Per 100 lbs. 80c postpaid) (10 lbs., 85c f. o. b. here). Write for quantity price.
Buckwheat
This is not a citrus orchard but shows the value of Buckwheat as a cover crop and also as a bee pasture. In addition it is valuable for the wholesome buckwheat cakes that may be eaten with honey thus conserving both sugar and wheat, besides preventing the June drop of oranges and fertilizing the soil. Surely the planting of Buckwheat is a war measure that Mr. Hoover would encourage.

Common Buckwheat
It is now demonstrated that buckwheat is one of the best cover crops to grow during the summer months. The soil is always moister where shaded with buckwheat. Sow the seed any time after April 1st, about 45 pounds per acre. Within ten weeks it will have matured seed; plow under; the seed will within ten weeks mature another crop. Thus will you obtain two crops of buckwheat in one season. It will not survive the winter. Therefore it is necessary to sow once a year. Then necessarily we advise irrigation about time of maturity, and plow under as soon after irrigating as the soil will permit.

We highly recommend the growing of Buckwheat for reclaiming desert land, as it will start a growth and produce a crop under more adverse conditions than any other crop we know of.

Sow 40 lbs. per acre.
1 lb. 25¢ postpaid. Quantity price on application.

Silver Hull
Blooms longer and matures earlier than other varieties; grain of a beautiful light gray color with very thin hull.
Price—Per lb. 25¢ postpaid.

JUNE DROP PREVENTED
From the California Cultivator, Sept. 1918.

For three years Mr. H. E. Howard of San Dimas has been growing buckwheat as a summer cover crop in part of his citrus orchard with very satisfactory results. Last year the buckwheat formed a solid mass of green at the time of the heat wave. Mr. Howard averaged between 500 and 400 loose boxes of fruit per acre from this piece while on the part of his orchard not planted to buckwheat he obtained about 150 boxes from 6 acres. Mr. Howard states that his soil conditions have been greatly ameliorated by the buckwheat. He uses about 50 per cent additional water which is made possible by irrigation and cultivation.

BARLEY—Sow 50 to 100 lbs. per acre

Dwarf Essex Rape
Pasture for Hogs and Sheep
There is a need and a place for an extra quick growing forage crop for use any time during fall, winter and spring and our Dwarf Essex Rape fills that need exactly.

Rape can never become a pest as it belongs to the same genus as the turnip and rutabaga and when planted under favorable conditions of soil and season, it makes an immense crop of green forage, juicy and succulent, and often at a time of year when little green feed is available.

If you have hogs or poultry to feed through the winter you cannot afford to be without a rape patch. Once you have one, you will never be without one in the future.

We know of no crop plantable at the time of year suitable for rape that will bring you in so great a return for so little expenditure of time and money for seed.

Every poultry raiser needs at least a small patch of rape to furnish green feed during late fall, winter and early spring. Plant Sept. to Jan. Drill in rows, 3 feet apart.

We highly recommend rape. In quantity by express or freight, not prepaid, 20 cents per pound.

Mr. Farmer
Read carefully all of pages 66 to 77.
Read about sulphur as a fertilizer. Page 65.
Read about our Call Counter, Page 9.
If you will order by phone stating when you will call, your goods will be ready when you drive up with your auto.

Grows Hemp, Rape, Sunflower and Canary Seed
The high price now prevailing will justify the planting of large acreage to these crops. With conditions that are likely to persist into the fall and winter, the farmers who will plant large acreage to any of these crops, each one of them is easily grown and easily harvested, but planted at least fifty acres, in order that you may have a carload of grain, or unites with your neighbors to grow a carload.

Many of these crops should be planted during December and January.

Mammoth Russian Sunflower
Single heads measure 15 to 22 inches in diameter, and contain an immense amount of seed, which is highly valued by all farmers and poultry breeders who have tried it as an excellent and cheap food for fowls. It is the best egg-producing food known for poultry. It can be raised cheaper than corn, and is destined to be an article of great value. Every farmer should plant some of the seed in any waste piece of ground any time from early spring up to the middle of July. Three pounds of seed will plant one acre.

1 lb. 25¢ prepaid. Write for quantity price.

Sunflower is now grown largely for silage. We are not recommending it for this purpose, but it is claimed that cattle eat it eagerly and that it is wholesome food.

Farmers are not awake to the value of the Sunflower. It occupies the ground only a few months of the year, and is a very ornamental and valuable crop. Every part of the plant may be used. Paper is manufactured from the stalks and pulp from the plant and the residue food for stock. It is estimated that 1000 lbs. of dried stems when burned will yield 50 lbs. of ashes, of which 55% is potash. It is a good forage for bees, as the bloom yields abundantly of honey and pollen. The seed is excellent for poultry.

The same culture applied to corn may well apply to Sunflower, therefore:

Plant Sunflower for the seed for poultry.
Plant Sunflower for the potash contained in the stalks.
Plant Sunflower for a wind-break.

Rape
Thousands of sacks of rape seed are imported each year, while it grows wild in some localities of Southern California. It is a profitable and easy crop to grow, and harvest. If interested see us about it. (Per lb. 25¢ prepaid). Write for quantity price.

Canary
This can be grown quite successfully here. It is just as easily grown as barley, and requires the same cultural treatment. Several carloads are imported each year into Los Angeles, all of which have come from Europe. The consumption throughout the United States is enormous. A bushel of Canary is worth fifty to eighty dollars per ton to the grower. If interested, write or see us about it. Per lb. 30¢ prepaid. Write for quantity price.

Hemp
What has been said here of Canary is applicable also to Hemp. It is easily grown and requires about 100 days to mature a crop. It requires sixty pounds of seed to plant an acre, and should be sown in February or March. If interested, write or see us about it. Per lb. 30¢ prepaid. Write for quantity price.
Grass Seeds for Lawns

A Perfect Lawn with A & M Lawn Mixture

A & M PERFECT LAWN MIXTURE. According to the new discovery concerning intercropping with Legumes explained on pages 53 and 54, we have found the perfect mixture of the purest Kentucky Blue Grass and Dutch White Clover. This has been found to make the finest sod and prettiest green lawn. It does so because the clover is a nitrogen gathering legume and this nitrogen fertilizes the Blue Grass.

When you make a lawn be sure to sow A & M Lawn Mixture, 1 lb. to 250 square feet of surface. Per lb. 75c postpaid.

Fancy Kentucky Blue Grass.—The purest and best lawn seed. Produces a lasting and beautiful effect. We sell only the finest quality of this seed. (Per lb. 50c prepaid) (10 lbs. $3.50 f.o.b. here).

White Dutch Clover.—Makes a showy effect much quicker than the Blue Grass. In conjunction with the Blue Grass, however, it forms the finest and closest turf. (Per lb. 55c prepaid) (10 lbs. $6.50 f.o.b. here).

Australian Rye Grass.—Is very strong and quick-grow ing, producing an immediate effect. Later it becomes bushy, and after a few years runs out. (Per lb. 55c prepaid) (10 lbs. $1.75 f.o.b. here).

HOW TO MAKE A BEAUTIFUL LAWN

The beautiful lawns of Southern California cannot be excelled anywhere in the world. In few places can a new home become so quickly surrounded with luxuriant vines, trees, shrubbery and flowers. This climate will accomplish more in one season than five seasons of Eastern climate. It is a pleasure to plant here, for there is something blooming all the year round. But it requires skill and intelligent aid to direct nature to produce a profusion of beautiful colors at all times.

To keep up the beauty of a lawn it will be necessary to feed the grass well. You cannot expect it to retain that depth and richness of texture and color which characterizes it while young, after the elements of plant food have been exhausted.

See Bradley fertilizer, page 65.

In Southern California lawns may be made all the year. The first thing to do in making a lawn is to put the soil into proper condition to receive the seed. More lawn failures are due to insufficient preparation of the soil than to all other causes combined. If the soil is poor and of a sandy, clayey, or adobe nature, and a good rich loam is not available, satisfactory results may be obtained by spading in a liberal quantity of stable manure. Lawn grasses are voracious feeders and for that reason it is desirable to have at least eight to ten inches of good rich soil. Stable manure is most commonly used, especially for sandy soils, as chemical fertilizers usually react too rapidly.

Unevenness in soil texture and fertility produces unevenness in the growth and color of the lawn grasses, even to the extent of grass dying in patches.

On small home grounds, it is better to have a perfectly level lawn, and in many cases this is a particular advantage in the conservation of water; the water spreading and soaking down evenly over the whole level area instead of run-
The Home Flower Garden

Plant Geraniums

Why is this beautiful flowering plant so much neglected? It requires little attention, little watering; it blooms all the year, in sun or in shade, nothing more beautiful for bedding or potting, for hedge or border, for arbor or window boxes. No other plant affords greater variety of flowers, both in type, color and variation of foliage. No other plant is so easily propagated. No other plant grows anywhere in all conditions of soil and climate so luxuriantly as the geranium. Every home in the city or country, and every desert home, may be surrounded, even buried in the dense cool foliage of the beautiful flowering geranium. Slips will bloom within a month after transplanting.

In order that the planting of geraniums may be encouraged, we are offering slips of various types of geraniums that shall be known by number, as we can not name all of the varieties we have to offer. Each number is described, that you may order the one best suited to your purpose. Some varieties are very scarce, but we make no variation in price, but if we haven't what you order we will substitute another variety that is of similar description. Send no order amounting to less than 25c.

Price—(5 slips 25c), (11 slips 50c), (25 slips 75c), (100 slips $2.50) postpaid.

MAKE ATTRACTIVE THE OUT-OF-WAY PLACES

There are many annuals the seed of which may at the approach of the rainy season be scattered broadcast upon any preferred place about the premises. The winter rains will cause them to grow luxuriantly and bloom from early spring till far into the summer, with no more care than to pull up the weeds that appear at the beginning.

Here is a list of flowers that will bloom under such conditions: (All of these will reseed themselves.)

African Daisies  
African Daisy

Collection of Annuals, ten packets, 55c.

African Daisies
Sand Verbena
Sweet Alyssum
Californian Poppy
These will furnish cut flowers for your home nearly all the year.

OUR NEW LOCATION

It is our aim that our store at 629 So. Spring St. will be so conducted that every customer will receive such courteous treatment that it will be a pleasure to return. We wish to have on hand during each season all seeds and plants needed to make the home garden complete.

All clerks are trained to give correct advice on matters pertaining to gardening, and we request that you read this catalog carefully on all subjects in which you are interested; you will find much helpful information.

Take advantage of our call counter. See page 5.

OUR BULB DEPARTMENT

Los Angeles, the city of beautiful lawns, owes much of its popularity to the many flowering bulbs that bloom so profusely and so constantly in this climate, only requiring proper setting at the right time of the year and the right selection to attain the highest perfection of beauty.

The bulbs we offer are chosen with the purpose of giving our customers the best bulbs to get the best results. In order to get the best results, make your selection according to the time of planting, and many of them may be planted at any time in order to have them bloom when you wish.

IMPORTED DUTCH BULBS

Plant from October until February

Price each

HYACINTHS—Any color, single 15c $1.50

TULIPS—Any color, single or double 5c 1.50

NARCISSUS—All named varieties 5c 1.50

NARCISSUS—Chinese sacred lily 25c 1.50

JONQUILS—Largest flowering 5c 1.50

CROCUS—Striped and variegated 4c 1.00

RANUNCULUS—Mixed colors 4e 0.40

SPANISH IRIS—Mixed colors 4e 0.40

AMARILLIS—Belladonna 15c 1.50

AMARILLIS—Johnson’s 25c 2.50

CALADIUMS—Elephant Ear 20c 2.00

CALLAS—White 10c 1.00

CALLAS—Yellow 25c 2.50

FREESES—Refretta Alba 2 for 5c 0.25

GLADIOLUS—Mixed colors 5c 1.00

WATSONII—Mixed colors 5c 1.00

IRIS—Blue or white 5e 0.50

TUBEROSE—Double Pearl 10c 1.00

CANNAS—Any color 4e 1.00

TUBEROSE—Double Pearl 5e 0.50

One slip each of the above assortment, 11 in all, 50c.
Just a Jungle of Wild Flowers

If you have a piece of ground you cannot irrigate or have not time to give particular attention, yet you want to have something beautiful instead of unsightly weeds, we advise you will have a jungle of wild flowers like the picture above. One pound of seed is sufficient to plant an acre. (Pkt. 5c) (oz. 60c)

SEPARATE VARIETIES. We offer the following varieties in individual packets:

Eschscholtzia californica. "California Poppy." Annual, 1 to 1½ feet. The most noted of California Wild Flowers. Orange-yellow, with a beautiful glossy sheen. (Pkt. 5c) (oz. 25c).

Gilia achilleifolia. "Blue Gilia." Annual, 1 to ¼ feet high. Small lavender-blue flowers in dense heads on graceful, slender stems. (Pkt. 5c) (oz. 25c) (lb. $1.50). 4 oz. $2.00. (lb. $5.50) postpaid.

Goeppertia amoena. "Firewell to Spring." Annual, 1 to 2 feet high. A slender growing plant, usually found on shady banks. Flowers lilac-crimson or red-pink, often with a dark center. (Pkt. 5c) (oz. 50c) (lb. $5.50).

Lavandula angustifolia. "Lavender." Annual, 1 to 2 feet high. A plant that may be grown in clusters; purple and pink, with yellow throat. (Pkt. 10c) (oz. 50c).

Lupinus nanus. "Dwarf Blue Lupine." Annual, 10 to 15 inches high. A very showy plant; flowers rich blue and white, fragrant. (Pkt. 5c) (oz. 35c).

Menziesia lindleyi. "Blazing Star." Annual, 2 to 3 feet. Sharon rose-yellow flowers. (Pkt. 5c) (oz. 50c).

Nemophila insignis. "Baby-Blue-Eyes." Annual, 4 to 8 inches high. A charming little plant of spreading habit, with charming blue flowers, prefers shade or partial shade. (Pkt. 5c) (oz. 25c).

Nemophila maculata. "Spotted Nemophila." Annual, 4 to 8 inches. White with large deep purple blotch on each petal. Does well in shady places. (Pkt. 5c) (oz. 25c).


CALIFORNIA, THE LAND OF FLOWERS

There are no more satisfactory flowers than those grown from seed, especially the easily grown and brilliant flowered annuals. The beautiful shrubs and lilacs, of course, have their place, but are far more expensive than as a paper of seed which will furnish a large number of plants with usually enough for one's garden and some to spare.

This page is intended to aid you in the selection of your seeds so that you may have flowers all the year round, and for every purpose.

Tender or Greenhouse means the plant will not stand the winter weather, and must be brought in during winter if grown in a greenhouse.

Hardy means the plant will stand any light frost, but needs protection again very cold weather. These should be planted in the spring (March and April), not in the fall.

These are plants that will bloom the first year from seed, and the Ianp dies after one season. Tender annuals must be sown in spring (April to June) and hardy annuals may be sown in either spring or fall (October to May).

Bennials are plants that bloom the second year from seed, and the plant dies after blooming. In California many of these will bloom the first year if sown early. Sow under same conditions as perennials.

Perennials are plants that bloom the second year from seed. Many bloom in spring, then again during successive years. If sown in early spring (February to April) many perennials will bloom the first year from seed. Tender and Half-hardy perennials are best sown in spring after frost is over (April 15 to June). Hardy perennials are best sown in the late summer and early fall (July to October) for next year's flowers.

LIST OF FLOWER SEED FOR SPECIAL PURPOSE

PERENNIAL PLANTS


PLANTS FOR BEDDING AND IN Masses


Red—Carmine and Crimson Candytuft, Geranium, Phlox Drummondii, Scarlet, and Phlox Dwarf Fireball, Poppy, Verbena.

Yellow—Gaillardia, Eschscholtzia, French Marigold and Nasturtium Lady Bird.


FLOWER SEED LIST

ANTIRRHINUM (Snapdragon).—Antirrhinum thrive in almost any soil, and should receive more attention. It is undoubtedly one of the best cut flowers which can readily be grown from seed, while for bedding or borders they are unsurpassed.

Majus or Tall Large Flowering Varieties. Height 2 feet. Pkt. 10c.

Majus, Delila.—A striking contrast of carnation and yellow with a white throat. Very choice. Pkt. 10c.

Majus, Queen Victoria.—Striking variety, sending up numerous long spikes of pure white flowers. Excellent for cutting. Pkt. 10c.

Majus, Golden King.—Long spikes of showy yellow flowers which remain in bloom the whole of the summer. Pkt. 10c.

Bright Pink.—A delightful shade of pure rose pink. Very vigorous and free-flowing. Pkt. 10c.

