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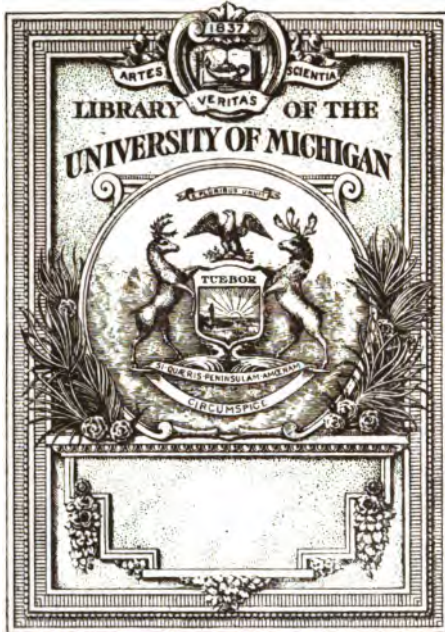
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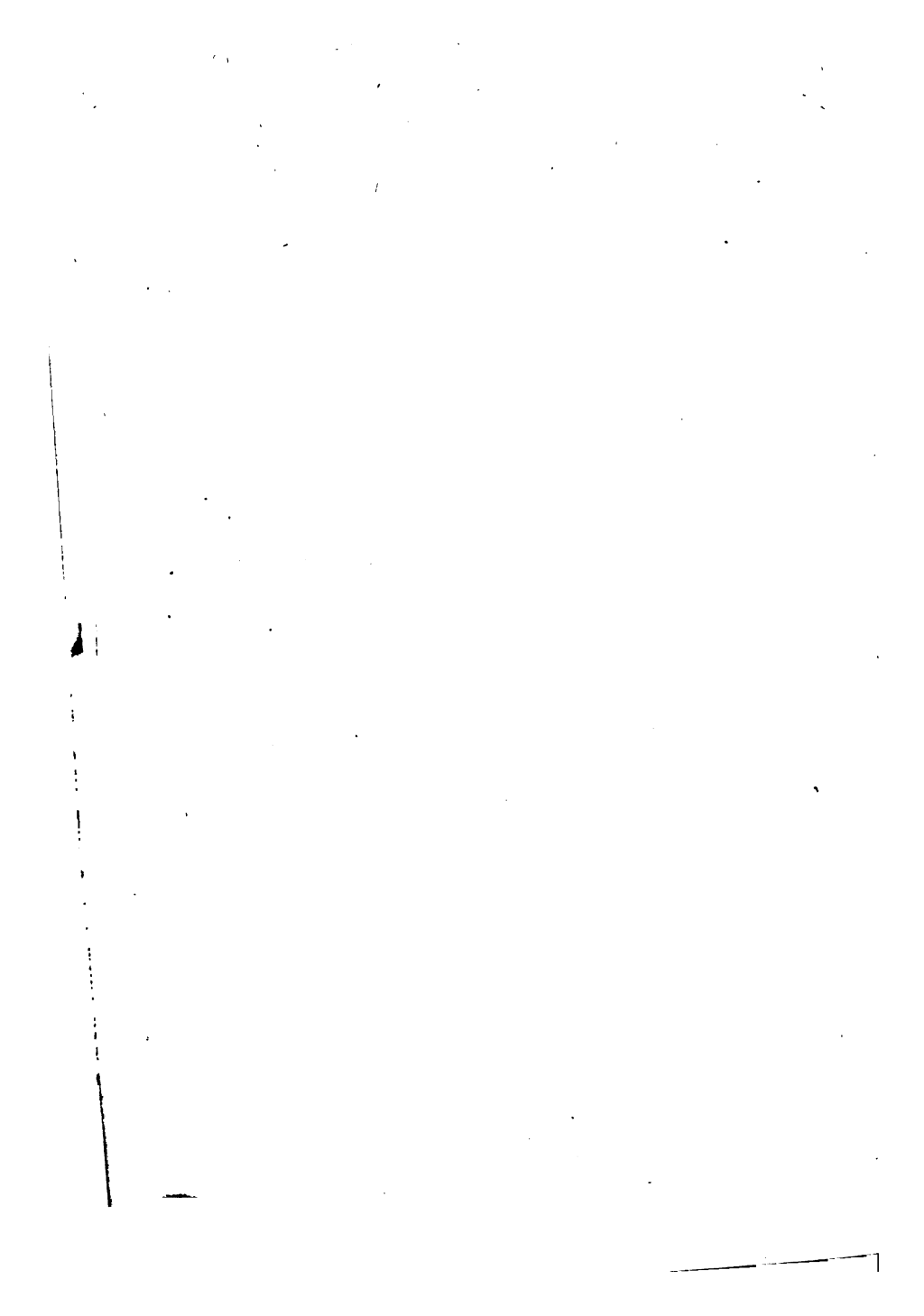
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The Most Loved Crop of the True Home Garden




The Home Vegetable Garden



By
ADOLPH KRUHM

ILLUSTRATED

NEW YORK
ORANGE JUDD COMPANY
LONDON
KEGAN PAUL, TRENCH, TRÜBNER & CO., Limited
1917



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ENTERED AT STATIONERS' HALL, LONDON, ENGLAND

Printed in U. S. A.

315440

Revised 7-11-40 M.G.C.

PREFACE

Notwithstanding the fact that we are a nation of tillers of the soil, dependable information on the subject of gardening is scarce. Most books available are either too technical or too theoretical. Many years of practical experience as both seedsman and gardener have taught me the needs of the average home gardener. This book is intended to fill these needs.

The second part contains the most reliable and up-to-date advice obtainable on the varieties of vegetables. Strictly unbiased judgment is exercised in my recommendation of the various sorts for several seasons, sections and soils. The descriptions are dictated by experience, which has proved the truest teacher of all.

That this book may help to convert many would-be gardeners into true gardeners and cause others to get started in the work is my fond hope.

ADOLPH KRUEH.

Columbus, Ohio, February 1st, 1914.

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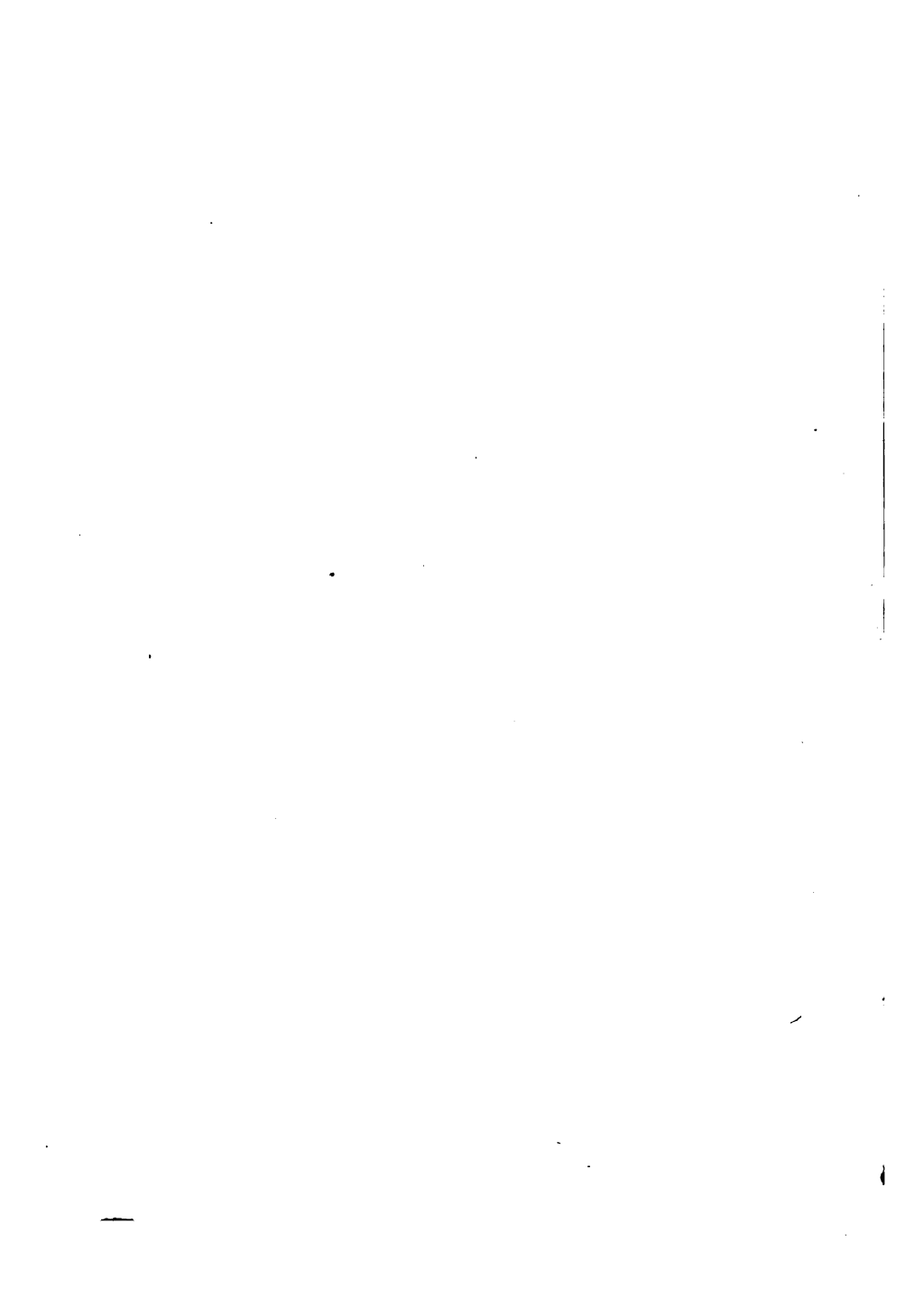


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PART I

THE HOME VEGETABLE GARDEN

IN connection with gardens, learn to take things as they are, rather than to wait for things as they should be according to the opinions of many writers. There will then be more and better gardens. Few places are ideally adapted to garden making. But this should not prevent anyone from making a serious attempt to have a home garden, for in no other way can really fresh and wholesome vegetables come within the reach of all.

The Location. Take any piece of bare ground, size 20 by 20 feet and larger, and it may become the basis of a garden. Only one requisite is absolutely necessary—that is a certain amount of sunlight. Good gardens may be seen even in crowded city yards where the sun shines only a few hours each day. If the garden gets sun from 9 o'clock in the morning until 3 o'clock in the after-

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noon, almost any vegetable can be grown in it and, by actual experiment, it has been proved that many standard vegetables are satisfied with less.

An ideal home vegetable garden would be a piece of ground, size 50 by 100 feet, away from trees or house, gently sloping toward the south. By careful management and intensive cultivation, such a garden can be made to supply all the vegetables a family of six can eat, besides offering chances to grow some flowers and berries.

The Soil. Most writers on gardening topics discourage the beginner at the start by laying too much emphasis upon the "proper" soil. Few people have access to ideal soil, but all can improve what they have. Actual experience with and study of the soil at one's disposal will soon reveal what is needed. If the soil is heavy and sticky clay, it needs sand or ashes and humus. If soil is thin and sandy, it needs plenty of barnyard manure, supplemented by green cover crops, such as winter vetch or rye during the winter. A good sandy loam is the

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ideal soil for a garden. One season's experiment should teach what the soil needs.

Preparing the Ground. Most soils are devoid of humus, which is another name for decomposed vegetable matter. In humus develops those bacteria essential to thrifty vegetation. No better thing exists for putting humus in the soil than plenty of well-rotted stable manure. On most soils too much of it cannot be used, though with some crops, like tomatoes, it develops more vine than is desirable.

Scatter the manure evenly over the garden. A liberal application would be a two-bushel wheelbarrow load for every 4 square yards. This will cover the soil 4 inches deep with manure which, when dug into the ground, will raise the beds 2 to 3 inches above the paths. In addition it pays, in connection with certain crops, to use some good commercial fertilizer. These should be applied either broadcast after the soil is dug, and raked carefully into the surface, or they may be scattered along the rows of vegetables during development. Specific direc-

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tions for this will be found under the various chapters on up-to-date vegetables.

Spading or Plowing. Where the limits of the garden do not exceed 40 or 50 feet (the size of an average kitchen garden) it pays well to dig by hand. Never spade more on any one day than can be planted that day, for should it rain overnight on ground not planted, the spading will have to be done over again. If the garden is larger, have it plowed and see that the man sets his plowshare at least 10 inches deep, provided the soil is deep enough to stand such a depth. Then smooth the ground with a rake, getting it as level as possible so heavy rains will not leave water on the beds. Such portions of the garden as receive drenching rains after plowing, should be stirred deeply with a wheel hoe or a cultivator before raking, as a hard subsoil will prove detrimental to many crops. Be particular about the preparation of the soil. It saves hard, back-breaking cultivation afterwards.

Making a Plan. No other factor in garden making is as sadly neglected as the plan-

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ning of the work on paper. Most planters underestimate the importance of this phase, yet none would think of building a house without blueprints. Haphazard planting is responsible for most of the indifferent results met with in home gardens. A well thought out plan is necessary in order to take care of proper crop rotation—one of the most vital factors in connection with home gardens where a small area has to bear several crops in the course of a season.

On a piece of paper draw the outline of the garden to a definite scale—say one-fourth inch for every foot. Mark in the white space the various rows and beds of every vegetable to be grown. Keep a memorandum book besides and mark down dates when crops mature and second sowings are made. In this way only can one hope to make the best out of gardening opportunities.

PLANTING THE GARDEN

All vegetables may be divided into two broad classes according to the manner in

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which they bear their products: Root crops, those which bear their edible product beneath the soil; and bushes or vines, which yield their product above ground. "Vining" vegetables are used sparingly in most home gardens because the space they occupy is sadly out of proportion to the value of the crops they bear. Almost everybody grows a few cucumbers, but there is little excuse for growing melons, pumpkins and vining squashes in the limited area of the home garden.

Fixing the Planting Season. The root, plant and bush vegetables may, in turn, be subdivided again in early, midseason and late kinds according to their season of planting and maturing. Nearly all important vegetables, like beans, radishes, lettuce, include types for all seasons. Special reference to this is made under the respective chapter heads.

The first vegetables that may safely be planted in all sections as soon as the ground can be dug and raked, are onion sets, radishes, lettuce, mustard, smooth-seeded peas,



The Hand Wheel Hoe Is an Easy Implement to Operate



Cucumber (top), Cantaloupe (middle), Watermelon (bottom)

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spinach and early cabbage. The average planting date for these in the latitude of New York is April 10. These are the hardiest of all vegetables, which stand light frosts without injury and thrive well in cool weather. A week to 10 days after that beets, carrots, endive, kale, onion seed, wrinkled peas and early turnips may follow.

Any time after May first, some of the earliest and hardiest varieties of sweet corn, bush beans (not Limas), okra, parsley, parsnips and salsify may be sown. Finally, between May 15 and Decoration Day, it becomes safe to plant out all the rest of the vegetables the plan calls for, winding up the operations by setting out tomatoes, pepper, and eggplants about the last of May.

None of the vining plants, such as cucumbers, melons and squashes, should be planted before May 15. Most gardeners are in too big a hurry to start these things and as a result often court disappointment and failure.

Putting Seeds in the Ground. With a few exceptions, as mentioned below, make it a rule to plant everything in long, straight

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rows. The advantage of planting in straight rows is so obvious that it is really surprising why people adhere so long to the old method of making "beds." Straight rows simplify planting, facilitate cultivation and eliminate much back-breaking work. If a horse cultivator is available, place rows 3 feet apart. If cultivation is done by wheel hoe put rows from 12 to 24 inches apart, according to the vegetables.

A safe rule to follow is to allow as much space between the rows as the plants are tall when fully grown. For instance, if bush beans grow 12 inches tall, allow 12 inches space on either side of the row or 24 inches between two rows. The planter will be on the safe side to apply this rule to all dwarf vegetables. Tall plants, like staked tomatoes, pole beans or tall varieties of peas, should have 2½ to 3 feet between the rows or hills. Vining plants, such as cucumbers and muskmelons, may be planted in hills 3 feet apart each way, and the plants pinched back as soon as they reach the limit of their allotted space.

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Depth to Sow Seeds. To reach the true solution of this question requires years of study and the cultivation of a gardening instinct. It is logical that seeds may be sown deeper in light sandy soil than in heavy clay. In midsummer it is necessary to plant seeds deeper than early in the spring. It is best to press the soil in firm contact with some seeds after sowing, while others should be covered very lightly or the seedlings will never reach the surface.

However, here is a general rule, which, if followed, will prevent the making of serious mistakes. Except with peas, beans and corn, never cover seeds deeper than twice their thickness. The seeds mentioned may be sown a uniform depth of 2 to 3 inches. A radish seed averages $\frac{1}{8}$ inch in diameter. Twice this thickness is $\frac{1}{4}$ inch—cover radish seeds $\frac{1}{4}$ inch deep. This rule is not infallible, but it is safe to follow with all sorts of coarse-grained vegetable seeds.

Keeping Records. In putting out the various seeds and plants suggested above, go at it with a system. Before a thing is done in

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the garden, it should be decided to keep records. Garden records require a notebook and wooden labels. Each sort of vegetable planted should have an allotted space in the notebook. Each vegetable row should be properly marked in the garden with an inch-wide foot label, such as can be bought for 10 cents a dozen. On each label should be the name of the vegetable and the date when seeds were planted or plants set out. As the rows bear crops, mark in the notebook additional dates, quantities harvested, special observations, etc. Those who practice this will soon learn to look upon gardening as a mighty educational factor. It is safe to state that the knowledge acquired in this manner will be worth quite as much as the value of the garden product.