Majus, Grandiflorum.—Tall. Mixed: containing all the new colors. Pkt. 10c.

Majus, Stratitum or Striped.—Tall. Spikes of beautiful striped flowers. Pkt. 10c.

Majus Nanum.—A variety growing about two feet high. Indispensable for bedding and mixed borders. All the latest novelties are included in our mixture. Mixed.—Pkt. 10c.

Majus, Tom Thumb.—An excellent mixture containing all shades of these showy flowers. Splendid for edging and showy display. Height 10 inches. Mixed.—Pkt. 10c.

AQUILEGIA.—A hardy perennial, growing about two feet high and bearing an immense variety of colors on long, smooth stems.

California Hybrids.—Large yellow flowers, orange spurs; an improvement on our native sort. Pkt. 10c.

Coerulea (Rocky Mountain Blue Columbine).—Fine deep blue and white; long spurs. Pkt. 10c.

White, Spurred.—Pure white with long spurs. Pkt. 10c.

Shade Mixed (A. Vulgaris).—Pkt. 10c.

Double Mixed (A. Vulgaris).—Pkt. 10c.

Long Spurred Hybrids Mixed.—For cut flowers these long spurred hybrids are unsurpassed. Profuse blooms, of almost every shade, borne on long graceful stems, make this variety one of universal admiration. Pkt 15c.

ARCTOTIC (African Daisy). Grandis.—Large pearly white Marguerite-like flower, with delicate mauve center surrounded by a narrow golden band. The whole plant is covered with white down. Half hardy annual. Height 2 feet. Pkt. 10c.

ASPARAGUS

Platensus.—A tender perennial for green-house or potted plant use, with long, fine feathery foliage. The sprays, when cut, retain their freshness in water from three to four weeks. Seeds start slowly and should be soaked in water before sowing. (Pkt. 10c) (100 seeds 30c).

Sprengeri (Emerald Feather).—An early easily grown, feathery-leaved variety, with drooping branches. The best variety for hanging baskets. (Pkt. 10c) (100 seeds 30c).
Giant Branching.—The tallest and best florist’s variety, and we heartily recommend it as the very best type of Aster we have. The plant grows 21 inches high and about 18 inches in width, and the blossoms, which are large and full-petaled, are borne on long stems or branches. The most satisfactory type of all Asters, since it is not only a showy bedding flower, but owing to its long stems and large blossoms, is valuable for bouquets. Comes into flower late in the autumn. Best colors:

- Lavender
- White
- Pink
- Crimson
- Rose
- Purple
- Mixed

Pkt. 10c.

AUSTRALIAN PEA VINE (Dolichos Lignosus).—A rapid growing evergreen climbing perennial, flowering freely in large clusters of rose flowers. For covering arbors, trellises, etc., they have no superior. Pink (Pkt. 10c) (oz. 25c).

Our Asters Growing for Seed

STERS.—A popular half-hardy annual produced in a great variety of classes and an almost endless number of colors. The tallest grows about two feet high, and some varieties of dwarfs are not over eight inches high. The best method of culture is to sow the seed in boxes and transplant when large enough to handle. The seed can be sown, however, in the row where the plants are to remain, thinning them from six to twelve inches apart, according to variety. We offer the three most useful varieties.

Queen of the Market.—One of the earliest blooming varieties, blossoming frequently in July. Of spreading habit, 8 to 10 inches high. Blossoms medium sized, and the petals curve outward. The best variety for bedding or edging. Mixed. All Colors.—Pkt. 10c.

Ostrich Plume.—Extremely graceful Aster, with large, loose feathery heads, unrivalled for table decoration, flowers double and semi-double. The branching habit makes this a conspicuous border plant. Height, 18 inches.

White
- Crimson
Shell Pink
- Light Blue
Rose
- Dark Blue
All colors, mixed. Pkt. 10c.

Giant Branching Asters

HARTONIA AUREA.—A showy annual bearing large golden yellow flowers which glisten in the sunshine. Height 18 inches. Pkt. 10c.

BALLAM OR TOUCH-ME-NOT.—A tender annual, with brittle stems and foliage. Flowers both single and double, in bright colors and variations are wax-like and very attractive. Individual blossoms floating in a dish of water exhibit their beauty to the best advantage.

Improved Double Camelia Flowered.—In its extraordinary size, perfect form and brilliant colors, this fine strain of Ballam surpasses all others. Height, 18 inches. Pkt. 10c.

Rose Flowered.—Handsome double flowers in form resembling a rose. Height 18 inches, fine mixed. Pkt. 10c.

Spotted.—Large semi-double flowers well adapted for borders, fine mixed colors. Pkt. 10c.

BACHELORS BUTTON.—See Centaurea.

BALLOON VINE, OR LOVE-IN-A-PUFF.—Climbing annual, with small inferior flowers. The seed pods are curiously swelled or puffed, and are quite attractive. (Pkt. 10c) (oz. 25c).

BELLIS PERENNIS (Double Daisy).—A fall to give this a trial. Long freely all spring and summer. Plant is about four inches high and is valuable for borders. Is much sown in lawns.

Extra Double White, or Snowball.—A clear white variety. Pkt. 15c.

Extra Double Pink or Longfellow.—A beautiful shade of pink. Pkt. 15c.

Double Mixed.—Pkt. 10c.

BEGONIA.

Fibrous-Rooted Varieties.—For outdoor culture, having beautiful half-hardy and bearing clusters of small, waxy flowers. Some grow in various seed pans, pressing the seed down firmly but do not cover. Water with a fine spray. Height 1 to 2 feet.

Mixed.—Pkt. 25c.

BIGONIA (Trumpet Vine).—Magnificent hardy perennial, with brilliant scarlet or yellow flowers; a most ornamental and effective covering for trellises, walls, houses, etc. 30 feet. Pkt. 10c.

BORDER PANSIES.—See Dianthus Plumarius.

BRACHYCOME IBERDIFOLIA (Swan River Daisy).—A charming annual deserving greater popularity. The plants which grow about 10 inches high, are covered with small Cineraria-like blooms in shades of blue and lavender. Mixed.—Pkt. 10c.

CALENDULA (Pot Marigold).—Very hardy annual, one foot high, blooming freely practically the whole year round. Is of the easiest culture and is desirable for either interior or outdoor use. Flowerless plants do not thrive. A medical and extract resembling arnica is made from the flowers.

Orange King (New).—This variety is now being grown indoors in Eastern States as a winter flower. Bears giant flowers sometimes 3 inches in diameter. Color pure orange. (Pkt. 10c) (oz. 25c).

Lemon Queen.—Like the above but of pure lemon. (Pkt. 10c) (oz. 25c).

Double Mixed.—A good mixture of 8 or 10 different shades of yellow, some clear colors and some shaded and striped. (Pkt. 10c) (oz. 15c).

CANDYTUFT (Iberis).—A hardy annual, growing about 6 to 8 inches high, and according to the variety. The blossoms are in dense clusters on long spikes, and the newer varieties are quite large-flowering and very fragrant. Of easy culture and valuable for bedding or massing.

New Giant White Hyacinth Flowered.—A giant Candytuft, bearing immense snow-white spikes of blooms which often measure 10 inches or more. Don’t miss this a trial. Pkt. 10c.

Coronam Empire.—Large trusses of pure white flowers, the finest candytuft yet raised. Pkt. 10c.
CALLIOPSIS Tiger Star

CALLIOPSIS—These will grow luxuriantly in any situation and are most useful, affording a constant supply of richly marked flowers for cutting. All varieties are annuals.

Brompton.—Large, rich, golden yellow flowers with chestnut-brown centers produced in abundance. Height 18 inches. Pkt. 10c.

Tintoria.—Showy, velvety and brown flowers, height 2 to 3 feet. Pkt. 10c.

Tall Mixed.—Very showy. Height 2 to 3 ft. Pkt. 10c.

CALIFORNIA POPPY.—See Eschscholtzia.

CANTERBURY BELLS (Campanula Medium).—A hardy perennial, blooming the second year from seed, or the first if sown early. Grows about three feet high.

CARNATION.—Our strain of these popular flowers is unsurpassable in beauty and variety of coloring, also in their delightful fragrance. For largest, richest flowers, we recommend their culture in pots of rich soil or small, shallow boxes. Cover the seed lightly, and shade from the strong rays of the sun. When the young plants are two or three inches high, they may be transplanted out into small beds. Shade and water them until established. Then they can be planted out in well-prepared beds, 12 to 15 inches apart. While the weather is cool, the ground should be mulched about 2 inches deep with well-rooted manure. This will not only help to retain the moisture in the ground, but also supply nutrient to the plants. The seed may be sown any time between March and September.

Chabaud Earliest French.—From the ease with which this fine carnation can be flowered as an annual it has attained a popular position, and will continue to hold a foremost place in the garden. These are the true double flowers and make a brilliant display of attractive coloring in the open and are greatly prized in borders and for table decoration. Mixed colors. Pkt. 15c.

Grenadin Scarlet.—A valuable early flowering variety coming quite true to color and producing an exceptionally large percentage of sweet scented double scarlet flowers of a most telling color. Pkt. 10c.

Germania.—Large flowering double carnation of a deep rich canary yellow. Pkt. 15c.

Marguerite Pure White.—An exquisite sweet scented fringed flower of pure white suitable for bedding or indoor decoration. Pkt. 10c.

Marguerite, Mixed Colors.—Very varied; gives a large percentage of fine double flowers. (Pkt. 10c) (1/2 oz. 20c).

CARNOSA CANDIDISSIMA (True Dusty Miller).—The mixture includes every conceivable shade of pink, carmine, crimson and blue, varying to violet as well as pure white, and blue and white. The flowers are of immense size. Pkt. 25c.

CARNOSA CYANUS (Corn Flower or Bachelor's Button).—This old fashioned flower is still a great favorite for cutting purposes. We call special attention to our new Double Blue, which is a great improvement on the single variety.

Double Blue.—The same pleasing shade of blue but of much more substance than the single kind. Height 2 to 3 ft. Pkt. 10c.

Single Blue.—The rich deep blue Bachelor's Button. Pkt. 10c.

Single Mixed.—Contains various shades of pink, white and blue. Pkt. 10c.

CENTAUREA IMPOSSIBILIS (Royal Sweet Sultan).—This is the variety so popular in the florist's store. The plants are of spreading habit and one plant has been known to keep a home replenished with cut flowers during the entire summer. We offer it in the three distinct shades. Height 3 to 4 feet.

Imperialis Pure White.—Pkt. 10c.

Imperialis Lavender.—Pkt. 10c.

Imperialis Purple.—Pkt. 10c.

All Colors Mixed.—Pkt. 10c.

CENTAUREA CYANUS (Corn Flower or Bachelor's Button).—This old fashioned flower is still a great favorite for cutting purposes. We call special attention to our new Double Blue, which is a great improvement on the single variety.

Double Blue.—The same pleasing shade of blue but of much more substance than the single kind. Height 2 to 3 ft. Pkt. 10c.

Single Blue.—The rich deep blue Bachelor's Button. Pkt. 10c.

Single Mixed.—Contains various shades of pink, white and blue. Pkt. 10c.

CERAMARIA.—A tender perennial, grown principally in the greenhouse, but can be grown in the garden in summer. Seed should be sown in summer, and the greenhouse requires only moderate heat. Plants grow from 1 to 2 feet high and bear clusters of large, single flowers of bright colors. Will do well in a partly shaded location.

Ceramara Hybrida Grandiflora.—The mixture includes every conceivable shade of pink, carmine, crimson and blue, varying to violet, as well as pure white, and blue and white. The flowers are of immense size. Pkt. 25c.

CENTAUREA IMPERIALIS (Royal Sweet Sultan).—This is the variety so popular in the florist's store. The plants are of spreading habit and one plant has been known to keep a home replenished with cut flowers during the entire summer. We offer it in the three distinct shades. Height 3 to 4 feet.

Imperialis Pure White.—Pkt. 10c.

Imperialis Lavender.—Pkt. 10c.

Imperialis Purple.—Pkt. 10c.

All Colors Mixed.—Pkt. 10c.
CLARKIA.—A hardy annual of easy culture, growing about 18 inches high and bearing bright rose, white, or purple flowers in great profusion. Native of California. Seed sown in the fall will give early blossoms in the spring. Seed can be sown almost any time.

**Elegans Double Mixed.**—The long sprays of bloom resemble peach blossoms and are very showy when in full bloom. Height 3 ft. Pkt. 10c.

**Pulchella, Single Mixed.**—Much resembling the preceding and usually planted for mass effect. Height 15 inches. Pkt. 10c.

**CLEMATIS.**—A very fine hardy climber, leaves bright and glossy green; flowers small and horned, scented, and just covering the plant when in bloom. Useful for covering trellises, conservatories or fences. Pkt. 10c.

**Super Scandens (Cup and Saucer Vines).**—A climber of rapid growth, very valuable for covering trellises, arbors, trunks of trees, etc. Will cling to any rough surface, often attaining a height of 5 to 40 feet in one season. Seed sown in the fall will give early blossoms in the spring. Height 15 feet. Pkt. 10c.

**Clematis Purpurea.**—Large bell-shaped purple flowers. Pkt. 10c.

**Clematis Alba.**—Pure white. Pkt. 10c.

**CORNFLOWER.**—See Centaurea.

**COREOPSIS.**—See Calliopsis.

**COREOPSIS (Lanceolata Grandiflora).**—A hardy perennial bearing a profuse and long-lasting show of small golden yellow flowers during the whole summer months. Seed sown in March will bloom the same season. Height 2½ ft. Pkt. 10c.

**COSMOS.**—A tender annual with fine-cut, feathery foliage and large, showy blossoms in a great variety of two distinct classes, the early and late varieties. The early flowering will bloom in August and the later in September. The late blooms in the fall are often showier. Plant out in the open where the flowers are intended to bloom.

**New Giant Orchid Flowering Lady Leonis.**—Size, 6 inches in diameter, with wide overlapping petals of an exquisite shade of shell pink. The flowers are on long stems, making them extremely desirable for cutting. Height 5 to 7 feet. Pkt. 10c.

**Late Giant Crimson.**—(Pkt. 5c) (oz. 25c).

**Late Giant Pink.**—(Pkt. 5c) (oz. 25c).

**Late Giant White.**—(Pkt. 5c) (oz. 25c).

**Late Giant Mixed Colors.**—(Pkt. 5c) (oz. 25c).

**New Princess Early Flowering Mixed.**—An improved early type which blooms 60 days after planting. The immense blooms are a perfect blend of pink and white. The flowers are produced in large clusters on strong stems. Height 3½ to 4½ feet. Pkt. 10c.

**Clylamen.**—A tender, bulbous perennial, used in greenhouses and window gardens. It is easily grown from seed. Sow in the fall or early spring.

**Persicaria Giganteum.**—Flowers of extraordinary size. The leaves are proportionately large, marked with silver-gray. Extra choice mixed. Pkt. 25c.

**CYPRESS VINE (Ipomoea quamoclit).**—A tender climbing annual with soft fern-like foliage and a mass of small blossoms, Choice mixed colors. Pkt. 10c.

**DAHLIA.**—Although not generally known Dahlia are easily grown from seed. If planted early in a hot bed and transplanted when large enough to handle, they will bloom the first season and make large bulbs by the fall.

**Cactus, Choice Mixed.**—Our mixture contains many of the new novelties. Giants of pure white, single petals. Pkt. 10c.

**Double.**—Choice mixed colors in great variety and flowers of excellent form. Pkt. 10c.

**Single.**—Seed saved from the choicest varieties. Pkt. 10c.

**DAISY, SHASTA DAISY.**—A fine perennial plant bearing large white single blossoms, with yellow centers. Soak seed in warm water over night before sowing. Pkt. 10c.

**DAISY, DOBLE.**—See Bellis.

**DATURA (Trumpet Flower).**—Tender annual, growing about 3 feet high, flowers large and trumpet shaped. Choice mixed colors. Pkt. 10c.

**DELPHINIUM OR PERENNIAL LARKSPUR.**—Beautiful, hardy biennial perennials with noble spikes of handsome flowers, very useful for cut flowers. Sow in the spring or early fall in seed beds or boxes and transplant when large enough.

**Elatrum Hybridum Mixed.**—Large, handsome flower spikes, including the best of all the new varieties, single and double. Height 3½ feet. Pkt. 10c.

**Formosum.**—Rich blue flowers, exceeding in beauty; height 3½ feet. Pkt. 10c.

**Blue Butterfly.**—A distinct variety which blooms from seed the first season. The large single spikes are of a rich Salvia Blue and make a splendid cut flower. Height 1½ inches. Pkt. 10c.

**DIANTHUS, OR PINKS.**—Hardy annuals, about 1 foot high, and bearing beautifully colored single and double blossoms in profusion. Seed sown in March will bloom the first season. Sow early in boxes and transplant, or sow in rows where the plants are to remain, and thin.

**CHINESE OR CHINESE PINK.**—They come in a large range of colors and are used largely for massing in beds.

**HEDEDWIGI OR JAPANESE PINKS.**—A good variety for bedding or cutting. The single or double flowers are very showy.

**HEDEDWIGI SNOW DRIFT.**—Large, pure white double flowers beautifully fringed. Pkt. 10c.

**HEDEDWIGI Mourning Cloak.**—Large double flowers almost black in color, beautifully edged with white. Pkt. 10c.

**HEDEDWIGI Mixed.**—Contains eight or more different colors. Pkt. 10c.

**PLUMARIUS (Grass Pink).**—Hardy perennial producing large fragrant double, semi-double and single flowers of varied colors. Pkt. 10c.

**DUSTY MILLER.**—See Centaurea. Pkt. 10c.

**DIGITALIS, OR FOXGLOVE.**—A hardy perennial, blooming the second year. Grows about 3½ feet, although in very rich soil some will reach 6 feet. The flowers are borne on long spikes, and come in shades of purple, lavender, rose and white, all spotted lightly inside the blossom. Thrive best in cool, shady locations. Fine Mixed. Pkt. 10c.

**DOLOCHLOS, OR HYACINTH BEAN.**—Tender, climbing annual. Grows rapidly and is valuable for covering a trellis. Flowers in purple or white, are borne on 6 feet stems, the individual blossoms resembling the bean flower, and the ornamental pods resemble bean pods. Seed sown in open ground late in April. Lablab. Mixed. (Pkt. 10c) (oz. 15c).

**EVERLASTING FLOWER.**—See Helichrysum.

**EVERLASTING PEAS.**—See Lathyrus Latifolius.

**EVENING PRIMROSE.**—See Oenothera.
FUCHSIA (Lady's Eardrop).—A well-known plant of easy culture in pots for the conservatory, parlor decoration or the open ground. Start seed early under glass. Double Mixed. Pkt. 25c.

FOUR O'CLOCK (Mirabilis).—A hardy annual of easy culture, growing about 2 feet high. The plant is free-flowering, bearing blooms of a great variety of colors and spikes. Mixed. Pkt. 5c.

FORGET-ME-NOT (Myosotis).—A hardy perennial, growing 6 to 12 inches high. Small star-like flowers are borne in clusters on long stems; blooms the first year if seed is sown early. Thrives best in a cool, moist location. Alpestris.—Blue. Pkt. 10c.

GAILARDIA.—Beautiful show plant, remarkable for the profusion, size, and brilliancy of its flowers continuing in bloom from early summer till late in the fall. Excellent for beds, borders, or for cutting. Should be sown where they are to bloom, height 18 inches. Grandiflora.—Single perennial variety of varying shades of reddish brown and yellow. Pkt. 10c.

PIETÀ LORENZIANA DOUBLE MIXED.—Large heads of bright yellow and red flowers. Very double, with quilled petals, suitable for bouquets. Pkt. 10c.

PIETÀ SINGLE MIXED.—Favorite bedding plant, producing throughout the summer numerous yellow and scarlet flowers. Pkt. 10c.

GOLDEN-GLOW (See Rudbeckia)

GYPSOPHILA (Baby's Breath).—A hardy annual of easy culture. Grows two or three feet high, and bears a profusion of small star-shaped white and pink flowers. Pinnatifida.—Fine for bouquets; white flowers, perennial. (Pkt. 10c) (oz. 60c). Elegans.—Annual white. Very largely grown by florists for use in bouquets. (Pkt. 5c) (oz. 25c). Elegans Carmine.—A recent introduction of a deep carmine rose. Pkt. 10c.

HELIANTHUS (See Sunflower)

HELIOTROPE.—A hardy perennial growing four to eight feet high. Small flowers, borne in graceful clusters and very fragrant. Blooms the first season from seed if sown early. Forms a large plant and requires a roomy situation. Queen Marguerite.—Purple blue. Pkt. 15c.

FINST MIXED.—A mixture of the ordinary true types in shades of white, mauve and purple. Pkt. 10c.

HELICHRYSUM (Everlasting Flower).—A free-flowering, hardy annual, growing four to five feet high, and bearing beautiful straw-like flowers in a great variety of shades and colors. Makes a very handsome dried bouquet. To dry pick the flowers in a young stage, as they open after picking, and hang head downwards in a cool dark place. Monstrosum Mixed. (Pkt. 10c) (oz. 25c).

GERANIUM CUTTINGS.—See Page 85.
HOLLYHOCK.—A hardy perennial of upright, stately growth, five to eight feet high, unequalled for a background or covering ugly places. Seed sown in seed beds or boxes in the spring. May be planted out when large enough and will bloom the following year. The following are saved from large double-flowering varieties:

- **Double White**
- **Double Yellow**
- **Double Pink**
- **Double Black**
- **Double Mixed**

Any of the above, Pkt. 10c.

**Allegheny.**—This unique and beautiful variety produces semi-double flowers about 2 inches across. The petals are crinkled and fringed like crumpled and slashed satin. Pkt. 10c.

**New Annual Mixed.**—A new departure in Hollyhocks, Seed sown in the Spring will bloom the first year. Pkt. 10c.

HUNNEMANNIA, OR BUSH ESCHSCHOLTZIA.**—**Known also as the Santa Barbara Poppy. An erect-growing, tender perennial, about two feet high. foliage fine-cut, feathery blossoms, beautifully cup-shaped, bright yellow, and about three to four inches across. Stems long and smooth. Unlike the average Poppy Hennemannia will keep for several days in water and makes a splendid cut flower. Pkt. 10c.

HYACINTH BEAN (See Dolichos)

LARKSPUR.—A useful annual for the border or for cut flowers. The double flowering varieties we offer are a great improvement on the old single kinds. Height 3 ft.

- **Double Stock Flowered Lustrous Carmine.**—An entirely new shade. Color a bright rosy carmine. Pkt. 10c.
- **Double Stock Flowered White.**
- **Double Stock Flowered Lilac.**
- **Double Stock Flowered Deep Blue.**
- **Double Stock Flowered Mixed.**

Any of the above, Pkt. 10c.

LANTANA.—Tender perennial, growing from 2 to 3 feet high, bearing Verbenas like clusters of flowers, in white, rose and other colors, excellent for bedding. Pkt. 10c.

LATHYRUS LATHIFOLIUS (Extravagant Pen).—A hardy, perennial climber of great beauty with elegant sweet pea-like flowers in great profusion; height 6 to 8 feet. Pkt. 10c.

LIMONIUM, OR SCARLET FLAX.—A hardy annual, about one and a half feet high. Of slender and graceful appearance, with smooth stems and bright red flowers, which are borne in great profusion. Can be sown early out of doors and thrives well in good soil. Pkt. 10c.

LOVE-IN-A-MIST.—See Nigella.

LOBELIA.—A hardy annual and perennial. The annual grows four to six inches high, is of compact growth, and literally covered with small bright flowers. By cutting back the plants during the summer and giving plenty of water they may be kept in flower all summer. Used for ribbon work and borders or hanging baskets.

**Bernard's Perpetual.**—Flowers brilliant ultramarine blue, with a pure white mark at the base of each of the two lower petals; height 6 inches. Pkt. 10c.

**Crystal Palace.**—Undoubtedly the finest dwarf blue Lobelia for bedding. Plants very compact, profusely covered with rich blue flowers. Height 4 inches. Pkt. 10c.

LUPINS (or Lupinus).—In spite of the fact that the Lupin is one of the most common of our native flowers, many people still grow it for its beauty. We offer the annual variety which is the most easily grown.

**Annual Mixed.**—Height 2 ft. Pkt. 10c.

MARIGOLD.—A hardy annual, in dwarf and tall varieties, growing from 6 inches to 3 feet high. The flowers are various shades of yellow and brown. The tall varieties are very valuable for large bedding or background work and the dwarf varieties for borders.

**Dwarf French Legion of Honor.**—The color is a dark velvety brown, gracefully surrounded by a distinct gold ring. The compact, bushy plant flowers abundantly and is more lasting than any other annual. Pkt. 10c.
MINILUS.—A half hardy perennial, growing from 6 inches to 1 foot high. Blooms freely and exists in a large variety of colors. Fine gardens in a moist, shady situation. The large bright flowers open from seed if sown early.

COERULA.—Scarlet flowered perennial; 18 inches high; useful for a border; free flowering. Pkt. 10c.

Mammosa or Mink Plant.—Fragrant plant with small yellow blossoms, spotted lightly with brown. Pkt. 10c.

Mixed, Dwarf Monkey Flower.—Large flowers of several colors, and spotted. Pkt. 10c.

MOMORDICA (Balsam Apple).—A climbing annual, growing about 10 feet long. Has green, smooth and felted foliage, yellow flowers, and warted golden yellow fruit, with large carmine-red seeds. Balsam Apple and Balsam Pear are climbers which thrive in hot locations, and are much planted around Bakersfield. Pkt. 10c.

Charantia, or Balsam Pear.—Same as the Balsam Apple, but fruit is pear-shaped. Pkt. 10c.

MOONFLOWER (See Ipomoea).

MOURNING BRIDE (See Scabiosa).

MYOSOTIS (See Forget-Me-Not).

MOURNING GLORY (See Convolvulus).

NASTURTIUM.—These favorite flowers with the smallest seeds grow in all kinds of soil. The Dwarf varieties are used for bedding and borders and the Tall varieties for climbing and covering such things as trellises, etc. They continue to bloom until cut down by frost.

Fine Dwarf Mixed.—Height 10 inches. (Pkt. 5c) (oz. 15c).

Tall Dwarf Mixed.—Height 5 to 10 feet. (Pkt. 5c) (oz. 15c).

NEMOPHILA.—A hardy annual about 6 inches high. Has small, cup-shaped blossoms about one inch in diameter, in white and shades of blue.

Insignis (Baby Blue Eyes).—Sky blue, with white eyes. (Pkt. 5c) (oz. 25c).

NICOTIANA, OR FLOWERING TOBACCO.—A hardy annual, growing 3 feet high, with slender tubular flowers. Belongs to the tobacco family. Requires plenty of room in the garden.

Albina.—White, and very fragrant. Pkt. 10c.

Grandiflora Purpurea.—Reddish-purple flowers. A robust ornamental variety, excellent for sub-tropical garden, height 5 feet. Pkt. 10c.

Sanderia.—A new, large, flowering type, with various bright-colored blossoms. Pkt. 10c.

PANSIES are the most reliable and numerous annuals for massing in beds and borders. They are resistant to hot sun and the bloom can be extended by covering the plants with a top dressing of straw. Masses of pansies make the most effective and permanent bedding plants. Pansies thrive best in a moist, shady location and in rich loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring. The plants must be transplanted twice in order to get the largest flowers; once from the seed box to a chosen bed, and again to the final position. Pansies are usually grown in rows from seed; these are known as perennial pansies. There are a number of varieties, both single and double, as well as hybrid. The flowers are divided into two main groups: the small pansies, such as Bridesmaids, and the large pansies, such as Giant Yellow. The colors range from blue to purple and all shades in between. They are excellent for massing in beds and borders, and are also suitable for window boxes and hanging baskets. Pansies are easy to grow, and can be grown in almost any soil, although they prefer a loamy soil that is well-drained. They require plenty of sunlight, but can also tolerate some shade. Pansies are usually grown from seed, and should be sown in early spring. The seeds can be sown directly in the garden, or they can be started indoors in pots. The plants should be transplanted to their final positions when they are about 6 inches tall. Pansies are very hardy and can be left in the garden throughout the winter. They are best killed back in the spring before the new growth starts to appear. Pansies are a popular choice for gardeners because of their long bloom time and their ability to thrive in a variety of conditions. They are also a good choice for beginner gardeners because they are relatively easy to care for. Pansies are a great addition to any garden, and they are a surefire way to bring color and life to any outdoor space. PANSIES are the most reliable and numerous annuals for massing in beds and borders. They are resistant to hot sun and the bloom can be extended by covering the plants with a top dressing of straw. Masses of pansies make the most effective and permanent bedding plants. Pansies thrive best in a moist, shady location and in rich loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring. The plants must be transplanted twice in order to get the largest flowers; once from the seed box to a chosen bed, and again to the final position. Pansies are usually grown in rows from seed; these are known as perennial pansies. There are a number of varieties, both single and double, as well as hybrid. The flowers are divided into two main groups: the small pansies, such as Bridesmaids, and the large pansies, such as Giant Yellow. The colors range from blue to purple and all shades in between. They are excellent for massing in beds and borders, and are also suitable for window boxes and hanging baskets. Pansies are easy to grow, and can be grown in almost any soil, although they prefer a loamy soil that is well-drained. They require plenty of sunlight, but can also tolerate some shade. Pansies are usually grown from seed, and should be sown in early spring. The seeds can be sown directly in the garden, or they can be started indoors in pots. The plants should be transplanted to their final positions when they are about 6 inches tall. Pansies are very hardy and can be left in the garden throughout the winter. They are best killed back in the spring before the new growth starts to appear. Pansies are a popular choice for gardeners because of their long bloom time and their ability to thrive in a variety of conditions. They are also a good choice for beginner gardeners because they are relatively easy to care for. Pansies are a great addition to any garden, and they are a surefire way to bring color and life to any outdoor space.

AGGELER & MUSSER SEED CO.

SMALLER FLOWERS

MILLIS, (Monkey Flower)
PORTULACA.—Beautiful race of dwarf plants for rock work or dry sunny locations, bearing glossy cup-shaped blossoms in brilliant colors.

**Double Mixed.**—Saved from the finest flowers only, and will produce a large percentage of doubles. Pkt. 10c.

**Single Mixed.**—Large flowers. Pkt. 5c.

RIDIGINUS (Castor Oil Plant).—Effective for indoor or tropical: easily raised from seed, and should be grown in deep rich soil.

Riginius Gibson.—A very fine variety with rich, lustreous red foliage. Height 5 feet. (Pkt. 5c) (oz. 15c).

RUDBECKIA (Golden Glow).—Coneflower.—Fine free flowering annual variety, forming a dense bush and producing an abundant load of bright yellow flowers. The disc is brown, the flowers golden yellow, with large variety brown spots at the base. Very effective and popular for cutting. Pkt. 10c.

SALPILGROSSIS.—Fine Mixed.—Highly ornamental half-hardy annual with large, veined, funnel-shaped flowers; much prized for cuttings; very showy in beds or border. A bed of these beautiful plants is one of the most striking features of the garden during July and August. Pkt. 10c.

SALVIA, OR FLOWERING SAGE.—A tender perennial blooming the first season from seed and growing two or three feet high. Easily raised from seed on long stems in racemes or spikes, and are fragrant.

**Splen-**—Gorgeous plants, with numerous flowers, are displayed with striking effect against the deep green foliage. The flower is exceedingly beautiful during the autumn. Height, 2 feet. Pkt. 10c.

SCARLET FLAX (see Linum).

SCARLET RUNNER (see Beans).

SCABIOSA, OR MOURNING BRIDE—The tall flowers are especially adapted for cutting and massing in the garden, also good as a background where a color effect is desired. Height 4 feet.

**Azure Fairy.**—A beautiful shade of light blue. A great favorite. Pkt. 10c.

Black Prince.—A very deep purple, almost black. Unique. Pkt. 10c.

Crimson.—Very effective. Pkt. 10c.

Snowball.—Large head of lovely pure-white blooms. Pkt. 10c.

Tall Double Mixed.—Immense flowers: very double, contains twelve or more different shades. Pkt. 10c.

SCHIZANTHUS.—Very beautiful and interesting annuals. This is one of the earliest annuals to raise from seed. Sow in the open where plants are to flower. Exceptionally hardy. Height 4 feet, in full bloom and literally covered with small orchid-like flowers.

Wisetonensis Choice Mixed.—An improved mixture, beautifully spotted. Pkt. 15c.

SENSITIVE PLANT.—An interesting plant, the leaves of which close when touched; elegant foliage; flowers pink. Pkt. 5c.

SHASTA DAISY (see Daisy).

SIMUL.—A perennial vine which thrives best in a shady location. Very useful for decorative purposes. Pkt. 10c.

STATICE, SINYATA.—An annual deserving far greater popularity. They make a charming winter bouquet when dried and mixed with Helichrysum. In full blossom and literally covered with small white, mauve and yellow. Mixed. Height 18 inches. Pkt. 10c.