Successive Planting. The ideal garden will furnish a continuous supply of the best-liked vegetables throughout the season. Two methods are open by which this ideal may be realized—either successive plantings, or selection of sorts that cover the season from early to late. Many factors make the first

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way the easier and more desirable. Few persons are sufficiently familiar with the number of days required by certain varieties to reach maturity. True, one reads that this is a "60-day corn," the next sort a "midseason variety" and the next a "late kind." But such terms mean little even to the experienced gardeners, because local conditions, soil, climate, amount of moisture, etc., alter circumstances to such an extent that a "science of gardening" cannot be established.

Make successive plantings of the varieties best enjoyed, governed by the amount of crop one would like to secure. For instance, if snap-beans are a favorite, plant 30 feet of row every other week from May 15 until August 1 for a family of four. Even this rule will vary according to the variety planted. Many of the choicest strains of vegetables are shy yielders, so if a taste is cultivated for some of them, it requires a year's record to figure correctly how much and how often they should be planted for successive crops.

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The question of successive crops should really be considered when the original plan is made. It will be necessary to reserve certain space for later plantings; should the garden be planted completely at the start, there would be a surplus of vegetables one week, and a dearth the next.

Crop Rotation. In connection with successive plantings it pays to give attention to the proper rotation of crops. Make it a rule never to plant the same vegetable on the same piece of ground two years in succession. This rule alone makes the keeping of records and the drawing of a plan a necessity, for memory cannot be depended upon to tell correctly what occupied one spot or another the year before.

Each vegetable takes certain elements out of the ground. Plant the same vegetable on the same spot for several years and soon the soil will become exhausted of that special plant food, depriving the vegetable of one quality or another. Only one garden crop I know seems indifferent about the enforcement of this rule—the onion. But even on-

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ions become subject to attacks by the onion maggot if planted in the same location year after year.

One of the best suggestions, which will help greatly to solve the problem of crop rotation, is offered in Watts's book, "Vegetable Gardening." Before planting and while planning the garden, group the various vegetables according to their habit of growth, root crops, salad plants, vegetables forming bushes, etc. Then plant them in groups and the following season shift the groups to different rows. This will save the endless job of marking many rows in the notebook.

Within the limited area of the home garden, the strain on fertility is naturally great. Good farmers, in addition to practicing crop rotation, give their fields a rest after a number of years by putting them in sod, clover or pasture. Good gardeners should likewise give their garden a rest. One of the best means to accomplish this is to sow the garden patch to rye or hairy vetch during the fall and winter. Besides proper crop

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rotation, nothing will help more to keep the garden in tip-top shape than the employment of these humus-furnishing field crops, which may be dug under in the spring as green manure or utilized as chicken feed. The vetch will also furnish considerable nitrogenous plant food because it collects such from the air.

Intensive Cultivation. These two words spell the secret of successful home vegetable gardening. No other phase is so sadly neglected and no other factor offers such big chances as this. To make each square foot of soil yield three to four crops in a season of six months is a fascinating problem, the solution of which carries with it rich rewards to the planter. Wasteful methods have been the rule in gardens in the past; but, strange to say, it has remained for the city man to show the country gardener what really can be accomplished by concentrated effort on a small piece of ground.

Suppose radishes, lettuce, onions, spinach, etc., are planted on April 10. All these are what might be termed "short season" crops.

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By the middle of May, some of the rows will have done their duty, borne their crops and be ready for either weeds or other crops. Where space is abundant, the tendency exists to stretch out the garden. Don't do it, but as soon as a row stops bearing, plant something else in that row. Decide on a little program something like this: Radishes, exhausted May 20, follow with summer lettuce exhausted August 1, follow with snapbeans exhausted by frost. Sow ground to vetch or rye. Or early peas exhausted June 15, follow with bush beans exhausted August 15, follow with turnips exhausted by October 15. Spade and trench soil deeply.

Any number of programs of this type may be made up. The soil which after Decoration Day will carry the tomato plants, can be made to yield abundant crops of all the early vegetables before that date without detriment to the tomatoes. In fact, continuous working will improve the condition of the soil considerably.

Another factor that will aid in working out the program of intensive cultivation is

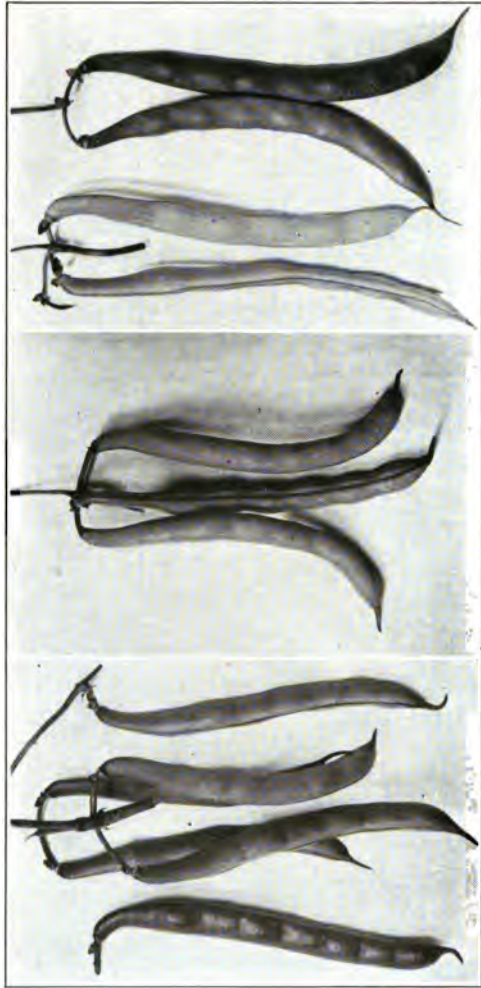
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a knowledge of the time required by certain crops to reach maturity. Summer lettuce may be planted by the end of May in rows 2 feet apart. Before the plants spread, a crop of quick-growing radishes may have been harvested between the rows. The benefit in a case of this kind is threefold—you get the radishes, the lettuce gets extra cultivation and the taller radish tops will temporarily and partially shade the young tender lettuce plants.

Cultivation Throughout Season. From the time the first seedling plants peep through the soil until Jack Frost nips belated crops, the watchword in every regulated garden should be constant cultivation. Not only should hand or wheel hoe be kept going all the time, but the work should be done thoroughly.

Experiments have proved that gardens can get along nicely with less moisture if they receive more cultivation. This fact alone should make cultivation look more attractive to most planters. Close observation will prove that in wet seasons all plants show

BEANS

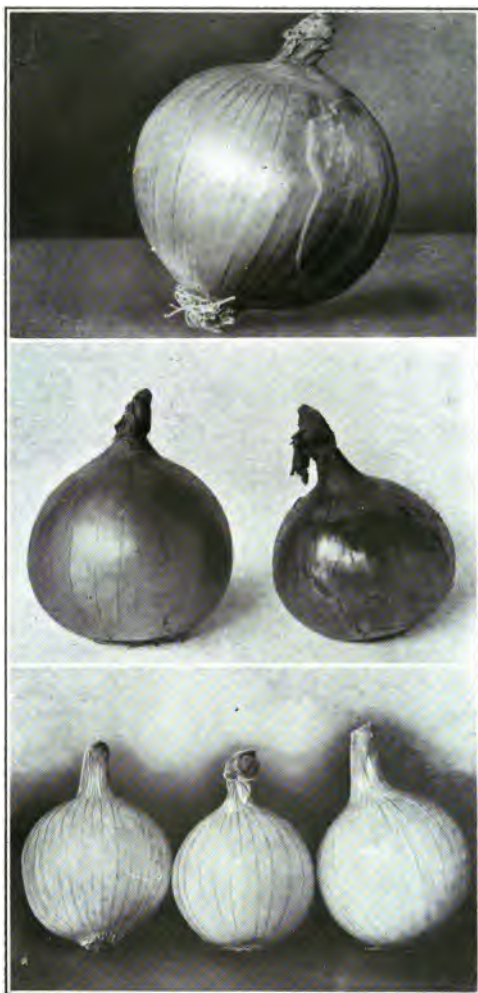


Stringless Green Pod

Kidney Wax Round Podded

New Kidney Wax

Bountiful



Onions: Top—Prize Taker. Middle—Left, Southport Yellow Globe; right, Yellow Globe Danvers. Bottom—Southport White Globe.

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more or less of a tendency to make big foliage growth, to the detriment of the crop of vegetables desired. Some vegetables, of course, like cabbage, cauliflower, etc., can hardly get too much water. But this chapter on cultivation is intended to convince planters that it pays better to work the hoe than to use the hose overtime.