**STATICE LATIFOLIA.**—Hardy perennial with large branching heads of mauve flowers. Invaluable for the border and for drying. Height 2 feet. Pkt. 10c.

ROMNEYA COULTERI (California Tree Poppy).—Also well known as the Matilija Poppy; perennial. It is of value as a cut flower, lasting well in water, and its delicate primrose-like perfume is most acceptable. They never lose the crumpled folds that in the case of most poppies become newly-opened state. Flowers are four to five inches across, pure white, with a fine bunch of yellow stamens resembling white, single Paeony. Pkt. 10c.

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**PYRETHRUM.**—Handsome plants of easy culture. Invaluable for bedding purposes, especially for ribbon borders.

Golden Feather.—Fine compact habit of growth, with bright yellow foliage, largely used for edgings and ribbon borders. Height, 3 inches. Pkt. 10c.

**SELAGINIDES.**—A distinct form with moss-like foliage, quite as bright in color as the Golden Feather and does not flower until late in the season. Height 6 inches. Pkt. 10c.

**Roseum Hybridum.**—A hardy perennial, with red petaled flowers radiating from a golden yellow center. Buhank, or insect powder, is made from the dry leaves. Useful as a cut flower. Height 15 inches. Pkt. 10c.

**PYRETHRUM Roseum.**—Handsome flowers of a rich dark purple, with a large velvety black spot starting from the base of each petal. Pkt. 15c.

**King Edward.**—With this new novelty we have added to the rich collection of single and double Poppies growing 2 feet in height, deep scarlet, shaded crimson red of gorgeous effect, which is heightened by the large black blotch adorning each petal for half its length from the base. From this sable hue the yellow antlers stand out in appropriate contrast. Pkt. 10c.

**Poppies, Mixed.**

Shirley. —The most charming poppy in cultivation. The blossoms are bright red, or rich carmine, to brilliant crimson, many of the flowers being beautifully flaked or edged with white. (Pkt. 10c) (oz. 25c).

Carnation Flowered Double Mixed.—Choice assortment of bright colors. Flowers very double and well fringed. The plants grow to a height of 4 feet and bear immense carnation-like blooms 6 to 8 inches across. (Pkt. 5c) (oz. 20c). Paeony Flowered Double Mixed.—Very similar to the above, but has no Carnation-like fringe. (Pkt. 10c) (oz. 20c). Nudicaule (Iceland Poppy).—A beautiful class of dwarf Perennial Poppies, rich if sown in March will flower the same year. The blossoms are borne on slender stems about 1 foot high. Useful for cutting and the flowers exude an agreeable perfume. In colors of white, yellow and red. Mixed. Pkt. 10c.

We have endeavored to make this catalog one of much interest to you, and request that you do not destroy it until you get our 1920 book.

On pages 9 and 10 you will find some hints and suggestions, and on page 80 you will find much assistance in making your selection of seeds. On the inside back cover page with map you will find both the different varieties.

See the pages on Fertilizers and Insecticides, for you will need both in the successful growing of Flowers.
SWEET PEAS

We are headquarters for strictly high grade sweet pea seed; they are the best that money can buy.

Culture.—Sweet peas will thrive on most any kind of soil if enriched with well-rotted manure, but heavy soils will grow eight feet tall and become a solid mass of bloom, which should be cut every day to prolong the life of the plant. Apply from time to time some fertilizer, but see that there is good drainage, that the manure is not too rich, but a heavy clay soil produces the best results. The frames will grow eight feet tall if given a solid mass of bloom, which should be cut every day to prolong the life of the plant. Apply from time to time some fertilizer, but see that there is good drainage, that the manure is not too rich, but a heavy clay soil produces the best results.

Giant Spencer Types.—Immense blossoms of the frilled and waved varieties. American Spencer.—Splendid striped with white. (Pkt. 10c) (oz. 30c).

Apple Blossom Spencer.—Standard bright rose, wings primrose with a flush of pink. (Pkt. 10c) (oz. 30c).

Asta Olsen. Spencer.—Soft pinkish lavender, self. Very large and wavy. (Pkt. 10c) (oz. 25c).

Black Knight. Spencer.—Deep maroon, very large. (Pkt. 10c) (oz. 25c).

Blue Jacket. Spencer.—A deep navy-blue, quite distinct. (Pkt. 10c) (oz. 30c).

Clara Curtis. Spencer.—Very large, very very light primrose. (Pkt. 10c) (oz. 25c).

Countess. Spencer.—“Hybrid,” a very large flowered variety, a lovely shell pink. Flowers usually four on a stem. (Pkt. 10c) (oz. 25c).

Dainty. Spencer.—White with pink wavy edges. (Pkt. 10c) (oz. 25c).

Effie Pliner. Spencer.—Shell pink with immense waved blossoms. (Pkt. 10c) (oz. 30c).

Florence Morse. Spencer.—Delicate blush with pink margin; very large and one of the best Spencer varieties. (Pkt. 10c) (oz. 30c).

Etta Dyke. Spencer.—Very large wavy, pure white. (Pkt. 10c) (oz. 30c).

Geo. Herbert. Spencer.—A large Spencer rose monnave suffused with magenta. (Pkt. 10c) (oz. 30c).

Helen Lewis. Spencer.—Bright orange salmon. Very large, beautifully waved. (Pkt. 10c) (oz. 30c).

King Edward. Spencer.—Most beautiful and richest of all red shades. This variety is 85c. (Pkt. 10c) (oz. 30c).

Loyalty. Spencer.—Bright blue striped on white. (Pkt. 10c) (oz. 30c).

Margaret Madison. Spencer.—Beautifully wavy apricot cream. (Pkt. 10c) (oz. 20c).

Mrs. Hugh Dickson. Spencer.—Beautifully wavy apricot on cream. (Pkt. 10c) (oz. 30c).

Mrs. Routzahn. Spencer.—A beautiful blending of straw color, tinted with blush pink and having wavy apricot and rose at edges. (Pkt. 10c) (oz. 30c).

Othello. Spencer.—Deep rich maroon, very dark and adapted for many attractive combinations. (Pkt. 10c) (oz. 30c).

Wedgewood. Spencer.—As named, a rich wedgewood blue. (Pkt. 10c) (oz. 30c).

Giant Spencer Mixed.—A splendid mixture of all the different Spencer types. (Pkt. 10c) (oz. 25c).

CUPID OR DWARF SWEET PEAS.—The Cupid varieties are very showy and splendid for bedding. Height six inches. One packet three of each.

A & M. Xmas Dark Blue.—(Pkt. 5c) (oz. 25c).

A & M. Xmas Lavender.—(Pkt. 5c) (oz. 25c).

A & M. Xmas Pink and White.—(Pkt. 5c) (oz. 25c).

A & M. Xmas Soft Pink.—(Pkt. 5c) (oz. 25c).

A & M. Xmas White.—(Pkt. 5c) (oz. 25c).

A & M. Xmas Mixed.—(Pkt. 5c) (oz. 25c).

Perennial or Everlasting (see Lathyrus).

NEW GIANT SPENCER OF GREAT MERIT

Fiery Cross.—Giant waved flowers of an intense Orange Scarlet. The color is not at all affected by our hot California sunshine and therefore needs no shading.

Constance Hinton.—A giant frilled Black-Seedled White. The stems, bearing four immense blossoms, are often 12 inches in length. Undoubtedly the best White Sweet Pea.

New Buttercup.—The nearest approach to a yellow Sweet Pea ever introduced. The blossoms are of a Rich Deep Cream, giants in size and are beautifully waved and frilled.

The Cardinal.—This is by far the best red Sweet Pea on the market. The color is an intense Poppy Scarlet, resembling for brilliance the Polynesian. The giant blossoms will not burn in the sunlight.

Warrior Spencer.—Deep Chocolate, almost Black, unequalled for mixing with other shades for bouquets and table decoration. The darkest Sweet Pea yet introduced.

Each of the above (20c a pkt.) One of each for 5c.

STOCKS

STOCKS (Ten Weeks' Stocks, or Gillflowers; Levowe).—The Stock is one of the many popular plants used for bedding. For brilliancy and diversity of color, fragrance, profusion and duration of bloom it is unsurpassed.

Sow the seed in pans or boxes and transplant when large enough to an open sunny location. Be careful to save the weak and delicately plants, as these usually throw the best doubles. It is also a good idea to plant rather thickly so that the singles can be weeded out as they appear. The seed can only be saved from single flowers, but as we purchase from the most reliable growers our Stocks produce a large percentage of double.

Dwarf Double Ten Week. —This dwarf variety is splendid for edging, carpet bedding, borders, and cut flowers. The different shades make very pleasing color effects. Height 12 inches.

White.

Crimson.

Canary Yellow.

Light Blue.

Dark Blue.

Finest Mixed.

End.—Pkt. 10c.

Perennial Princess Alice.—A pure white Stock of branching habit, very useful for cutting. Height 2 ft. Pkt. 15c.

Giant Perfection or Dresden.—Of branching habit with long stems which makes this variety very useful as a cut flower. The mixture contains 6 or more different colors. Height 2 ft. Mixed.—Pkt. 10c.

STOCK, NICE.—An intermediate type, very useful for winter flowering if planted in the fall. Seed sown in February or March continues to bloom well during the summer. Height 18 inches.

Ntie, Giant Almond Blossom.—Quick blooming and of a very large size. The color is white shaded carmine. Pkt. 15c.

Ntie, Giant Beauty of Nice.—Delicate flesh pink spikes of double flowers. Pkt. 15c.

Ntie, Giant Crimson King.—Long spikes, of a rich crimson color. Pkt. 10c.

Ntie, Giant Empress Elizabeth.—Infinite spikes of a rich bright rose. Pkt. 15c.

Ntie, Giant Cote d'Azur.—Light violet blue, a very desirable shade. Pkt. 15c.

Ntie, Monte Carlo.—Canary yellow. Pkt. 15c.

Ntie, Finest Giant Mixed.—All colors. Pkt. 15c.
SUNFLOWER (Helianthus).—Stately, hardy annuals of easy culture. Useful for background, or as a fence and often grown for the seed. Height 6 to 8 feet. California Double.—Large, massive, bright yellow flowers, (Pt. 25c). New Red Sunflower is a very apt description of this new variety. The plant is of freely-branching habit, with well-shaped, dark-centered flowers of bright chestnut red, merging to yellow at the tips of the petals; height 6 feet. (Pt. 15c).

VERBENA.—A half hardy trailing perennial of easy culture. It is well known as a bedding or border plant, and the improved large-flowered and fragrant strains make it a handsome cut flower for low vases.


NEW RED SUNFLOWER

SWEET WILLIAM (Dianthus Barbatus).—A hardy perennial blooming the second year from seed. Grows one to two feet high and bears its flowers in clusters, at the end of a stiff stem. The individual flowers are handsomely colored and marked. It makes a beautiful bedding plant, and is of easy culture.

Single Varieties, Mixed.—Very attractive. (Pt. 5e) (oz. 50e). Double Varieties, Mixed.—(Pt. 10c).

SWEET SULTAN (See Ceanaraean Imperialis).

THAPAEOLUM CANARIENSIJ (See Canary Bird Flower).

VIOLET.—Hardy perennials, blooming freely throughout the summer and autumn. Of easy culture.

Cornuta Purple.—Fine, rich purple. (Pt. 10c).
Cornuta White.—Pure white flowers, freely produced. (Pt. 10c).

The Czar.—Large, fragrant, deep violet flowers. (Pt. 10c).

Princess of Wales.—Largest flowering deep blue. (Pt. 10c).

Violet—Single, Sweet-scented.—(Pt. 10c).

GIANT ZINNIA

The large double blooms often measure 5 inches across. Blooms continuously from April to October. Individual blooms last 6 weeks on the plant without fading. One of the easiest Annuals to raise from seed.

Giant Double White.—(Pt. 15c). Giant Double Pink.—(Pt. 15c). Giant Double Purple.—(Pt. 15c). Dwarf Double Mixed.—A valuable class only about fifteen inches high, very free blooming; flowers as large as the ordinary double Zinnia. (Pt. 10c).

VERBENA ROSE QUEEN

New Red Sunflower

SWEET WILLIAM

VERBENA—Rose Queen

New Red Sunflower

SWEET WILLIAM

New Red Sunflower

SMALL TREES IN FLATS

Eucalyptus—Tereteocarpon, Rostrata, Globulus and Corynocalyx. Price: $2.00 per flat of 100 trees, $15.00 per 1000 trees, f. o. b. here. Globulus (Tasmania Blue Gum). (Pt. 15c) (oz. 50c). Corynocalyx (Sugar Gum). (Pt. 15c) (oz. 50c). Robusta (Swan Mahogany). (Pt. 15c) (oz. 50c). Rostrata (Red Gum). (Pt. 10c) (oz. 50c). Red (Desert Gum). (Pt. 20c) (oz. $1.00). Tereteocarpon (Gray Gum). (Pt. 15c) (oz. 50c).

CYPRESS

Macrocarpa (Monterey Cypress). (Pt. 10c) (oz. 25c). Sequoia Gigantea (California Big Tree). (Pt. 15c) (oz. 50c). Sequoia sempervirens (California Redwood). (Pt. 10c) (oz. 50c). Sequoia sempervirens (California Redwood). (Pt. 10c) (oz. 50c). Sequoia sempervirens (California Redwood). (Pt. 10c) (oz. 50c).

ACACIA

Aneun Baileyana.—(Pt. 10c) (oz. 50c). Calocarpum (Kuife Leaved Aneun).—(Pt. 10c) (oz. 50c). Debbatia (Silver Willow).—(Pt. 10c) (oz. 50c). Floribunda.—(Pt. 10c) (oz. 50c). Lophantia (Crested Willow).—(Pt. 5c) (oz. 15c). Melaleuca (Blackwood).—(Pt. 10c) (oz. 50c).

CONIFER—CEDAR

Lilium (Cedar of Lebanon).—(Pt. 10c) (oz. 50c) (lb. $5.00). Cryptomeria (Japanese Cedar).—(Pt. 10c) (oz. 50c). Juniperus Virginica (Red Cedar).—(Pt. 10c) (oz. 25c).

TREES

Palm—Chamaerops Excelsa (Windmill Palms).—(Pt. 5c) (oz. 10c) (lb $1.00). Corypha Australia (Australia).—(10 seeds 10c) (100 seeds 75c).

Canariensis (Canary Island Palm).—(10 seeds 10c) (100 seeds 75c).

Chemifera.—(Pt. 5e) (oz. 25c).

MISCELLANEOUS

Camphor Officinalis (Camphor Tree).—(Pt. 10c) (oz. 25c). Grevillea Robusta (Silk Oak of Australia).—(Pt. 10c) (oz. 10c).

Jacaranda Mimosifolia (Brazilian Jacaranda).—(5 each) (Per dozen 45c).

Magnolia Grandiflora.—(Pt. 10c) (oz. 25c).

Schinus Molle (Mexican Pepper Tree).—(Pt. 5c) (oz. 10c).

Melia Umbelliferiflorum (Texas Umbrella Tree).—(Pt. 5c) (oz. 10c).

Rehmannia Pseudanis (Black Locust).—(Pt. 5c) (oz. 10c).

Willow Orange.—(Per gallon $1.00) (per bushel $42.00 f. o. b. here).

Natives Orange Seed.—(Per gallon $3.00) (per bushel $32.00 f. o. b. here).

Bitter Almond.—(Per lb. 30c postpaid) (10 lbs. 50c f. o. b. here).

Myrobalan Plum.—(Per lb. $1.00).

California Wild Walnut.—(Per lb. 25c prepaid).

Apricots.—(Per lb. 20c postpaid) (10 lbs. 50c f. o. b. here).

Peach.—(Per lb. 15c postpaid) (10 lbs. 50c f. o. b. here).
PLANT DEPARTMENT

No plants sent by mail or express. See page 11.

We have during the season at our main store at 620 S. Spring St., and at our Branch Store, 767 So. Central Ave., a full assortment of Citrus Trees, also Berry Plants of all the popular varieties for home gardens, and roots of Rhubarb, Asparagus and Horseradish. Prices obtained at the store.

PERSIAN GRAPES

We are again offering some one-year-old rooted cuttings of the Persian Grapes introduced by us in 1916. We claim that these varieties are new to California and that they have exceptional merit in flavor and size, also that all these varieties are thriving on soil so alkaline that apple trees will not grow and the blue alkali weed is abundant. Read the description of each.

Karum (From the Valley Karum, Persia). A long white grape of delicious flavor and so few having seeds that it is almost a seedless variety, forming enormously large clusters. It is a good keeper and should prove a good shipping variety.

Black Damson. The exceptional merit of this variety is its good flavor, enormous productiveness, even bearing the first year from cuttings, and its hardiness to resist cold, heat, winds, and on account of the hardy skin, it is likely to prove a better shipper than any of the known varieties.

Hamadan (From the Valley of Hamaden, Persia). For table use probably the best of the three. Compares with the Muscat, but much superior in every respect. It is almost seedless, and should prove a good shipper.

All three varieties are deliciously sweet, and when properly trellised are enormously prolific; ideal for the grower of table grapes, and every home garden should have one of each of these grapes.

One year old rooted vines, any variety, 50¢. One each of the three varieties, $1.25.

GRAPE, LOCAL VARIETIES

One year old rooted cuttings. Muscat, Red Emperor, Black Morocco, Rose of Peru, Black Hamburg, Corinthian, Thompson Seedless, Tokay, Eastern Concord (Each 15e) (dozen $1.50).

CITRUS TREES

Luc Loeve Gong Orange .................. $2.00
Washington Navel .......................... 1.50
Valencia .................................... 1.50
Tangerine ................................... 2.50
Eureka Lemon ................................ 1.50
Pomelo (Marsh Seedless) ................. 2.00

BERRIES

Blackberries ................................. 50¢ each, 3 for $1.00.
     Mammoth, Himalayan, Cranwell's, (3 for 25e) (Per dozen 75c).
Raspberries ................................. 50¢ each, 3 for $1.00.
     St. Regis, Cuthbert, Surprise, Black-cap, (3 for 25c) (Per dozen 75c).
Dewberries ................................. 50¢ each, 3 for $1.00.
     Garden, Mortgage Lifter, (3 for 25c) (Per dozen 75c).
Phononinal Berry ......................... 50¢ each, 3 for $1.00.
     (3 for 25c) (Per dozen 75c).
Logan Berries .............................. 50¢ each, 3 for $1.00.
     (3 for 25c) (Per dozen 75c).

STRAWBERRIES

Northern Grown Plants

ETTERTSBERG NO. 90—(Per doz. 50¢) (50 plants 75¢) (100 plants $1.50) (1000 plants $12.00).
BANNER AND NEW OREGON—(50 plants 50¢) (100 plants 75¢) (1000 plants $1.00) (1000 plants $10.00).

Local Grown Plants

KLONDIKE AND BRANDYWINE—(50 plants 75¢) (100 plants 75¢) (1000 plants $7.00).
Ask for Flowering Plants—for Vegetable Plants see page 11.

Guava Strawberry (Per plant 25¢) (3 for 50¢. Felton Sellovania (25a. plant 75¢ each) (Seed, pkt. 15¢).
Lawn and Garden Requisites

On this page we can only hint at some of the lines we carry, trusting you will, if interested, write and inquire for more information. We carry a full line of Lawn Mowers, Garden Hoes, Pruning Knives, etc.

GARDEN TOOLS—See Pictures

No. 1. Water's Tree Pruner, 4 to 10 ft. $2.00 to $2.50.
No. 2. Pond's Handy Garden Tool, 55c. By mail 45c.
No. 3. Excelsior Weeder, 20c. By mail 30c.
No. 4. Tree Pruner, all sorts, from $1.25 to $3.00.
No. 5. Garden Trowels, all kinds, from 25c to 75c.
No. 6. Grass Hooks, or Sickers, 5c, 65c, 75c.
No. 7. Dibble, 75c. By mail 85c.
No. 8. Pruning Saws, double and single edge, $1.50.
No. 9. Havil's Weeder, 50c. By mail 60c.
No. 10. Hedge Pruners, $1.50 to $3.00 each.
No. 11. Pruning Shears, from 75c to $3.50 each.
No. 12. Scuffle Hoe, 8-in., 55c; 12-in. $1.35.
No. 13. Ohio Wire Rake, $1.25.
No. 14. Hoe and Rake combined, $1.00.
No. 15. All Steel Rake, $1.25.
No. 16. Warren Hoe, $1.25.
No. 17. Turf Edger, $1.00.
No. 18. Steel Spade, $1.50.
No. 19. Spading Fork, $1.50.
No. 20. Potato Hooks, $1.50 to $2.00.
No. 21. Garden Hoes, from 4 to 10 in., 75c to $1.25.
No. 22. Steel Shovels, $1.50 to $2.50 each.
No. 23. Manure Fork, $1.35, May Fork $1.75.

Halling Spades—$2.25.
Ladies' Garden Sets—Made of best material, Per Set $2.50.

LAWN MOWERS

Capitol Lawn Trimmer and Edger—Does what Lawn Mowers leave undone. Having one side without wheel, it can be run close to walls and trees, cutting grass clean and quick. Can also be used for trimming edges of walks, etc.; 4 steel blades, 3 in. wide. See No. 1. Price $10.00 complete.

Lawn Mowers—The following is a list of our high-grade ball-bearing Lawn Mowers. They are made of drop forged steel throughout and are very easy running machines. See Nos. 2 and 3.

Lassén—8-in. wheel—
14 inch .......................................... $9.50
16 inch .......................................... 10.00

Nenox—9-in. wheel—
14 inch .......................................... $10.50
16 inch .......................................... 11.00

Grass Catchers—14 and 16 inch galvanized iron bottoms, $1.50 each.

GARDEN HOSE

Owing to the general dissatisfaction of selling cheap and inferior hose, we have discarded all brands except those that have sold for a number of years and have proven satisfactory.

No. 4. A & M Moulded Hose is equal in quality to the highest priced grades and none is superior. ½ in. 15c; ¾ in. 18c; ¾ in. 25c.

Hose Washers, per doz. 20c postpaid.

No. 5. The Cooper Brass Hose Mender, 30c each prepaid.
No. 6. Brass Hose Couplings, ½ in. or ¾ in. Per pair 50c prepaid.

No. 12. Sprinkling Can, 6 qts. $1.50; 8 qts. $1.70; 10 qts. $1.90; 12 qts. $2.00. F.o.b. here.
No. 15. The Fountain Sprinkler, $1.50 prepaid.
Pennsylvania Fruit Picker

No ranch is completely equipped without this valuable tool. It is always the choicest fruit that cannot be reached from the ladder, you do not wish to knock it down with a club, as the fall would bruise it. Use the Fruit Picker and the fruit is caught in the pocket prepared for it. Every ranch that has half a dozen or more nut of walnut trees should have one or more. Pennsylvania Fruit Pickers. Price 50c. By mail 65c.

Asparagus Knife.—Price 50c, by mail 65c.

Asparagus Moss.—We always have on hand a large supply of moss for asparagus ships. Price on application.

CLAY FLOWER POTS

Flower Pots—(2 in. 25c doz.) (3 in. 35c doz.) (4 in. 50c doz.) (5 in. 75c doz.) (6 in. $1.00 doz.) (7 in. $1.25 doz.) (8 in. $1.75 doz.) 1 lb., here.

SEWING TWINE

No. 1—Per lb., $1.00; Bdl. 12 lbs., $11.40.

PARAFFINE PAPER

These Protectors are performed, giving a free circulation of air around the tree trunk. The Paraffine preserves the paper, making the Protector very durable. Will not split or tear.

<table>
<thead>
<tr>
<th>Size</th>
<th>Per 1000</th>
<th>Per 100</th>
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<tbody>
<tr>
<td>14 in.</td>
<td>30</td>
<td>$1.15</td>
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<tr>
<td>15 in.</td>
<td>125</td>
<td>1.30</td>
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<tr>
<td>18 in.</td>
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<td>24 in.</td>
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<tr>
<td>30 in.</td>
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<tr>
<td>36 in.</td>
<td>500</td>
<td>3.50</td>
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<tr>
<td>48 in.</td>
<td>1000</td>
<td>5.00</td>
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TREE LABELS—Copper wired and painted:

| 3 1/2 inch | 50c per 100 | $1.55 per 1000 |
| HANGING BASKETS—Tethered or plain:

| 7 inch | $0.25 | 10 inch | $0.25 |
| 8 inch | 0.35 | 11 inch | 0.50 |

All prices f.o.b. Los Angeles.

HANGING BASKETS—Wire:

| 10 inch | 0.90 | 12 inch | 1.25 |

All prices f.o.b. Los Angeles.

THE EXPAN PLANTING POT

Size | Price per 1000 | Price per 100 |
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<tbody>
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<tr>
<td>8 x 8</td>
<td>4.25</td>
<td>1.00</td>
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</tbody>
</table>

All prices f.o.b. Los Angeles.

RAFFIA. We have been unable to secure Raffia for the past year and as a substitute we are offering Argentin Fibre, which is very similar. Most gardeners are using this in preference to the tape. Price per lb. 50c.

GREEN MOSS—Per lb. 20c, bales $9.00, f.o.b. Los Angeles.

SPAGNUM MOSS—For packing plants, trees, asparagus, etc. Per bale $3.50.
Eureka Squirrel Exterminator

With the use of carbon bi-sulphide, this is the best and cheapest implement with which to eradicate the squirrel pests on your land. We can confidently recommend the use of this machine in vineyards, orchards, grain fields, pasture lands, etc. It is of simple construction, best galvanized sheet steel with bellows attached. The working of the bellows causes the carbon bi-sulphide in the machine to generate a gas, which is forced into the burrows of the squirrels, thus killing them instantly. The exterminator forces no liquid into the runs, only the gas, thereby saving 75% of the carbon bi-sulphide, over the old way of saturating balls of cloth or cotton. A colony of squirrels can soon destroy $50.00 worth of vegetation. Price $9.00. Weight, crated, 12 lbs.

Kester Automatic Vaporizer

For killing squirrels, gophers, etc. Safer and more efficient than poisons, traps, and all other methods combined. It works automatically, forcing distillate vapor, which is heavier than air, into the bottom of the burrows, the vapor is inhaled by the rodents and the young and old die in a few minutes. This machine has been tested and proven to be the most efficient and cheapest method of exterminating ground rodents. By the U. S. Health Service, S. A. San Francisco, Calif.; Los Angeles County Horticultural Commission; L. R. Alderman, Pasadena, Calif., professional pest destroyer, used six machines on 750 acres. These machines are guaranteed to do the work when the directions are carefully followed. Price $25.00 f. o. b. Los Angeles.


We carry a full line of repairs and nozzle for our pumps. When ordering pumps or sprayers, remember all prices are quoted F. O. B. Los Angeles.

AMERICAN BEAUTY DUSTER

The best dry powder duster on the market. For Orchard, Vineyard, Yard and Field. If interested write for circular.

Because of its bellows capacity, it can be used where no other knapsack sprayer could possibly reach.

Its spiral agitator and fine screens cause it to deliver a finer dust than any other machine, hence it is more thorough and economical.

It is built on correct principles and has been used under the most severe conditions with remarkable success.

Our hundreds of satisfied customers are our best advertisement.

Standard size, wt. 14 lbs., $18.00.

OUT-O-SIGHT MOLE TRAP

This trap has been in use for a number of years and is the most successful Mole Trap patented. It is placed over the runway in such a manner that it catches the mole if he travels in either direction. Price $1.15 by mail.

MACABEE GOPHER TRAP

This is the most convenient gopher trap yet manufactured. It is easy to set, small and can be extended far down into the hole. Price, postpaid, 35c.

BOX GOPHER TRAP. This trap is used extensively by Japanese and Russian gardeners. Is easy to set and sure. Price, by mail, 35c.

STEEL GAME TRAPS. All sizes. When ordering state what game you wish to catch. Prices, 25c.
When wanted by Mail, add postage. See inside front cover page.
We have enumerated only a few of the specialties we carry, and have always on hand a full line of garden tools of every description, and for every conceivable purpose. Ask for anything you may want in this line. We have it.

**Cahoon Seed Sower**
The standard Sower, acknowledged to be superior to all other hand sowers. Gives perfect satisfaction and can be used for sowing alfalfa and grains broadcast. Pows from four to eight acres per hour at a common walking gait. Saving of four-fifths of the labor and one-third of the seed by its use. A person entirely unaccustomed to sewing by hand can use this machine with perfect success.

**Cahoon Seeder**
Weight crated 8 lbs. Can be sent by mail.

**Black Hawk Corn Sheller**
Shells easily and rapidly separates the corn from the cob. We give it special recommendation to poultry men.

**Rittenhouse Seeder**
It has its right side convex in shape and rests nicely against the body just above the hip. The crank shaft being above the distributing wheel brings both hands to nearly a level and gives the operator the easiest position possible.

**Segement Corn Planter**
The lightest, most accurate, strongest, cheapest and most up-to-date Planter on the market. Never cracks a kernel but skips a hill. It is always in position, never makes a wrong move. Many gardeners are using this for their replanting, and melon growers are using it to plant watermelons and cantaloupes. (See picture.)

**Norcross** Cultivators Hoes & Weeder
The modern tools for garden and flowers.

Like the human hand, these tools cultivate closer to plants without injuring them, than any other implement known; leaving the soil level, loose and unprinted.
Cost but a trifle more than the common Hoe—accomplish much more and better work with less labor.

The sharp tapering shovels enter the soil freely, literally turning up every inch of it, from 1 to 6 inches deep as required.

**Informations**
Our Information Department Is Free To You
Correspondence School—Our Information Department is like a Correspondence School, except that it is all free to you and you are welcome. Read pages 4 and 5. Notice the Call Counter, and make use of it.

ATTENTION: We are clearing out our stock of Horse Cultivators. Call at our retail store, 529 Spring St., where you can purchase them at a real bargain.
SPRAYS FOR EVERY PURPOSE

Continuous Sprayer

This atomizer is what the name implies, by means of a small air chamber attached there is sufficient pressure to keep the spray continuous while the operator is making the back stroke of the arm, during which time other atomizers are at rest. Tin, prepaid $1.25; Brass, prepaid $1.75.

Diamond Bucket Spray Pump No. 32

Diamond Spray Pump—A pump that will spray whitewash or any other mixture. Made of solid brass, no leather valves to wear out or be eaten up by the whitewash. Throws a continuous spray and is so simple that a child can take it apart. The Pump shown on this page is almost entirely of the best grade of brass, hence it cannot be affected by the action of the whitewash or of any ordinary spraying solution. It is fitted with a Bordeaux Nozzle. Altogether it is the most durable and serviceable bucket pump made. Price—$3.75 each; Weight 10 lbs.

Diamond Bucket Spray Pump No. 29

This pump is provided with large double air chamber, enabling the operator to keep a constant pressure on the nozzle of from 50 to 100 pounds with very little exertion. Rapid pumping is not necessary. Used largely for spraying trees, shrubbery, vegetables, as well as for whitewashing, spraying disinfectants, washing wagons, windows, etc. Price—$3.75. Weight 7 lbs.

A & M Superior Utility Sprayer

This sprayer is made of heavy galvanized iron or brass, all seams sweated and riveted, tested at 95 lbs.; tank equipped with standard hose connections, capacity 3% gallons. The pump cylinder is made of heavy brass tubing, with bronze ball check valve contained within a thin brass cage, which does not deteriorate like rubber. The nozzle is made of brass and can be adjusted to be operated at any desired distance by three-eighths inch connecting rod. This sprayer is especially adapted for spraying trees, poultry houses, fruit-trees, barns, and vegetables of all kinds. By reason of the ball bearing check valve, any insecticide or acid may be used safely in this pump without danger to the valve. This pump is the dairymans friend. Packed in one box, shipping weight 10 lbs. Price: galvanized $6.75, brass $8.50.

Lowell Compressed Air Sprayer

Has stood the test, fifteen years. The tank is made of heavy steel or brass, holding three gallons. The discharge pipe extends down through the tank to the bottom of the solution. The pump is located on the outside of the tank and the valve does not come in contact with the insecticides or acid used in spraying. This is the all-purpose sprayer. Price: galvanized $8.00, Brass $10.00, Weight 20 lbs.

Perfection Compressed Air Sprayer

The tanks are made of heavier metal than has ever been used in sprayers of this kind, making the tank practically unbreakable. The pump is 1 1/2 inch seamless brass tubing with a brass valve, and is sealed into the top of the tank with heavy threads in following the construction used in the best makes of fire extinguishers. This Sprayer will handle Whitewash, Water Paints, Bordeaux Mixtures, etc., perfectly.