Briefly, the constant use of the hose clogs up the pores of the soil, produces big foliage growth, washes away pollen and is detrimental to the formation of normal crops with most vegetables. The benefits of constant cultivation are the elimination of weeds, thorough airing of the soil and the formation of a dust mulch which conserves the moisture below. Eliminating the weeds gives each useful plant in the garden a chance to develop in an ideal way and bear the best crops possible.

The amount of cultivation a garden should receive varies with different kinds of soil. Stiff clay soil should be hoed more freely than light sandy soil. Every crust that forms after a rain should be promptly

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broken. After the soil throughout the garden is once brought into good condition by deep and thorough cultivation, a stout, narrow rake is as good an instrument to keep the surface loose as can be found. With it there is less chance to do damage among plants which have feeding roots close to the surface than with a hand or a wheel hoe. Early in the season, deep cultivation among all garden crops is advisable. As the season advances and plants spread, keep away from their bases and cultivate shallow. Each plant has a root system equal to more than its top growth. Work around the base of plants with a rake or some of the various weeders that will not cut. Any serious disturbance of the root system will affect the productiveness of the plant.

Level cultivation is now practiced by many planters in preference to hill methods. Some of the reasons for this logical change are that a hill will dry out quicker than a row with a dust mulch. When hoeing a hill to kill weeds, one is very apt to strike deeper than around a plant receiving level

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cultivation—to the detriment of important feeding roots. The drainage which the hill-method provides may easily be secured by keeping the path between rows a little lower in the center. This is a common occurrence, since constant tramping will settle the soil there most. Tall plants, such as tomatoes, corn, bush Limas, etc., may be hilled slightly to resist the wind. But otherwise keep everything level as possible.

FALL WORK IN THE GARDEN

Part of the reasons why the home garden does not yield all it should lies in the fact that, with the approach of cold weather, most people lose interest in the garden. Weeds are allowed to grow rampant, corn stalks, dead vines and plants, rubbish, stakes, etc., are left on the ground to become the plaything of wind and weather, to furnish welcome hiding places for all kinds of injurious insects.

It is safe to state that the efficiency of the average garden would be increased 25 per

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cent if proper attention were paid to fall management. The fall is really the time to lay the foundation for a better garden the next season. No urgent planting or cultivating is pushing then, as in the spring. The days are cool and work can be done quickly with comfort. Briefly, fall operations in the garden may be divided into three parts: 1, Taking care of crops on hand; 2, clearing the ground and digging for extra early spring crops; and 3, putting the soil in such shape that it gets the most benefit out of a short rest period.

Save Everything. Soon after repeated frosts play havoc in the home garden all sorts of vegetables become more expensive. Save every fruit and every root and store in safe, frost-proof places. Pick all green tomatoes before they are touched by frost, wrap in paper and put on a dry shelf. They will ripen and color up nicely. Dig all root crops, such as carrots, beets, and turnips, and either bury them in trenches in the garden or put them in boxes with sand in the cellar. Parsnips and salsify are improved by frost,

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so you can let them wait until the last, or some of them even until spring.

Celery should have been hilled throughout August and September. With the approach of very cold weather put boards along the rows, place straw over these and throw soil on top to hold the straw in place. Cut and burn all stalks of asparagus and cover the bed, also the rhubarb bed, with 4 inches of coarse manure. Where winters get severely cold without snow, it pays to scatter marsh or salt hay over the strawberry patch likewise. This is better than manure because of its freedom from dry land weed seeds.

Clear the Ground. Don't permit dead plants, branches, vines, etc., to remain in the garden all winter. Rake everything into a pile and burn it. Then prepare several beds, the same as in the spring, by carefully spading and raking the soil. The next year's garden may be started in the fall by sowing kale and spinach seeds in September. Soon, the young plants will make a good growth; with the approach of severe cold weather

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(Thanksgiving Day in the latitude of New York), cover these plants with several inches of straw or coarse strawy manure.

In October, secure some large onion sets, averaging 1 to 1½ inches in diameter. Plant these in furrows 5 inches deep and fill in the furrow gradually as tops grow up. When the sprouts reach the top of the ground and the weather becomes very cold, scatter some coarse manure over this bed. These onions will furnish the first scullions in the spring.

Finally, when the warm days of Indian summer are past and winter starts seriously, plant the rest of the prepared beds with a few rows each of lettuce and smooth seeded peas. This may seem like a radical departure. But it is an established fact that these seeds are perfectly hardy; they will lie dormant in the ground all winter and start to grow with the first signs of spring, long before the soil can be put in shape in the regular course of events.

Prepare Rest of Garden. Such portions of the home garden as are not occupied by standing vegetables, storage pits or newly

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made beds should be dug or plowed deeply, with deep trenches or furrows every 5 feet. These will provide quick drainage in the spring and give the air a chance to sweeten the soil. The ground can remain in rough condition, because the influence of the frost will make all lumps work up mellow in the spring. This kind of work, if started early enough, say by October 1, pays one to sow rye in unoccupied spaces.

HOTBED CONSTRUCTION AND MANAGEMENT

(By M. G. Kains)

Every home garden should have its hotbed to supply the various needs of the amateur. Among the advantages to be gained by starting plants under glass are the following: The crops may be secured before their normal season. Such plants as eggplants, watermelons, and tomatoes may be developed so as to be transplanted and thus enable them to mature their fruits before frost in the autumn. Time may be gained by having plants such as lettuce, cabbage and many

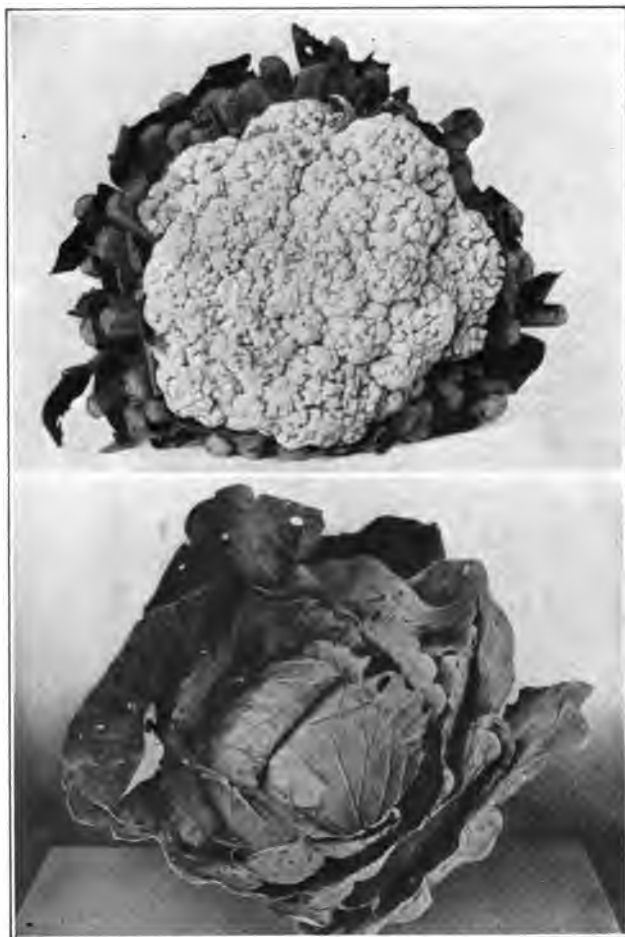
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of the annual flowers started for transplanting and thus getting results earlier in the season than could be done were the seeds sown out of doors. By forwarding plants under glass two or more crops may be secured from the same area during the season. A great gain is made in combating weeds when plants of good size are set from the hotbed in the garden. Some plants, especially tomato, eggplant and pepper, produce larger crops when started in this way. Crops which normally finish their season in early fall may be hastened so the ground may be sown to a cover crop for supplying humus when turned under the following spring.

One special advantage about the hotbed is that when the gardener is a renter he need not be at great expense to supply glass; the hotbed will take the place of a greenhouse to a certain extent. As hotbeds are inexpensive, the amount of space devoted to them may be increased from year to year without much outlay. Then, too, they require less attention at night than do furnaces. It must be remembered, however, that they



Papa's Little Brick Gathering Stone Tomatoes



Snowball Cauliflower (above), All Seasons Cabbage (below)

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are inferior to greenhouses in every particular, though with skillful management they can be made to produce excellent results.

The first requisite of a hotbed should be an easily accessible water supply. Preferably the water should reach the hotbed through buried metal pipes. The next best plan is to have a spigot and hose. Always such arrangements should be provided with underground cutoffs so as to prevent injury from frost, especially when not in use. The beds should be as convenient as possible to the house or the workshop where sowing, potting and transplanting are to be done in unpleasant weather. They should be protected from north and west winds either by the wall of a building or a tight board fence 5 or 6 feet high. Hedges are fairly good substitutes for walls and fences.

Where possible the exposure should be directly south so as to get the full sun. The next best exposure is southeastern, so the morning sun will reach the frames without obstruction. Where two rows of hotbeds are used, ample space should be allowed be-

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tween them so the sash may be easily moved into the alleyways. Eight feet is none too much for alleys between the frames.