For whitewash and all heavy mixtures it is necessary to use a W. Valve Cap in nozzle, which is furnished with pumps. These sprayers are made in galvanized steel or brass as ordered. Weight, 9 pounds empty. All sprayers tested to 60 pounds before leaving factory. Weight, packed, 14 lbs. Galvanized Steel...$7.00 All Brass ...$8.00 Disks, 10c; Disk Valve, 25c; Ball, 25c; Top Gasket, 10c; Metal Disk in Pump, 5c.
"Ideal" Spraying Outfit

IDEAL NO. 31

This outfit has been designed to fill the requirements of the small gardener and fruit grower. It is light, compact and easy to operate. The tank holds fifteen gallons, is mounted so that the liquid will not spill or slop, and in a way that makes it easy to handle. The pump spreads across the top of the tank and is held in place by a thumb nut. It has the largest air chamber of any spray pump of corresponding size. The valves are bronze balls 5/8 inch in diameter, which allows free passage for the liquid and prevents clogging. Both valves are removable. A mechanical agitator keeps the liquid well stirred while the air tank has a diameter of ten inches, is twenty-four inches in length, heavy steel, all joints welded. Tested to 275 lbs. pressure, pressure gauge reading to 200 lbs. If pumping up 150 lbs. pressure, the machine will operate for five minutes without further pumping.

No. 30 Ideal.—The specifications for this machine are the same as No. 31, with the exception of the air tank. The large air chamber in the pump enables the operator to keep a uniform pressure on the nozzle. 150 lbs. pressure can easily be maintained. With each of these pumps are 10 ft. of 5/8 inch hose, one Ideal nozzle, 3 ft. pipe extension, fog nozzle and leakless shut-off.

Price—No. 31—$37.00. Wt. 50 lbs.
Price—No. 30—$26.50. Wt. 75 lbs.

The No. 25 "Yankee" Barrel Spray Pump

Made With Brass Nozzles, Brass Cylinder, Brass Ball Valves and Valve Seats

Quickly Attached to Any Barrel

The No. 25 "Yankee" double acting barrel spray pump for use with a barrel spraying outfit. All parts are submerged in the liquid, and therefore no priming is necessary. The suction barrel is made of heavy brass and all valves and valve seats are made of the best brass, ground together so that all parts are absolutely air-tight. These parts will not corrode or rust out, nor is any part of the pump affected by the strong mixtures.

The duplex agitator keeps the liquid stirred up and prevents the ingredients from settling to the bottom. The pump is regularly fitted with 5 feet of 3/4 inch rubber hose of A-1 quality, and Vermorel brass nozzle, from which any size spray or stream can be thrown. It is impossible to clog this nozzle, and it cannot get out of order.

Only very slow and easy pumping is necessary. The "Yankee" is used extensively for all spraying purposes, especially for orchards, vineyards, shrubbery, and for whitewashing hen houses, stables, fences, etc.

Price, complete, without barrel, $14.00. Wt. 42 lbs.

The No. 40 "Best" Barrel Spray Pump

Made With Brass Nozzles, Brass Cylinder, Brass Ball Valves and Valve Seats

Dimensions — Height over all, 12 ins.; boiler, 9 ins.; barrel, 12 ins.; cylinder diameter, 3 ins.; large; cylinder diameter, 2 1/2 ins.

The Plunger Packing is a specially prepared, treated canvas, that is proof against the ruinous effects of strong mixtures, which would destroy a leather packing. The brass cylinder and valve seats are made of the best brass, ground together so that all parts are air-tight. These parts will not corrode nor rust.

By removing two bolts, the valves are accessible, making it easy to quickly clean pump when necessary.

All parts are submerged in the liquid, and therefore no priming is necessary.

The pump has a duplex agitator which keeps the liquids thoroughly mixed. The air chamber is exceptionally large, making it easy to produce sufficient pressure for a continuous spray of great forces with slow pumping. The swing of the lever handle may be changed by simply removing and replacing a single bolt, thus varying the pump's capacity.

Price, complete, without barrel, $23.00. Wt. 60 lbs.

Wagon Spray Boom

This boom can be used with any good barrel pump, but gives the best satisfaction in connection with our No. 25 or No. 40. It is light, strong, and adjustable to every position. Will throw spray at any angle and can be folded so that you can drive thru narrow gates and can be set to spray between rows of grape vines, etc., two nozzles spraying to the right and two to the left. One barrel of liquid will cover three acres. A ten year old boy can operate it.

Price $11.00. Weight 25 lbs.

Insecticides See Pages 9 and 64.

The ever increasing inroads of insects and disease has rendered it necessary to get adequate sprayers to meet this necessity. Call and see our assortment; it is complete.

AGGELER & MUSHER SEED CO.

Wagon Spray Boom
PLANET JR. GARDEN TOOLS

Hand Cultivators and Seeders have become a garden necessity. One man with a hand cultivator can do the work of six men with the hoe, and do it easier. All are good, but some are more adaptable for all purposes. Space will not permit a detailed description of all the garden tools we offer, but a short reference to each will suffice to let you know what we have, and if interested, please write for special circular or detailed description of what you want.

No. 4, Planet Jr. Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

Price, complete, $29.25. Weight 50 lbs. As a Seeder only, $16.25. Holds 2½ qts. of seed, weight, 40 lbs.

This tool combines in a single convenient implement, a capital hill-dropping seeder, a continuous row seeder, an admirable single wheel hoe, an excellent furrower, a splendid wheel cultivator and a rapid and efficient wheel garden plow. As a Seeder the No. 4 is accurate, simple, durable, reliable and easy running, doing first-class work in every particular. Price, complete, $29.25.

No. 25—Price $23.75. Weight, packed, 61 lbs. Holds 2½ qts. of seed.

No. 36 Planet Jr. Single Wheel Hoe, Cultivator and Plow.

Single Wheel Hoes are lighter than the Double and do almost the same variety of work, but are used mostly between the rows. This Hoe is almost identical with No. 17, priced on next page. These Hoes have a variety of attachments which adapts them to any variety of garden culture.

No. 36, Price $12.60. Weight, packed, 20 lbs.

No. 14 Planet Jr. Double Wheel Disc Hoe

This new tool will give excellent satisfaction; is especially pleasing to all who have the plow, and all others who require a tool for covering seeds of equal size. Price, complete, $12.90.

No. 6 Planet Jr. Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow. Price, complete, $26.75. Weight, packed, 63 lbs. As a Seeder only, $25.50.

This is our latest Combined Hill and Drill Seeder and Wheel Hoe, and, after three years' gratifying use in the field, every detail has been perfected.

What It Will Do.—It drops all garden seeds in hills and sows in drills, with the greatest regularity, in a narrow line, to any exact depth required, covers, rolls down and marks the next row, all at one passage. As a wheel hoe, it hoes practically all garden crops, completing a row at every passage, up to 16 inches in width.

Planet Junior No. 31

The No. 31 is a New Planet Jr. Combined Seeder and Wheel Hoe designed for small gardeners. It combines a thoroughly reliable seeder that will sow all garden seeds from the smallest up to peas and beans with a first-class light running Wheel-Hoe. A practical tool for a man, the growing boy or for the woman who delights in having a good garden but who has little time to spend in it.

No. 20 Planet J. Fertilizer, Pea and Bean Seeder

Price Complete, $35.50. Packed weight, complete, 63 lbs.
IRON AGE IMPLEMENTS

The Iron Age Cultivators and Drills have been on the market for twenty years. They are made of the best material, well put together, and rightly designed for everyday use. The wheels are larger than other hand tools, making them easier to run. The Seed Drills may be changed on Double Wheeled Hoe very quickly.

No. 6.—Combined in this tool are three different and thoroughly practical implements, a Hill and Drill Seeder, a Double Wheel Hoe and a Single Wheel Hoe. As a Hill and Drill Seeder, packed weight, 57 pounds. Price $20.00.

No. 10—To meet a demand coming from some sections for a Weed Plow and Cultivator equipped with a higher wheel than anything we have previously offered, we designed our No. 19 "Iron Age" Wheel Plow and Cultivator. In doing so it will be noticed we have kept in mind those excellent features which have made our whole line of "Iron Age" Garden Implements so popular, that is, lightness combined with strength.


Bacon Hand Drill

The feed, while simple, handles a very large variety of seed, getting an even distribution that is unequalled, and very noticeable in sowing Salaline, Parnsip, Prickly Spinach, Peas, Beet, etc., getting even weight, lightness and strength. The feed will also handle Phosphates, which can be sown before or after seeding. The Drills have a Shoe Opener, which deposits seed in a narrow line, allowing close cultivation, saving hand labor. No. 10—Hill and Drill Seeders, $10.00.

EXTRA PARTS FOR PLANET JR. TOOLS

We carry a full line of extras. When in need of any, write us describing the part wanted as accurately as you can, giving the number of the casting, or send a picture or pencil drawing.

GARDEN TOOLS FOR EVERY PURPOSE

Our line of tools is very complete. It is hardly possible you could wish for anything we do not have. We have added some low priced drills and cultivators, not because they are inferior, but they are built for the small gardener who has little use for a drill, but cannot get along without one.

THE COLUMBIA MACHINES
Write for Circular

The Greatest Seeding Machines in the World

They sow any kind of seed, large or small. They are all A POSITIVE FORCED FEED. Every seed is carried to the ground and covered; not a seed can escape, and not a seed can pass through the machine nor escape to the ground until the machine is in gear and moves forward and is ready to do its work; nor can a seed be shaken out or get to the ground when the machine is out of gear. A very important advantage possessed by no other planter. They are the simplest of all planting machines: the most certain and most complete planters in the world. WONDERFUL LITTLE MACHINES; plant all kinds of seeds, from the smallest to the largest.

The Columbia Hand Planter No. 10

You can plant from one inch apart to ninety-six inches apart by the simple manipulation of the disk wheel and the cylinders. With this drill you can sow any seed in any quantity any distance apart up to eight feet. It will sow your pepper, tomato, and any other crops in the field that now must be done by transplanting. It is a universal planter because there is nothing in the seed line from the size of lima beans to turnip seed that it will not plant. With special apparatus it will plant shelled peanuts without crushing the seed. For hand planter, Price $20.00. Weight 85 pounds.

Columbia Hand Planter No. 11—Same as No. 10 with the addition of the Fertilizer Attachment. Price $25.00.

COLUMBIA PLANTER WITH HORSE ATTACHMENT

Just the seeder for large gardeners. It does the work as perfectly and as economically as the hand planter. It is heavier than the hand planter, and fitted with a single-tree attachment and extra large adjustable hopper. Weight packed for shipment 100 pounds. Price, complete, $30.00 f. o. b. here.

We designed to have 2,000 cylinders for every kind of seed. When ordering special cylinders, consult your circular, that you may get the one you need.

PLANET JR. TOOLS

Space does not permit us to show all the tools we handle. Following is a list of both hand and horse tools which we carry:

Hand Tools

<table>
<thead>
<tr>
<th>No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>$11.25</td>
</tr>
<tr>
<td>17</td>
<td>9.75</td>
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<tr>
<td>12</td>
<td>13.25</td>
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</tbody>
</table>

Horse Tools

<table>
<thead>
<tr>
<th>No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>100D</td>
<td>$12.25</td>
</tr>
<tr>
<td>107D</td>
<td>$14.25</td>
</tr>
<tr>
<td>107F</td>
<td>$14.75</td>
</tr>
</tbody>
</table>

We have a few other 5 and 7 tooth cultivators which we can offer very reasonable.

Hatch Your Chicks by Electricity


NOTICE! NOTICE! NOTICE!

We aim to list in this catalog our leaders in every line, too numerous to mention. Therefore we request that should you desire anything pertaining to agriculture write us about it. If we do not have it, we will be accommodating and get it for you. Consider us your friend and make use of us.

We have aimed to make of this catalog a reliable guide for farmers and gardeners. Therefore every picture is from an actual photograph and every description is without exaggeration.
JUBILEE INCUBATORS and BROODERS

JUBILEE INCUBATOR

The Jubilee Regulator is the most simple, the most sensitive and the most durable of any regulator in existence. It will not stick, as there are no joints to catch; plays perfectly free, and when the heat of the egg chamber reaches the degree to which it is regulated the expansion of the regulator causes a balance valve to raise off the escape flue. This allows the heat direct escape, the circulation is retarded, and the radiation of the heat in the egg chamber is decreased—all this allows just sufficient heat radiated from the pipes to keep the temperature of the egg chamber to the desired degree.

The Jubilee system of applying moisture is the most perfect ever devised. The boiler chamber is provided with a special moisture pan, which derives its heat from the Jubilee boiler, the boiler chamber enclosed. By means of a feed cap and a draw-off, or in five minutes' time increase the moisture to saturation, and more important still, all this is accomplished without opening the door of the egg chamber or exposing the eggs.

JUBILEE HOVER

ECONOMY HOVER

CONSTRUCTION

In construction the Economy Brooder Hover is very simple, as shown by the cuts. It is made of steel throughout, and all parts are seamed or welded together, strong and durable. It is compact, light and all in one piece, so that it can be conveniently lifted by the two handles and moved from one place to another without disturbing the lamp.

Safety, Convenience and Economy

The lamp, slide and lamp box form a very convenient combination; and one which is doubly safe as the lamp has an O. K. Safety Burner, and the lamp box is fireproof. The Economy Hover can be used anywhere with perfect safety and only a very small flame is required to keep up the temperature, as the lamp is inside, and no heat is lost. The lamp box is held securely in the same slide and the slide is an accurate fit in the lamp box, so that no adjustment of the lamp is necessary—simply push the slide in as far as it will go.

The No. 1 Economy Hover has a heating drum 18 inches in diameter. Price $8.50.
No. 2 Hover has a 22-inch drum. Price $11.50.

THE OAKES ELECTRIC HOVER

The Oakes Electric Hover is made on the same general principles and of the same high-grade material as the Oakes Electric Incubator and has a very sensitive and accurate regulator equipped with platinum contact points. It is 32 inches in diameter and has a heavy double curtain attached with large eyelets and hooks.

The Oakes Electric Hover will give you the best results with the least possible care and trouble. The Hover is also made in the 22-volt and 110-volt.

PRICE LIST

Hover without cage ............................$15.00
Shipping weight, about 30 lbs.
Prices do not include postage, express or freight.

SPECIAL OFFER
WHILE THEY LAST

<table>
<thead>
<tr>
<th>Eggs</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>$10</td>
</tr>
<tr>
<td>12</td>
<td>$10</td>
</tr>
<tr>
<td>25</td>
<td>$10</td>
</tr>
</tbody>
</table>

This company, that has always given the breeder more than value asked, made on an advanced principle, and backed by a reputation as a hatchery, poultry raisers absolutely take no chances when they select this low-priced little machine. It excels all other similar hot-air machines in appearance, durability, quality of heating equipment, method of construction.
INCUBATORS AND BROODERS (Continued)

THE LOS ANGELES BROODER HEATER

Many manufacturers have attempted to meet the demand for a successful brooder and brooder house heating system. Many of these attempts have been unsuccessful.

The Heater is made of heavy rolled copper, including 16 half-inch brass tubes, giving very large heating surface, and is almost indestructible under ordinary conditions. The heat comes from a gasoline burner, which checks the flow of gasoline a tonce in case of fire.

The regular size is .......................................................... $20.00
Oblong Boiler ..................................................................... 25.00
Including two burners.

INCUBATOR AND BROODER SUPPLIES

| Lamp Points for Incubators, No. 1, 50¢ each. | $1.75 |
| Lamp Points for Incubators, No. 2, 60¢ each. | $2.00 |
| Lamp Points for Incubators, No. 3, 75¢ each. | $2.50 |
| Burners, for Incubators, Sun-hinged, No. 2, 35¢ each. | $3.00 |
| Burners, for Incubators, Sun-hinged, No. 3, 40¢ each. | $3.50 |
| Lamp Wicks, all sizes, 15¢ per dozen. | $5.00 |
| Egg Testers, 1ln. 30¢ each. | $5.00 |

JUBILEE INCUBATOR AND BROODER SUPPLY 11-1

In keeping with our advanced ideas in the field of artificial incubation we were the first to introduce a real practical electric incubator. One that does not require an electrician to operate it, that is simple enough for any person to understand. One that is unique in construction, safe, reliable, and using but a small amount of current. One that controls the heat perfectly and will not get out of order. One of very few parts and very simple mechanism, and will hatch any thing that can be hatched.

PETALUMA ELECTRIC INCUERATORS

PETALUMA INCUBATORS AND BROODERS

PETALUMA ELECTRIC BROODERS

For 2-section In-Door Brooder. ........................................... $10.00
For 3-section In-Door Brooder. ........................................... 11.00
For 4-section In-Door Brooder. ........................................... 12.00

Send for catalog on Electric Incubators and Brooders.
GRINDING MILLS

The Arcade is easy to adjust for grinding all sizes from very coarse to very fine. If you prefer, the ground grain can be sifted to remove the hulls. Also it saves money for you. When you figure it out, home ground flour or meat costs about one-fourth what the mill product costs. The Arcade pays for itself in a few weeks.