The time to make a permanent hotbed is in the autumn, before the ground is frozen. Thus work and time can be saved. In order to prevent the ground from being frozen deeply in the pit, the hole should be filled with fallen leaves or litter which may easily be moved when the filling for fermentation is to be applied late in the winter or early in the spring. This pit should be the same width as the frame of the hotbed. The first essential of the bed is that drainage should be good either naturally or artificially. The latter may be provided by tile running from the bottom to some lower point. In most soils, however, this precaution is unnecessary as the seepage of water will be good enough. Stiff soils, however, usually need a tile drain.

The proper depth for a hotbed pit will depend largely upon the climate. In the latitude of New York City and northward, the depth may vary from 15 to 30 inches. In

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the latitude of Washington, 10 to 15 inches may be sufficient. In the south the pit may be dispensed with entirely. Depths of fermenting material from which the heat is derived should be the full depth of the pit in the North and from 6 to 12 inches in the South.

The hotbed frame may be of brick, stone or concrete. Where the gardener is owner of the place, it is usually advisable to have a permanent bed of masonry; where he is a renter, a wooden frame will answer all purposes. Preferably locust, cedar or chestnut should be chosen for the frame, as these woods are most durable. The popular plan is to use either locust or cedar for the posts and chestnut or other less durable wood for the sides and crossbars. The frame may be of any desired length, preferably a multiple of 3 feet, plus half an inch to allow for the shrinking and swelling of the frames when damp. Width should be half an inch less than 6 feet, so that there may be no crack between the sash and the frame. These dimensions are suggested because sash are made in

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standard sizes, 6 by 3 feet. They can be purchased at all seed supply stores.

The upper north side of the frame should be 6 inches higher than the lower south side, so as to give a good slope to the sash. The easiest way to get this is to use boards 6 and 12 inches wide, respectively—usually one 6-inch and two 12-inch boards on the upper side and two 12-inch ones on the lower side. These boards should always extend to the bottom of the pit. At the corners the posts should be made of 2 by 4-inch or heavier scantling. The best frames are made when the length of the boards is not more than 12 feet, with posts driven at the corners and midway on each side. One hotbed of this size will require four standard sash and will supply the needs of an ordinary sized amateur garden.

Cross bars or slides are not essential but they are so convenient that they should always be used. A 2 by 3-inch piece of wood is perhaps the most convenient size. It should be smooth on the upper side so the frames will slip easily across them. Some

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gardeners like to have a $\frac{1}{2}$ -inch strip in the middle of the upper side of each cross piece to prevent binding of the sash. This is a convenience. When placing the crossbars, great care should be exercised to prevent their being too close together, otherwise the sash will stick and bind and be hard to manage. If the sashes are 3 feet wide the distance from center to center of the crossbars should be at least $\frac{1}{2}$ inch greater.

None but the most durable wood should be used for sash. Cypress is considered best, with cedar second. White pine and other soft woods are not desirable. Better buy standard frames than have them made locally, provided, of course, that the expense of delivery is not excessive. Light sash are easy to handle, but heavier ones are more economical, since they prevent breakage to a greater extent. Always the sash should be thoroughly painted with white lead and oil before the parts are put together. This is usually done with standard sash. A light iron rod across the middle adds greatly to the strength of the sash, prevents spreading

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and breakage of glass. A priming coat of paint should be applied before glazing.

None but glass of good quality should be used. It is a matter of personal preference whether the glass should overlap or come end to end. By the former method a good deal of shade is cast, especially after dirt works in the cracks. By the latter method there is likely to be leakage unless the edges are very closely put together. After glazing the sash should be again painted, and this work should be repeated every year, preferably as soon as the season closes. They should then be stacked in a dry place until needed again.

Double glass sash have recently been placed on the market. Their chief advantages are that plants are given almost as thorough protection as when single glass is used and covered with straw mats. The labor of managing the frames is reduced because mats do not have to be handled morning and evening. The plants under double glass may receive light during the entire day because no mats are there to obstruct it. 'A'

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growing temperature is secured earlier and maintained longer unless the sunshine is deficient.

Against these advantages are the disadvantages that double glass sash are heavier to handle; they cost about 30 per cent more than single glass sash; they accumulate and retain moisture between the two layers; are not considered as durable as single glass sash; the two layers gather dirt between the panes and thus reduce the amount of light which should enter, and in consequence produce weaker plants.

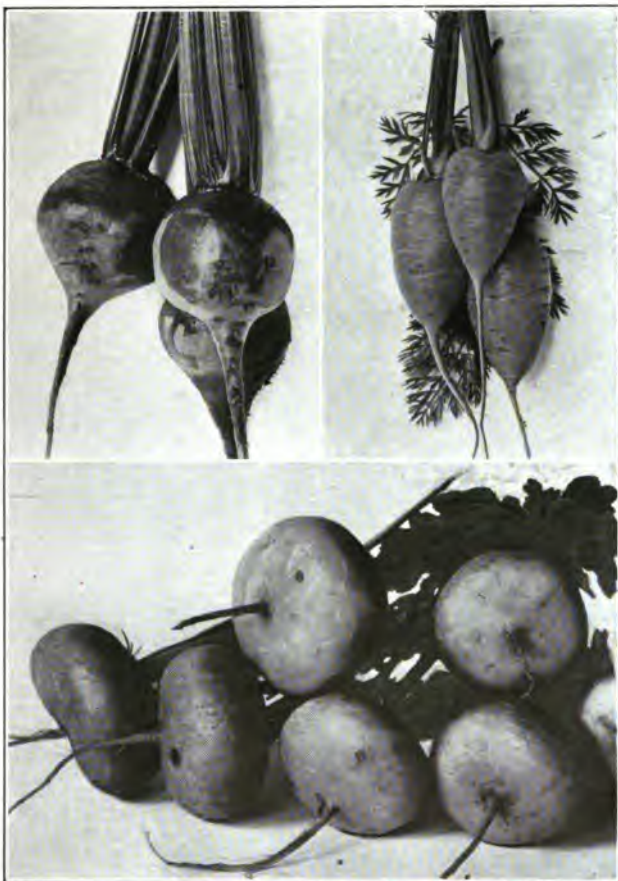
The management of a hotbed is a comparatively simple matter. Anyone can do it. The principal things to remember are that attention must be given at proper times both to watering and to ventilating as well as to the manual care of the plants. In each of these lines there is nothing difficult, but unless the ventilation is properly managed, the plants are likely to grow tall, spindling and comparatively weak, at least unable to withstand the changes of temperature they will naturally be exposed to when transplanted to

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the garden. As to watering, there is nothing difficult at all. The main thing is to see that the plants do not suffer at any time. The manual part consists merely in weeding and thinning out the plants where the seeding has been too thick.

In the latitude of New York city the time to begin work with the amateur hotbed is the latter part of February or the early part of March. In the latitude of Boston work may start somewhat later, and in that of Washington, and southward, earlier. A good rule by which the gardener may gauge his time to start is to remember that for each 100 miles north or south of the points mentioned he may allow a week in time. For instance, at Albany the beds may be started about 10 days later than around New York city, because Albany is about 150 miles north. The reverse case need not be given.

The first thing to do is to remove the leaves or litter which were placed in the pit during the fall. The object of this litter is to prevent deep freezing of the ground. The labor of removing such material is much less



Above, Detroit Dark Red Beet (left), Oxheart Carrot (right).
Below, Purple Top Milan Turnip



Green Curled Endive (above), Brussels Sprouts (below)

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than that of getting rid of earth, because both leaves and litter being somewhat dry will not freeze as much as soil. Of course, where no pit has been dug the fermenting material may be piled directly on the ground. This, however, is not as advantageous a method as the pit method. It should be employed only when no pit can be made in the fall.

The material most popularly used for producing heat is horse manure which has not been exposed to the weather. It must be fresh or at least only a few days old. Spent hops from breweries, tanbark and forest leaves are sometimes used separately. They are occasionally also used when mixed with manure, the object being to lighten up the fermenting material and prevent its becoming either too compact or too loose. Where the material is composed almost exclusively of the manure, it may either fail to heat or it may become too hot very suddenly and then subside too quickly. In either case failure is almost sure to result. Perhaps the best mixture for success is to use two parts

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of manure with one part of litter consisting either of leaves or straw. It is never satisfactory to use shavings, especially those of pine and other resinous woods for this purpose.

Preparation of the composition should begin at least a week before the time when the beds will be wanted for seed sowing or transplanting. Ten or 12 days would be even better. It is necessary, or at least advisable, to have the shed in which the material is kept during this time well protected so the mixture may not be exposed to cold weather, hard rains or other influences that would hinder or even prevent fermentation. If the material must be secured from cities and shipped on railways or boats to the point of use, it may already be in proper condition for the pit upon arrival. Usually, however, it should be piled and turned as described below. This turning and piling is especially necessary where the source of supply is close at hand; as, for instance, on one's own place where a horse is kept.

The piles should be made 4 or 5 feet wide

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and 4 feet high. They may be any convenient length according to the quantity to be handled. The material as thrown in the pile should be firmed somewhat but not tramped very compactly. If it is rather dry, and especially if the weather is cold, an application of hot water will be found advantageous, since this will quickly start fermentation. Under ordinary conditions the pile will begin to emit steam in a day or two. After it has steamed for one or two days, it should be re-piled. In doing this, the outside parts of the pile should be removed first and placed so as to be inside of the new pile with the inside of the old pile outside of the new one. Two or three days later the whole mass will have become warm or even hot. It will then be ready for placing in the pit.

The principal care in filling the pit is to see that the manure is evenly spread and firmly packed. Special attention should be given to the corners and to the sides. After a layer of 4 to 6 inches has been thrown in and spread around evenly it should be firmly tramped down. Extra manure

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should be placed along the sides and in the corners at this time and firmed even more than any other part of the bed. Two, three or more layers should be added and tramped down in similar fashion. After the tramping has been done, every square foot of the bed should be gone over and every hollow spot filled up so the whole mass may be of even thickness. In spite of all this precaution of tramping, the mass will settle as fermentation progresses, so it is advisable to have an abundant thickness to offset this settling. A foot to even 30 inches is used, according to the latitude or the altitude of the locality, and somewhat to the character of plants to be grown in the beds.

After the mass has been put in place a layer of soil from 4 to 6 inches deep must be placed upon it. Preferably this material should have been kept under cover where it has not been frozen. Where the soil has been frozen, a much longer time must be allowed for thawing out and getting the bed in order for planting. When seeds are to be sown in flats or seed pans, a depth of only

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2 inches of soil need be placed over the fermenting material. This will be sufficient, as a general thing, to absorb steam and to keep the air comparatively pure and free from the gases of fermentation. Nothing is better than soil as an absorber of such gases. It is a good plan to bank the outside of the hotbed frame with the same material as used in the bottom, so as to aid in maintaining the temperature inside. This material should be tramped down very thoroughly. It may extend even to the top of the frame outside.

No seeds should ever be sown and no plants should ever be placed in a hotbed until after the fierce temperature has settled to 90 degrees or less. At first there will be an almost sudden rise of temperature to perhaps 100 degrees or even more. This will subside in a week or two. If plants or seeds are put in before the subsidence the chances are they will be ruined. With such plants as cabbage, lettuce, cauliflower and other vegetables that germinate at comparatively low temperatures the heat of the hotbed may be allowed to subside to 60 degrees or even

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less. Of course, these temperatures imply that the hotbed has been covered by the sash.

In the latitude of New York city it is usual to sow in February or early March seeds of such plants as tomatoes, cabbage and other subjects that either require a long season or must be set out early, and then to pick out the seedlings when they show the first or the second true leaves. Preferably the seedlings should be placed in flats an inch or so apart each way and later transplanted into flower pots from which they may be set in the garden.

Many crops other than those started in the hotbed for transplanting may be grown by this method. Among the principal are set onions, radishes, lettuce, mustard and peppergrass. These may be started at any time and utilized as rapidly as they reach edible size. A convenient way for economizing space is to sow the lettuce (which when full grown occupies most room) in alternate rows with peppergrass, mustard, radish or onions, each of which may be expected to be out of the way before the lettuce will require

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all the space. By this method it is also understood that the lettuce plants shall be thinned frequently, the first time to stand an inch apart. Each subsequent thinning should remove the alternate plants, thus leaving those that remain respectively 2, 4 and lastly 8 inches apart.

By the time the plants have been reduced to 8 inches the first sowings in the open ground should be ready for use and the crop in the hotbed may be rapidly cleared out, the soil raked over and made ready for a crop of cucumbers, melons or tomatoes. Plants for these crops may be started in a corner of the hotbed, preferably in flower pots or berry boxes. These plants should yield fruit three weeks to two months earlier than those started in the open ground.

PART II

UP-TO-DATE VEGETABLES

THE great majority of American planters dislike to try new things. Part of the blame must be put on those seedsmen who either pushed novelties prematurely or promulgated inferior sorts with new names. The result has been distrust which cannot be wiped out in one generation. Many gardeners are thus very backward when it comes to taking advantage of new things.

Another reason for the existence of this condition is the attitude of our agricultural and horticultural educators. Most writers on gardening dislike to make positive statements with reference to varieties, preferring to follow the footsteps of others. To pursue an absolutely safe course they constantly recommend such things as Golden Wax beans, Marblehead Mammoth cabbage, Advancer peas, etc. As a matter of fact, progressive planters and seedsmen throughout the country are discarding these and many

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other sorts on account of their shortcomings when compared with newer sorts of better quality.

So, with a limited knowledge of gardening to begin with, and certain sources of information giving antiquated advice, it is small wonder that the amateur gardener is groping in the dark most of the time, feeling his way along and learning slowly at excessive expense of time and money. To remedy to some extent the existence of these conditions is the purpose of the following discussions on individual vegetables.

On account of the long life which a work of this kind enjoys, great care has been exercised to recommend only such sorts and types as are firmly established and will come true to descriptions and ideals of planters. Special reference has been made, where possible, to highly specialized characteristics and tendencies of certain kinds. No one sort of vegetable will do equally well on all soils or in all climates. Not all the strong characteristics of a sort will show up equally well under various conditions. But merit

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will show everywhere and a good kind will always do better than a poor kind under the same conditions.

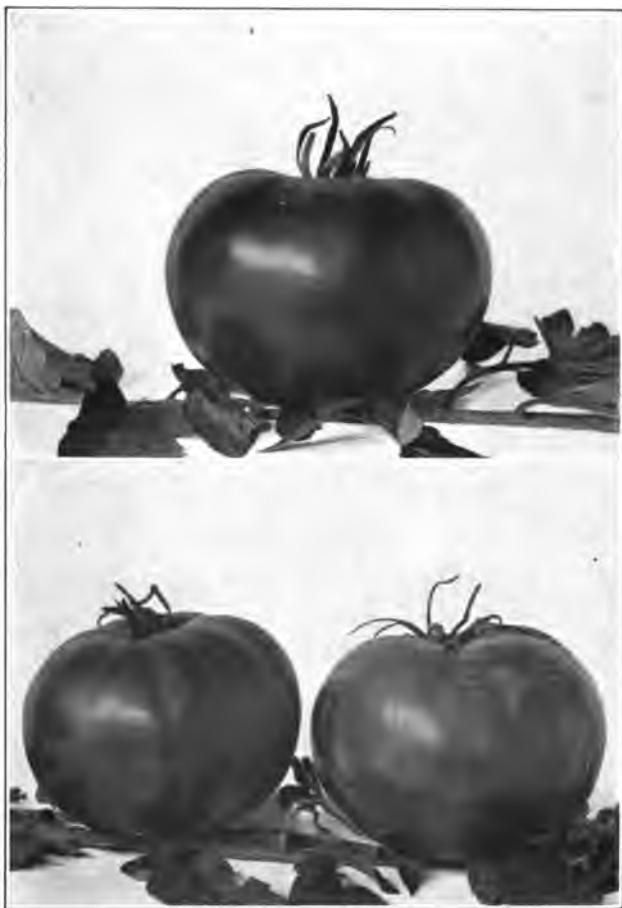
ASPARAGUS

While an asparagus bed bears only a short season, the fact that the product can never be bought cheaply, makes it worth while to have a few rows in even the small garden. Moreover, some short-season crops like curly lettuce, radishes and onions from sets may be grown between the rows early in the season should garden space be very limited.

An asparagus bed can be started in two ways—sowing seeds or setting out roots. A 5-cent packet of seed will produce all the plants needed for a small home garden. Seeds should be sown in rather sandy soil, in rows, half an inch deep, with 12 inches between the rows. When they are 4 to 6 inches tall, they may be thinned out to stand 6 inches apart in the row. The next year they should be lifted and transplanted in their permanent place, 12 inches apart in the row, with at least 2 feet between the rows.



Swiss Chard, Two Vegetables in One, Which Every Garden Should Grow



Tomatoes, Stone (above), Chalk's Early Jewel (below)

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Experiments have proved that two-year-old roots are the most practical size to set out. Where quick results are wanted, three-year-old roots deserve the preference. A bed of two-year-old roots should not be cut the first year. A well-established bed will bear many years.

Good sorts for the home garden are Early Argenteuil, Palmetto and Columbian Mammoth White.

BEANS

Three broad divisions and numerous subdivisions make beans interesting. The amateur is usually acquainted with the three broad divisions: Bush, Lima, and Pole beans. These are named here in order of their importance to the planter. No other vegetables will yield more profitable crops in the home garden. To get the most out of them, a clear analysis of one's likes and dislikes as well as a thorough understanding of varieties is absolutely necessary. Most people think of beans as "string beans." Please be-

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gin to think that beans with strings do not deserve to be planted or cooked. Thanks to the efforts of American plant breeders we have now a splendid assortment of both green and yellow podded beans free of strings. To these achievements of American horticulture due credit shall be given here.