Growth and
drunk. We talk about the same kind of old-fashioned flour that the Arcade does. Price $4.50. Weight 10 lbs.

MANN'S NO. 7

The New No. 7 is mounted on a strong iron stand, and has patent automatic governing spring feed. Large, open-hinged cylinder, giving instant access to all working parts, has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut.)

Price List of Mann's Bone Cutters

No. 51 (with balance wheel) Price $12.50, wt. 55 lbs.
No. 7 (B. W. and iron stand) Price $23.50, wt. 106 lbs.
No. 7 1/2 (hand power) Price $25.00, wt. 165 lbs.
No. 9 (B. W. and iron stand) Price $25.00, wt. 163 lbs.
No. 11 (power machine) Price $48.50, wt. 213 lbs.
No. 12 (Power machine) Price $83.00, wt. 560 lbs.

CLOVER CUTTERS

MANN'S CLOVER CUTTER

Made entirely of iron and steel. It cuts any kind of hay or clover, either dry or green. Each revolution of the balance-wheel produces 12 cuts. Price $2.75, wt. 7 lbs. With Stand $21.70. Without Stand $18.70.

GEM CLOVER CUTTER

This machine is built of steel and iron throughout, and absolutely the best cutter for small poultry-men, cutting in lengths of 1/8 inch. Price $18.00, wt. 7 lbs. With Stand $16.50, wt. 9 lbs.

NEW MODEL

The “New Model” Clover Cutter is designed for cutting, either green or dry, such growths as clover, alfalfa, spring and fall grass, swedes, turnips, beet tops, etc., into eighth-inch lengths.

These growths are the cheapest and most productive, eg., forming poultry foods for cold weather. Price $17.50.

GENEVA FEED CUTTER

No. 6

This size has two nine inch knives and is intended for hand use only, but can be fitted for power also. It has ample size and capacity to accommodate any ranch from 1,000 to 10,000 hens. It will cut 5/4 inch to 1/2 inch. The change is very simple and easily made. It is extremely light running and will cut any kind of feed. In material and beauty of finish it is all the most critical coal will ask. Price $35.00, f. o. b. Los Angeles, WG. 250 lbs.

No. 8 Price $45.00. Wt. 740 lbs.
FEEDING PANS AND DRINKING FOUNTS

Made of heavily galvanized iron. Best of workmanship. Very sanitary and easily cleaned. Chicks cannot get into them or upset them.

1 pt. size, Wt. 1 lb. ... 20c each
1 qt. size, Wt. 1½ lbs. ... 30c each
2 qt. size, Wt. 3 lbs. ... 40c each
4 qt. size, Wt. 2 lbs. ... 50c each
8 qt. size, Wt. 2½ lbs. ... 60c each
F. O. B. Los Angeles

FLAT BACK WALL CHICKEN FOUNT

This fount can be used very conveniently for Pigeons, Chickens, Ducks and other poultry. Well made of heavy galvanized iron. To hang on the wall at any convenient height from the ground.

1 qt. size, Weight ½ lb. ... 25c each
2 qt. size, Weight 1 lb. ... 35c each
1 gal. size, Weight 1½ lbs. ... 55c each
2 gal. size, Weight 3 lbs. ... 85c each
F. O. B. Los Angeles

SANITARY STONE FOUNTS

This Star Fount is made especially for baby chicks. So arranged they cannot get into the water. Made of aluminum and will last for years. Best and cheapest fount on the market. Price 20c.

1 qt. 35c Wt. 4 lbs.
2 qt. 45c Wt. 6 lbs.
1 gal. 60c Wt. 7½ lbs.
2 gal. 90c Wt. 13½ lbs.

If ordering by mail or express add 2½c for packing charges for one or more fountains.
F. O. B. Los Angeles

WALL PANS

Used for all kinds of grain, cannot waste the feed. Price

(15 in. 3 compartment, 50c). Wt. 1 lb. F. O. B. here
(18 in. 4 compartment, 75c). Wt. 1½ lbs. F. O. B. here

Plugged Edge Feeders. These are made of stoneware and glazed with a flanged edge for feeding rolled barley. The flanged edge prevents rabbit from throwing out the grain and wasting it. Comes in white, glazed.

Rabbit Compartment Wall Pans

No. 1. 15c each, 3 for 35c, 1 dozen, $1.50. Weight 1 lb. each
No. 2. 20c each, 1 dozen, $2.00. Weight 2½ lbs. each
No. 3. 25c each, 1 dozen, $2.40. Weight 1½ lbs. each
No. 4. 30c each, 1 dozen, $3.00. Weight 4 lbs. each
If ordering by mail or express add 25c to order for packing, etc.

RABBIT DRINKING FOUNTAIN

These fountains are made especially strong and durable for rabbits. The wide bottom prevents them turning over. Not broken easily.

Rabbit Drinking Fountains

1 pt. 15c each, 3 for 35c; per dozen, $1.50. Weight 1 lb. each
1 qt. 15c each; per dozen, $1.45. Weight 2 lbs. each
½ gallon, 20c each; per dozen, $2.00. Weight 4 lbs. each
1 gallon, 30c each; per dozen, $3.00. Weight 9½ lbs. each
F. O. B. Los Angeles
If ordering by mail or express add 25c to order for packing.

PERFECTION

Automatic Baby Chick Fountain

This Fountain is automatic in arrangement, and can be adjusted at will for any water pressure. It is the most modern and complete Fountain ever offered to the poultry people, and is the result of several years experimenting.

The Perfection is made in three sizes (14-in. $1.75) (20-in. $1.95) (30-in. $2.75). Order 150 and 500.

PIGEON NESTS

Fills a long-felt want for all squab breeders. Wood gets filthy and vermin laden in a very short time. Iron or earthen-ware is cold and bad for the birds.

Indurated Fibre is lighter than wood, will not warp or break, has a brown finish (not polished), which makes it easy to clean. Impervious to vermin or moisture and is a non-conductor of either heat or cold. A money-saver, and will increase the hatch. Sanitary, handsome, practically indestructible and cheap. Has hole in bottom for screw to hold nest firm and steady. Price 15c each.

AUTOMATIC WATER BOY

Water Boy consists of brass valve and stem. No fiber, leather or springs to get out of order. All floats are of metal and will last a long time. Every one guaranteed. Price with metal float, $1.00. In one dozen lots 90c ea.
F. O. B. Los Angeles

Weight ½ lb.

R.S. POULCHUS, MFR. BURBANK, CAL.
EGG BOXES AND SHIPPING BOXES

This Self-Locking Carton holds 2 rows of 6 eggs each and will pack in a standard egg case of 30 dozen. It is always ready to hand out, thus saving handling.

<table>
<thead>
<tr>
<th>Description</th>
<th>Wt.</th>
<th>Price per dozen</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Boxes</td>
<td>2 lbs.</td>
<td>$ .25</td>
</tr>
<tr>
<td>25 Boxes</td>
<td>3 lbs.</td>
<td>$ .40</td>
</tr>
<tr>
<td>50 Boxes</td>
<td>7 lbs.</td>
<td>$ .75</td>
</tr>
<tr>
<td>100 Boxes</td>
<td>14 lbs.</td>
<td>$ 1.50</td>
</tr>
<tr>
<td>500 Boxes</td>
<td>70 lbs.</td>
<td>$ 5.50</td>
</tr>
<tr>
<td>1000 Boxes</td>
<td>140 lbs.</td>
<td>$10.50</td>
</tr>
</tbody>
</table>

Any of these articles ordered by Parcel Post add postage.

F. O. B. Los Angeles

A. & M. IDEAL EGG BOX

This carton holds one dozen of 3 eggs wide by 4 eggs long, and are used by grocers who do not pack in cases. Prices are as follows:

<table>
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<tr>
<th>Description</th>
<th>Wt.</th>
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</thead>
<tbody>
<tr>
<td>12 Boxes</td>
<td>2 lbs.</td>
<td>$ .29</td>
</tr>
<tr>
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<td>4 lbs.</td>
<td>$ .40</td>
</tr>
<tr>
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<td>7 lbs.</td>
<td>$ .75</td>
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<tr>
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</tr>
</tbody>
</table>

F. O. B. Los Angeles

A. & M. SUPERIOR EGG BOX

This carton is 2 eggs wide by 6 eggs long, painted with plain color inside. Strong and durable.

<table>
<thead>
<tr>
<th>Description</th>
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</tr>
<tr>
<td>1000 Boxes</td>
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</tr>
</tbody>
</table>

F. O. B. Los Angeles

WALLACE EGG BOX

It is the one carrier that will safely deliver the goods irrespective of jars, jolts, or pressure coming from any angle. When the carrier is packed for shipment you can stand on top, bottom, ends, or sides without its buckling or crushing.

<table>
<thead>
<tr>
<th>Description</th>
<th>Price per dozen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Doz. Size, .45 each</td>
<td>$1.25</td>
</tr>
<tr>
<td>2 Doz. Size, .20 each</td>
<td>$1.50</td>
</tr>
<tr>
<td>3 Doz. Size, .15 each</td>
<td>$2.20</td>
</tr>
<tr>
<td>4 Doz. Size, .10 each</td>
<td>$2.50</td>
</tr>
<tr>
<td>5 Doz. Size, .07 each</td>
<td>$3.00</td>
</tr>
<tr>
<td>6 Doz. Size, .05 each</td>
<td>$4.50</td>
</tr>
<tr>
<td>7 Doz. Size, .03 each</td>
<td>$6.00</td>
</tr>
<tr>
<td>15 Doz. Size, .02 each</td>
<td>$9.00</td>
</tr>
</tbody>
</table>

F. O. B. Los Angeles

GILT EDGE EGG SCALE

Is the only Egg Scale made that will give the correct grading within a range of 17 to 30 ounces to the dozen. Standards of eggs as follows: No. 1 Pullet, 20 to 22 oz.; No. 2 Pullet, 19 to 20 oz. Price $1.25 postpaid $1.25.

Thoroughbred Rhode Island Red Eggs, $1.50 per setting.

LEG BANDS FOR POULTRY

Spiral Leg Bands are made in six colors and all sizes, and are put on and taken off like a key ring. Can't drop off, too. Colors are black, white, yellow, blue, green, purple, light blue, maroon and pink. In ordering please state color wanted, also name of breed, Leghorn, Rocks, Rhode Island Reds or Turkeys. It enables us to fill the order satisfactorily.

<table>
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</tbody>
</table>

CLIMAX EGGBAND

This Band is easy to put on or remove, no tools required. The rings are made of spring brass, and so bent that the tag acts as a clasp holding them securely in place. Made in three sizes, in ordering always mention the variety of fowl wanted for. Prices (15e for 12) (25c for 25) (50c for 50) (75e for 100) postpaid.

MOE'S SELF-LOCKING LEG BAND

Locked Simply by Pushing it Together. Please order by breed and whether male or female.

<table>
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<tr>
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<td>12 Bands</td>
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</tbody>
</table>

FLAT ALUMINUM LEG BAND

These bands fit any variety of fowls.

<table>
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</table>

SMITH SEALED BANDS

Smith Sealed Bands were put on the market for a purpose. That purpose was to prevent dishonesty in the handling of scored birds and to protect the purchaser of same. Price—(1 for 25e) (25 for 50c) (50 for 85c) (100 for $1.50) postpaid.

SPATZ PIGEON BANDS

The Easy-On Color Band.—The new, up-to-date Easy-On Color Band is the simplest, cheapest and easiest to apply band on the market. Made from the best celluloid and aluminum it will give long service. With a little care it can be taken off and used several times. Price—(5e for 10) (25c for 25) (50c for 50) (75c for 100) postpaid.

WIRE SHIPPING COOP

This Steel Wire Shipping Coop is made from the 1/4-inch steel wire electrically galvanized, has no loose joints, is very light and handy to use. It has a sliding gate at top where birds are put in. Has strong hardwood bottom floor, wired on front, and in fact contains just what any poultry dealer would want to ship chickens in. It is almost indestructible, being made so strong and on account of being so light cost but little freight or express. They last for years.

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Doz. Size, 20 lbs.</td>
<td>$3.55</td>
</tr>
<tr>
<td>2 Doz. Size, 20 lbs.</td>
<td>$4.50</td>
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</tbody>
</table>

F. O. B. Los Angeles

620 SOUTH SPRING STREET, LOS ANGELES
**Double Chick Feeder**

**Single Chick Feeder**

**DUCK TROUGHS**

The bottom of the trough being round in shape, makes it superior to all others, as it can be easily cleaned and prevents food from becoming stale in corners. The grate slide is a feature not to be found in any other feed trough. Price 10 in. 40c, weight 2 lbs.; 20 inch 50c, weight 3 lbs., f.o.b. Los Angeles.

**DRY FEED TROUGH**

This galvanized iron dry mash feeder has no seams or crevices to allow feed to lodge and sour. It is easily washed and kept clean. Poultry can feed on both sides. It has a sharp partition through the center, preventing birds from fouling and getting into the feed.

(18-inch, 2 lbs., 75c) (24-inch, 3 lbs., 85c) f.o.b. Los Angeles.

**ROUND BOTTOM DRY FOOD HOPPER**

With two apartments. Will feed dry meal on beef scraps and not clog. Price 85c. Wt. 5 lbs., f. o. b. Los Angeles.

**Round Bottom Dry Mash Hopper**

Is made of heavy galvanized iron 21 inches long and 20 inches high. Has a screen front so the chicks can get the dry mash and not waste. It is the best dry mash feeder on the market. Can be hung on the fence or shed free from dirt and with the covers rain can not get into the feed.

Price, 18-inch, $2.25, wt. 8 lbs.; 24-inch, $2.95, wt. 10 lbs., f. o. b. Los Angeles.

**GREAT WESTERN DRY MASH FEEDER**

This feeder comes in three sizes: 18, 24, and 30. Made of heavy iron. Price—18 in. $1.75, wt. 7 lbs.; 24 in. $2.95, wt. 9 lbs.; 30 in. $2.25, wt. 10 lbs., f. o. b. Los Angeles.

**Pettey's Poultry Punch**

One of the most convenient punches made. It is small and easy to operate, cutting a clean hole every time. Price, 20c; postpaid 25c.

**Easy Poultry Punch**

Made of brass, so simple in construction any one can use this punch with ease. Price, 35c, postpaid.

**INOCULATOR AND BROODER THERMOMETERS**

Many persons using Incubators and Brooders fail to understand the importance of having a thoroughly tested and reliable thermometer. Many a fine hatch is lost, and many a fine brood of chicks killed by using a poor thermometer. Use great care in purchasing a perfect thermometer. Our thermometers are thoroughly tested and accurate.

Our Brooder Thermometers are in two styles, half-round and flat. Made by Tycos Co., and guaranteed correct. Price of the half round Brooder Thermometer, packed, 75c, postpaid.

No. 2—8c

No. 3—8c

No. 4—8c

**MOISTURE REQUIREMENTS**

The amount of moisture required, during the period of incubation, varies from 65 per cent to 53 per cent. For the convenience of our friends and patrons we give the following table of the percentage of moisture best adapted to each week of incubation:

- **First week** there should be about 65 per cent of moisture;
- **Second week** there should be about 60 per cent of moisture;
- **Third week** there should be about 55 per cent of moisture;
- **At the time of hatching**, about 50 per cent of moisture.

Price, $2.00, postpaid.
POULTRY INSTRUMENTS

CAPONIZING SET
This set is one of the latest design. It is a combination of tools that can be used with one hand and seldom causes the operator to slip and cause the loss of the bird. Price, complete in case, $3.50, prepaid.

SPECIAL CAPONIZING SET
Price, complete in oak case, prepaid, $4.00.

This set contains the latest patented extractor. The operation can be easily done by any beginner, without much loss. Complete instructions with each set.

Pilling Angular Killing Knife
By simply turning the wrist the jugular vein and spinal cord are cut, thereby bleeding the fowl, allowing the feathers to be removed without using water. 50c, postpaid.

Pilling French Country Killing Knife
Every poultry raiser should have one of our Killing Knives. They are made of a finely tempered instrument steel with nickeled handle; will last a lifetime. Send postpaid on receipt of 50 cents. Don't wait! send for one now! Sent securely packed by mail on receipt of price.

METAL NEST
Single $1.50; 2 compartment $2.00
Wt. 7 lbs.; 3 compartment $2.50.
Wt. 9 lbs. F.O.B. Los Angeles.

Thoroughbred Rhode Island Red Eggs, $1.50 per Setting.