BUSH BEANS

Nature divided bush beans into two distinct classes, viz.: Wax podded and green podded sorts. In both classes are found round podded and flat podded kinds. So far as flavor goes, experts disagree whether there is a difference or not between the wax and the green podded sorts. But more good quality points, such as brittleness, stringlessness, productiveness, etc., are found among the round podded sorts. Those sorts among the flat podded beans worthy of being put in the "quality" class are mentioned below.

In the home garden, quality is easily the most important point to be considered. At the same time, the question of quantity or

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productiveness cannot be disregarded because each row should bear maximum yields. The selected list below contains the foremost sorts possessing both points in a large degree.

Green Podded Sorts. According to their season of bearing pods fit for table use, sorts are divided into early, mid-season and late kinds. The title for the earliest good home garden bean is disputed by Stringless Green Podded and Bountiful. The latter is a very productive, flat podded sort, of superb quality, while Stringless Green Podded is round and very meaty. Early Round Podded Red Valentine is often recommended. While it is, perhaps, a few days earlier than either of the above sorts, it does not deserve a place in the home garden, because its pods are short and soon become stringy.

Two good midseason kinds are Longfellow, a round podded sort, about 10 days later than Stringless Green Podded. It should be picked regularly, as old pods have some strings. Full Measure, with long, perfectly round, brittle pods is a splendid sort, of great

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productiveness and good quality. The most popular late green podded sort is Refugee or 1,000 to 1. While it is very productive, it is stringy and has lots of fiber in the pods. The new Stringless Refugee, now firmly fixed and sold by most seedsmen, is devoid of this unpleasant feature and bears handsome, light green, semi-round pods about $4\frac{1}{2}$ inches long.

Wax Podded Sorts. In Brittle Wax we have the earliest of all round podded wax beans. The lemon yellow pods average 5 inches long; are slightly curved, very brittle and absolutely stringless. Following Brittle Wax comes Hardy Wax, with slightly shorter pods, but more of them. Round Podded Kidney Wax belongs in the same class with above two. All these early sorts have perfectly round pods and are stringless. For a succession in crops Burpee's New Kidney Wax should be used in place of Wardwell's Kidney Wax. It out-yields this old sort two to one, and has handsomer pods and no strings whatever. New Kidney Wax is a flat podded sort, but re-

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markably meaty, and from 5½ to 7 inches long.

The latest of the wax beans is Stringless Refugee Wax, sometimes called Pencil Pod Wax. It is a full-blooded brother of Stringless Refugee, described under green podded sorts, and possesses all the good points found in that kind.

The above limited list contains some of the best bush beans in cultivation today. For the home garden these varieties are unexcelled. They are just as easily grown and managed as some of the old standbys. A row 15 feet long, planted every week up to August 1, will supply all the beans a family of five can use. Plant bush beans in rows, 30 inches apart, place beans 4 inches apart in row and hill plants slightly to keep pods off the ground. Do not pick while vines are wet; it causes blight. One pint of seeds contains enough for the average home garden.

POLE BEANS

To get the best out of pole beans, the ground should be made very rich. A good

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method is to set the stakes 3 feet apart each way and pile well-rotted manure around them. Cover with 4 to 6 inches of soil and plant seeds, four to a hill, eye down, about 2 inches deep, after nights become thoroughly warm. Where poles are scarce, set a post at each end of the row and connect tops of posts with a stout wire. From the wire run strings 6 inches apart to the ground, fastening them on small stakes stuck in the row.

Twenty hills are ample for the home garden. Plant either White Creaseback, Burger's Stringless or Lazy Wife's Pole—the three best green podded sorts. The best known yellow podded sort is Golden Cluster Wax. For shell beans for winter use, Horticultural or Speckled Cranberry is the most popular.

LIMA BEANS

There are bush and pole varieties of Limas. None should be planted until the trees are out in full leaf. As they are by far the latest maturing of all beans, it pays to start some in paper pots in the house for ex-

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tra early use. Plant two beans to a 3-inch pot and, when cool nights are past, set young seedlings in the hills, pots and all, tearing out the bottom before setting. When plants reach the tops of the poles, pinch out the center so as to throw the strength back into the plant and hasten the formation of pods.

The best Bush Limas to date are Burpee's Bush Lima, Fordhook and Burpee Improved. The last named will, in time, take the place of Burpee's Bush Lima, while Fordhook is the best form of the type with fat beans as represented by Dreer's Bush Lima.

The earliest and best pole Lima for the home garden is the small but very prolific Sieva Lima—the butterbean of the South. Henderson's Leviathan is a heavy bearing sort of good quality. King of the Garden will be the standard late pole Lima until Burpee's Giant Podded becomes better known.

BEETS

Beets are one of the most profitable crops in the home garden. They are easily man-

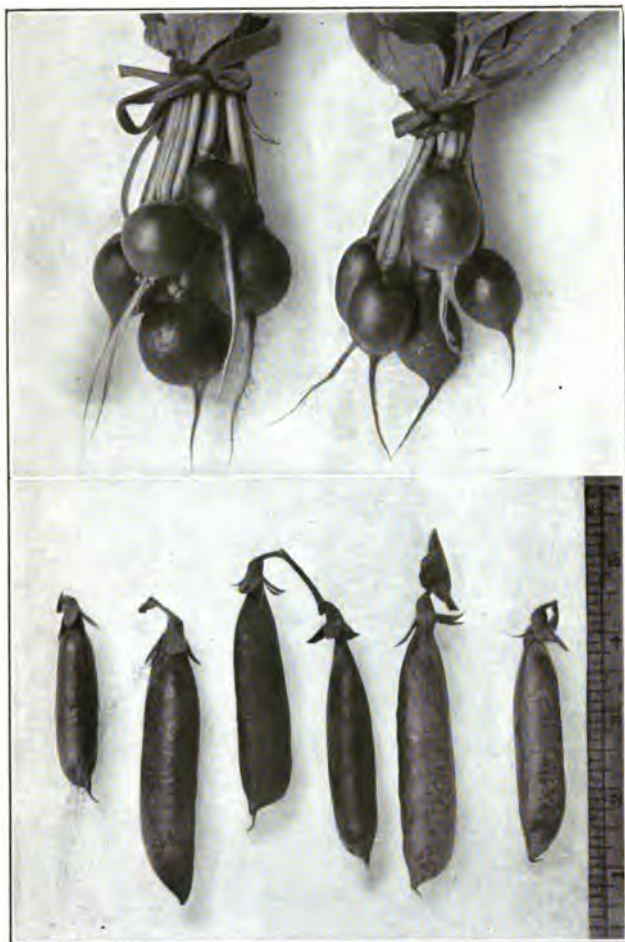
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aged and grown, have no insect enemies of any account and are not at all particular as to soil. For a constant supply from the middle of June until frost, plant 15 feet of row every other week from early spring until the end of July. If this advice is followed, one of the early sorts mentioned below should be selected for the successive sowings.

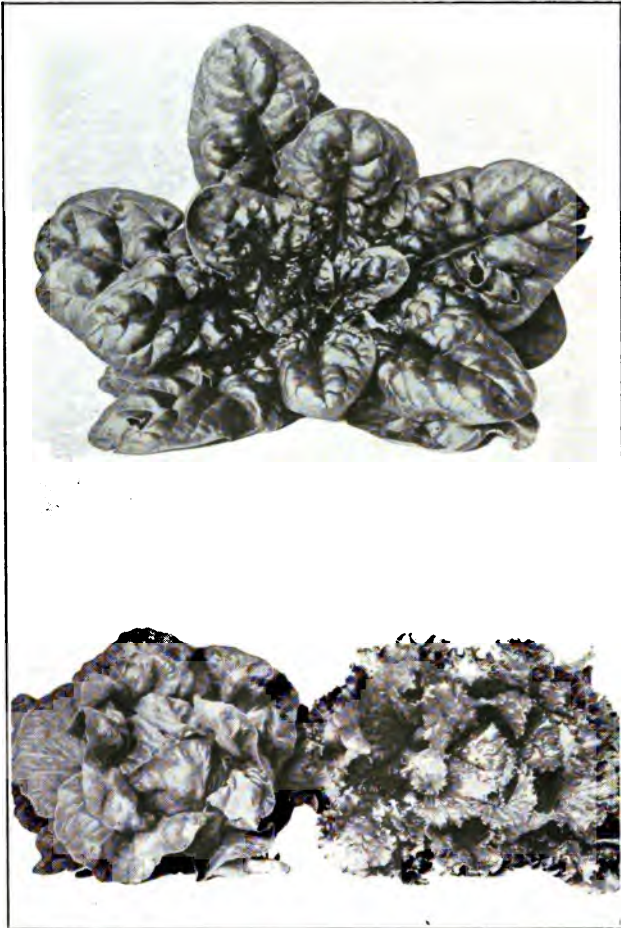
Sow the seeds thinly in rows 12 to 18 inches apart, half an inch deep. Soak the seeds in warm water overnight and be sure to walk over the rows after covering the seeds. Doing so presses the soil in firm contact with them and insures quick and even germination. This is especially important during the summer when the soil is dry.