COVERED TOP METAL NEST
Made single only.
Best of iron. $2.00 each.
Wt. 5 lbs., f.o.b. Los Angeles. Add postage, etc.

Any of the following articles ordered by Parcel Post add postage.

HUMPTY-DUMPTY EGG CARRIER
One of the handiest egg carriers on the market. This carrier will hold twelve (12) dozen eggs. Can be folded flat for shipment, and is made of strong but light wooden slats fastened with strong steel wires. Very handy and something every poultryman should have. Price, 90c each, f.o.b. Los Angeles. Weight 6 lbs.

A & M LICE KILLING NEST EGGS
Our Lice Killing Nest Eggs are almost an exact imitation of the real chicken eggs, and contain a powerful disinfectant which is guaranteed to expel lice and vermin. Put up in boxes of one dozen each, at 75c. Weight 2 lbs.

CHINA NEST EGGS
We handle only the best grade of glass eggs, strong and durable. 2 for 5c; 25c dozen. Postpaid, 35c.

Warner Junior Poultry Fencing
Warner Junior Poultry Fence is made of No. 18 galvanized wire with No. 14 wire top and bottom, stay wires placed 4½ inches apart. At the bottom of the fence mesh is 1½ inch and gradually widens as the top is reached.

THE WARNER JUNIOR POULTRY FENCE
Put up in 10 rod rolls.
3 ft. wide, per roll.......................... $5.25
4 ft. wide, per roll.......................... 5.85
5 ft. wide, per roll.......................... 6.50
6 ft. wide, per roll.......................... 7.00

Subject to market fluctuations.

Jersey Poultry Fencing
This wire is made of the full 20 gauge hand drawn steel wire galvanized after weaving. Each roll contains 150 running feet.

On account of great changes in Galvanized Wire we are unable to quote prices. But will be pleased to quote you prices on all sizes on application.

We carry the following sizes:
1 ft. 2 inch mesh. 1 ft. 1 inch mesh.
1½ ft. 2 inch mesh. 1½ ft. 1 inch mesh.
2 ft. 2 inch mesh. 2 ft. 1 inch mesh.
3 ft. 2 inch mesh. 3 ft. 1 inch mesh.
4 ft. 2 inch mesh. 4 ft. 1 inch mesh.
5 ft. 2 inch mesh. 5 ft. 1 inch mesh.
6 ft. 2 inch mesh. 6 ft. 1 inch mesh.
Phenola is a disinfectant white paint, made in powdered form. It cannot be compared with either whitewash or kalsomine. It will outlaw them as a white paint and at the same time disinfect the surface to which it is applied.

Phenola does not peel off or crack. It is especially prepared for use in poultry houses, stables, cow barns, milk houses, and factories. It is also adapted for use in dairies and creameries, as it will not taint butter or milk.

Direction for using: Either hot or cold water may be used. For general work we recommend one to two pounds of Phenola to each gallon of water. Thoroughly mix and apply with brush or spray.

Price—
1-Ib. packages........ $ .30 each
5-10 lbs. packages.... $ .25 each
10-Ib. packages........ $ .22 each
25-Ib. packages........ $ .18 each
All above 1.00, Los Angeles.

### CONDIMENTS

- Mustard—Ground........... Per lb. $ .30c
- Ginger—Ground........... Per lb. $ .25c
- Pepper—Chili, ground.... Per lb. $ .10c
- Pepper—Seed for poultry Per lb. $ .20c
- Salt—Rock................ Per lb. $ .10c
- Salt—Leslie’s Lye........ Per Brick $ .03c
- Salt—Leslie’s Brick—Plain (8 lbs.) Per Brick $ .05c

### PACKAGE GOODS

- Blood Meal................ $ .25e pkg.
- Charcoal—Lined........... $ .15e pkg.
- Hydrated Lime............ $ .15e pkg.

Pratt Food Co. Stock and Poultry Remedies

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<td>Bag Ointment</td>
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<td>Bag Ointment</td>
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<td>Condition Powder, Pails, 18 lbs.</td>
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<tr>
<td>Dip and Disinfectant, 100 gal.</td>
<td>$100.50</td>
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</table>

### Barnes’ Rabbit Remedies

We are pleased to offer our patrons this year the Barnes’ Rabbit Remedies. After careful research and investigation, we have found the most reliable and efficient rabbit remedies. They are made from California herbs and are formulated after careful clinical research. The raiser of rabbits should use the Poultry Panacea, for it is not alone a very nutritious food but prevents many ailments. The prices of the Barnes Remedies are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Anti-Canker</td>
<td>$ .50</td>
</tr>
<tr>
<td>Barnes Anti-Slobber</td>
<td>$ .50</td>
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<tr>
<td>Barnes Anti-Diarrhoea</td>
<td>$ .50</td>
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<tr>
<td>Barnes Anti-Canker</td>
<td>$1.00</td>
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<td>Barnes Anti-Slobber</td>
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### INFORMATION

This catalog describes approximately two thousand items segregated as follows:

- Disinfectants and types of vegetables
- 100 Different Field Crops
- 600 Types of Flowers
- 100 Poultry Requisites
- 1000 Questions answered

Much space throughout the book is given to general information on agriculture which is reliable.

Although this book is reviewed twelve times before going to press, some errors will appear.
READ

The items advertised on this page came to our attention too late to be properly classified. We considered them too important to be omitted. We have tried each one and give our personal indorsement of their merits.

The Egyptian Brand of Insect Powder is the best all round insecticide we know of. The Fleming Egg Preserver has been tried by us and has proven all that is claimed for it. It is more convenient and a better preserver than water glass.

Devonshire's Earth Salts has brought so many favorable testimonials that we sincerely indorse it.

Insect and Disinfecting Powder
EGYPTIAN BRAND
Guaranteed Harmless
Has No Equal for Exterminating Ants, Fleas, Moths, Bedbugs and Roaches

POULTRYMAN'S FRIEND
For Disinfecting Chicken Houses and Exterminating Chicken Lice and Mites.

FOR PLANTS AND VEGETABLES
Sprinkle Powder on Plants—You will not be troubled with Slugs, Snails or Parasites of any kind.

INSTANTANEOUS DISINFECTANT
For Sinks, Bathrooms, Cesspools, Etc.

FUMICATING
Burn Powder—A Tablespoonful being usually sufficient.

CONTAINS CREOSOTE, DISTILLATE, CRUDE OIL, SULPHUR, INERT MATERIAL
Manufactured by
MARS L & YOUNG

Directions—For Bed Bugs: Blow the powder around the beds and slats. It kills the Bugs, Eggs and Germs.
For Chicken Lice and Mites: Dust it around nests, roosts and on the chickens.
For Roup, Cholera and Worms: One tablespoonful to one gallon of water or in the feed to 12 chickens.
For Sorehead and Scaly Legs: Mix with water and apply. For Roaches, Ants, Fleas and Moths: Use powder dry.
Per 1-lb. pkg. 35c prepaid.

ALASKA WHEAT
The Wheat for Enormous Yield
The Wheat for Poultrymen

Single heads have contained more than 150 grains of a large size. On the Spangler Brothers' ranch at E, Bakersfield, one head of 153 grains produced seven pounds of seed. Seven pounds of seed produced 1180 lbs. which matured in the hot weather of June, which shriveled the grain and decreased the yield fully one-fourth.

NEVER HAS BEEN KNOWN TO SMUT OR RUST

Bulletin No. 357 of the Department of Agriculture, Washington, D.C., advises against growing this Wheat to be milled for flour, stating the quality of the flour is inferior and the color is a creamy white, which is objectionable.

The above statement as to yield is correct.

We have on exhibition at our store one stoo1 of 51 heads.

This is just the wheat the poultrymen wants to grow. Twenty pounds is sufficient to plant an acre. (Per lb. 50c) (10 lbs. $4.00) prepaid; (100 lbs. $30.00) f. o. b. here.

“EGGS”

ATTENTION! Farmers, Poultry Men, Egg Producers and Consumers, Discovered New Varieties and Invent New Economic Possibilities

THE FLEMING EGG PRESERVER
Patented in United States and Canada

Makes 15 cents Dozen The Fleming Egg Preserver destroys and preserves eggs, for Winter use, fresh and sweet as they were laid, without cold storage or refrigeration.

Discounts All Other Processes Ten to One. An Absolutely Reliable and Unqualified Success

2 oz. tins sufficient to preserve 50 doz. eggs. 5c postpaid.
4 oz. tins sufficient to preserve 100 doz. eggs. $1.25 postpaid.

Devonshire's Earth Salts
Especially for Poultry, Rabbits, Cattle and Horses

Major Devonshire pointed out in 1905 that it would be necessary to artificially manufacture and supply the Earth Salts to domestic stock, poultry and dogs kept in confinement or on limited range, and the formula, on which Devonshire's Earth Salts are based, is the work of a leading American Chemist.

The consistently favorable reports, during the past eight years, from Agricultural Chemists, Veterinarians and Stock and Poultry Experts, in many parts of the world, as to the unique value of these Earth Salts, have established Devonshire's Earth Salts as a real discovery in Agricultural Science.

Some Diseases Caused by a Shortage of Earth Salts,
Available to Stock and Poultry

(1) Rous, Cuts, Burns, Sheep and Dogs. Dehility, sterility, sterility, mange, insufficient or worthless milk to suckle the offspring, milk fever, etc.
(2) Poultry. Egg white shell, shell and or shellless, degenerative chick, infertile eggs, sterility in male birds, poor feathering, leg weakness, dehility, leading to the attacks of lice, roaches, bedbugs, earwigs, carpet, stink bugs and other parasites, which are always preceded by a debilitated condition, due to a shortage of Earth Salts, if the management is in other respects rational.

Summary. If the germicide (or killers of disease germs which settle in the blood) are healthy, disease is impossible. Earth Salts, as combined in Devonshire's Earth Salts, enable these germicides to functionate efficiently, and are thus the elixir which is the most important factor in the feeding of stock and poultry in confinement.

One tablespoonful per day for twenty five lbs. of weight, less than the right diet. Instructions for feeding varied according to each package. We also have pamphlets with full information on the asking.

Dogs. A convenient way to feed a dog is to put 1/4 teaspoonful of the Earth Salts daily in the feed. Where puppies at weaning time feed out of one dish, add teaspoonful in the food for the dish with the dogs. The Earth Salts are quite harmless, but if too much is given, the dogs may refuse the food.

Rabbits. Cures Slobbering, Snuffles, Mange, Ear Canker, all digestive disturbances, refusal to eat, Abescesses and difficulty in moulting.

Devonshire's Earth Salts for stick and poultry are put up in packages of three sizes.

Devonshire's Earth Salts increase the milk yield of cows.

Devonshire's Earth Salts emulate the same way as the natural salts used by the Indians.

Devonshire's Earth Salts. Tuberculosis is due to a shortage of the earth salts in the body.

Price. 1-lb. packages, postpaid 60c.
2-lb. packages, $1.25, postpaid.
Price, 10-lb. packages, $3.00, o. b. Los Angeles.
Price, 25-lb. sacks, $7.00, 50-lb. sacks $13.50, 100-lb. sacks $20.00, o. b. Los Angeles.

Rheumatism is due to an excess of acids in the body. Devonshire's Earth Salts alone can restore these acids and invariably cure this disease.

Diabetes and Sugar of Nerves Disease—The Earth Salts alone can correct the gastric juice and nourish the nervous system.

WHY DEVONSHIRE EARTH SALTS FOR HUMAN USE? Because They Supply the Shortage in Your Food

Devonshire's Earth Salts for human use are the only known means of supplying this shortage. They prevent and cure disease.

Liver and Kidney Troubles, etc., are due to a lack of the earth salts.

Children. The Rising Generation. Invaluable to promote the healthy growth of children after weaning and during the teething period.

Devonshire Earth Salts are a food and not a medicine.

Absolutely harmless, being a copy of the natural salts found in all foods. Sold in packages for human use, Price 60c in letter form; in boxes of 50c in 1-lb. packages, postpaid $1.00.

We have handled Devonshire's Earth Salts for the past four years, both for Stock and Human food, and it not only has given general satisfaction, but we have many testimonies of remarkable cures to human beings resulting from its use. Therefore we do not hesitate to recommend it.

AGGFELER & MUSSER SEED CO.
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The AGGELER & MUSSER SEED CO. Inc.
620 South Spring Street, Los Angeles, Cal., U.S.A.

Please forward the following ORDER for amount enclosed (write your name and address distinctly)

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<td>R. F. D. No.</td>
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<tr>
<td>County</td>
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<tr>
<td>State</td>
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Forward Goods by
State whether by Mail, Express (and company), Freight (and route), Steamer (and line).

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Notice—We give no warranty, express or implied, as to description, quality, productivity or any other matter of any seeds or bulbs we send out and we will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are to be returned at once. Aggeler & Musser Seed Co (Inc.).

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Amount Enclosed
P. O. Money Order
Exp. Money Order
Draft
Cash
Stamps,
Total
Date 191

Total
Garden Seeds priced by the packet, ounce, one-fourth pound and pound are postage paid. Peas, Beans, Onion Sets, Corn, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

**DOMESTIC PARCEL POST RATES**

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<th>Each additional pound or fraction</th>
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<td>Second Zone, within 50 to 150 miles</td>
<td>8c</td>
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<td>Third Zone, within 150 to 300 miles</td>
<td>14c</td>
<td>4c</td>
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<td>36c</td>
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<td>Eighth Zone, all over 1800 miles</td>
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Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on both letter and Order.

This space is for remarks about your order.
The AGGELER & MUSSER SEED CO. Inc.
620 South Spring Street, Los Angeles, Cal., U.S.A.

Please forward the following ORDER for amount enclosed (write your name and address distinctly)

Name
Street
P. O. Box
Post Office
R. F. D. No.
County
State

Forward Goods by
State whether by Mail, Express (and company),
Freight (and route), Steamer (and line).

Name of Station or Exp. Office

Amount Enclosed
P. O. Money Order
Exp. Money Order
Draft
Cash
Stamps,

Total

Date

NOTICE—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds or bulbs we send out and we will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are to be returned at once. Aggeler & Musser Seed Co (Inc).

<table>
<thead>
<tr>
<th>Lbs.</th>
<th>Oz.</th>
<th>Pkt.</th>
<th>NAME OF ARTICLE WANTED</th>
<th>Price</th>
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</table>

Total
Garden Seeds priced by the packet, ounce, one-fourth pound and pound are postage paid. Peas, Beans, Onion Sets, Corn, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

**POSTAGE**

<table>
<thead>
<tr>
<th>DOMESTIC PARCEL POST RATES</th>
<th>Within the U. S. and Possessions</th>
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</thead>
<tbody>
<tr>
<td>First Zone, Los Angeles or 50 miles thereof</td>
<td>5c 1c</td>
</tr>
<tr>
<td>Second Zone, within 50 to 150 miles</td>
<td>5c 1c</td>
</tr>
<tr>
<td>Third Zone, within 150 to 300 miles</td>
<td>6c 2c</td>
</tr>
<tr>
<td>Fourth Zone, within 300 to 600 miles</td>
<td>7c 4c</td>
</tr>
<tr>
<td>Fifth Zone, within 600 to 1000 miles</td>
<td>8c 6c</td>
</tr>
<tr>
<td>Sixth Zone, within 1000 to 1400 miles</td>
<td>9c 8c</td>
</tr>
<tr>
<td>Seventh Zone, within 1400 to 1800 miles</td>
<td>11c 10c</td>
</tr>
<tr>
<td>Eighth Zone, all over 1800 miles</td>
<td>12c 12c</td>
</tr>
</tbody>
</table>

Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.
The following is a calendar for the general planting of vegetables, but, owing to the various soils and climatic conditions, this calendar cannot be applied to every locality, even in Southern California, for which this calendar is intended.

<table>
<thead>
<tr>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPT</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
<th>DECEMBER</th>
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*Plant in row, lower hand. Planted in the Colorado Desert.*

Calendar for Planting Flowers

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<tr>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
<th>DECEMBER</th>
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<tr>
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<td><em>Coreopsis</em></td>
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<td><em>Anemones</em></td>
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</tbody>
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*Plant in row, lower hand.*

Border Plants

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<tr>
<th>ALYSSUM</th>
<th>AGERATUM</th>
<th>BEGONIAS</th>
<th>COLEUS</th>
<th>GERANIUM</th>
<th>SHASTA DAISY</th>
<th>VERBENA</th>
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<tr>
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<td><em>Ageratum</em></td>
<td><em>Begonias</em></td>
<td><em>Coleus</em></td>
<td><em>Geranium</em></td>
<td><em>Shasta Daisy</em></td>
<td><em>Verbena</em></td>
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