When the young seedlings are 2 inches tall, thin them out to stand 4 inches apart in the row. Hoe close to the row when cultivating. As beets depend mostly upon long tap roots, the soil in the bed should be kept loose all the time to a considerable depth.

A perfect succession of fine tender beets may be assured by paying some attention to varieties. Best earliest sorts are Electric,



Radish (above), Peas (below)



Above, Triumph Spinach. Below, Lettuce, (left) All Seasons,
(right) Iceberg.

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Crimson Globe, and Detroit Dark Red. These have small foliage and mature, under favorable circumstances, in about two months. Following these come Early Model, Crosby's Egyptian, Dewing's Improved Blood and Bastian's Half Long. In the order mentioned these mature in 70 to 100 days. For repeated sowing late in the season, use only the earliest sorts.

Swiss Chard is a variety of beet grown only for the tops, which make excellent greens during summer. Rows of Swiss Chard should be placed at least 2 feet apart and the plants thinned to stand 6 inches and finally a foot apart in the row. A well-developed individual plant will contain at least a dozen fine leaf-stalks. Use the foliage part for greens and prepare the center ribs like asparagus. Always cut the largest sidestalks. If the center of the plant remains undisturbed, it will continue to bear all season. A 20-foot row will furnish an abundance of greens during July and August for a family of four.

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BRUSSELS SPROUTS

Just why this wholesome vegetable is not better known, remains a puzzle. Perhaps one of the reasons is that people think it hard to grow because the sprouts sell usually at 25 cents a quart. Brussels sprouts are as easily grown, in the same way, as late cabbages. In most sections heat, dry weather and insects cause early sowings to fail.

Set the plants 2 feet apart each way in well-enriched ground. Cultivate freely, hilling slightly and if the cabbage worms bother the plants, sprinkle occasionally with a weak solution of bordeaux mixture. The most desirable sorts in cultivation are Paris Market, Long Island Improved and Danish Prize.

CABBAGE

With careful management, home garden cabbages may be enjoyed the year round. Before the stored supply of winter cabbages becomes exhausted, the earliest new cabbage should mature in the garden. During July,

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August and September, the midseason sorts will be fit to use and the winter sorts in October will again round the circle of continuous supply from snow to snow.

The question of a year's cabbage supply depends largely upon three things: The amount of space at one's disposal, the thoughtfulness of the planter in starting plants at the proper time and the selection of the correct varieties for various seasons and purposes. Cabbages take up considerable space and the value of the finished product to the square foot does not come up to that of beans, for instance. It pays well therefore, to do some careful figuring in connection with this crop early in the season. After a decision is reached, prepare for a succession by making timely sowings as follows:

About March 1st, sow seeds of early sorts and midseason varieties in a hotbed, in rows a quarter-inch deep with 4 inches between the rows. When the seedlings develop the second pair of leaves, transplant into a cold frame 4 inches apart each way. Harden the

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plants gradually by airing the frame freely. By April 15 they may safely be set in the open ground. Slight, subsequent frosts will not injure them. Set the small extra early sorts 2 feet apart each way and cultivate both ways. Dust with tobacco dust, ground lime or slug shot to prevent damage by the little green cabbage louse or aphid. When setting the plants in the open ground, watch that they are planted deeply so most of the stem will be submerged.

By the end of May, seeds of the best winter varieties should be sown in the same manner as described above, in a carefully worked over cold frame or a thoroughly prepared seedbed outdoors. It is customary to sow seeds very thinly in rows 4 inches apart and to thin out the seedlings to stand 4 inches apart in the row. This saves transplanting. Late in July or early in August these seedlings are transplanted into their permanent place, 2 feet apart in the row and $2\frac{1}{2}$ to 3 feet between the rows. When setting them, pour about a pint of water into each of the holes opened to receive the plants.

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Fill the holes with loose soil, which should be pressed in firm contact with the plants.

In some sections of the East, a final sowing of cabbage is made in September. Early sorts are used; the young seedlings are transplanted and wintered over in cold frames to be set out very early in the spring. Plants handled in this manner will mature heads 10 days to two weeks sooner than those started in the hotbed in March.

Undisputedly the best of all early cabbages for the home garden is Jersey Wakefield, a pointed-headed small sort of splendid quality. Allhead Early is a close successor with slightly larger round heads. In Succession and All Seasons we have the two best midseason sorts. These, as well as Allhead Early, are also splendid keepers. Many growers treat them just like winter sorts later in the season because on account of their compact growth they yield more heads to the acre than the late, large-spreading sorts.

The two best winter cabbages in cultivation today are Premium Flat Dutch and

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Danish Ballhead. One strain or another of either of these two sorts is sure to give satisfaction in all sections of this country.

Finally, try a few Savoy and a few red cabbages. The Savoy varieties are of distinctly delicate flavor—ideal for the home garden. As plants of these can rarely be bought, they usually have to be started by the private planter. Perfection Drumhead Savoy is the recognized leader in this class, while among Red Cabbages, Danish Round Red possesses the most desirable qualities.

CAULIFLOWER

The high price which this vegetable commands in the market will cause any space devoted to it to bear a handsome revenue. Two factors are absolutely necessary to insure success with cauliflower: Very rich soil and lots of water. Seeds should be started with those of late cabbages. Set plants in the garden the end of June or the beginning of July. Don't get them mixed with cabbages, as the young plants cannot be told apart.

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Where hand cultivation is employed, plants may be set as close as 2 feet apart each way. For horse-cultivation, leave 3 feet between the rows, with plants 2 feet apart in the rows. Hoe freely and water often. Let the ground be soaked through and through at least once a week during the development of heads. A lack of moisture at that period causes stunted heads. Hill slightly, to support the stems.

When the heads get the size of an orange, gather the largest outside leaves loosely and tie them together at the tips, forming little hoods over the heads. This will keep off the sun, insects and at the same time blanch them. Two dozen plants are usually all one wants in the home garden.

Extra Early Dwarf Erfurt is a splendid but small sort for first crop. It is closely followed in season of maturity by Snowball, a well-known, highly satisfactory kind of good size. Dry Weather or Gilt Edge is, perhaps, the most drouth-resisting sort, though a little later and larger than either of the other two.

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CARROTS

These should be grown more because they are so wholesome and so easily managed. As the seeds sprout very slowly, it is advisable to sow them with some quick-growing short-season crop like spinach or radishes. Sow both kinds of seeds in the same drill, a quarter inch deep with 12 to 18 inches between the rows. The strongly germinating radish or spinach seeds will break the hard crust for the carrot seedlings, which will likewise be benefited by subsequent thinning and cultivation of the short-season crop.

For a continuous supply sow a 15-foot row of Early Scarlet Horn as soon as the ground can be worked. Two weeks later sow Chantenay and two weeks after that Danvers. This will insure carrots that are just right throughout the summer. During July make a second sowing of Chantenay and Danvers, which will furnish the winter supply of this delicious vegetable.



Giant Podded Pole Lima Bean



Above, Peppers: Ruby King (left), Chinese Giant (right).
Below, Black Beauty Eggplant.

UP-TO-DATE VEGETABLES

CELERY

Too many home gardeners neglect this crop, which offers one of the opportunities to make garden space pay extra dividends. A good practice is to buy plants about the first week of July and set them in rows which formerly grew beans. Those who prefer to start at the beginning, should proceed as follows:

For the early crop sow seeds of an extra early sort in the middle of February in the hotbed in rows, a quarter inch deep, with 3 to 4 inches between the rows. As soon as the seedlings are large enough to be handled, transplant into a cold frame 2 to 3 inches apart each way. Water freely and frequently throughout development of plants. By the middle of May, these plants will usually be large enough to be set in the garden, 6 inches apart in the rows, with 2½ to 3 feet between the rows. The variety especially suitable to be grown in this manner is White Plume.

Along in April, make a carefully pre-

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pared seedbed in a sheltered corner of the garden, to start plants for successive and late crops. Sow seeds in the same manner as described above and transplant seedlings later on to another bed. At least one transplanting should be practiced with celery, or the plants will not have that well-developed root system which is so essential to produce the plump, finished stalks. When transplanting the seedlings, and also when finally setting out the plants, trim both roots and tops. It will help them to recover quicker from shock. Use Paris Golden Self-Blanching and Giant Pascal for successive and late crops.

Begin blanching in August by drawing loose soil up to the stalks, which should be gathered carefully. Be sure not to get any soil into the heart of the plants and never hill while the plants are wet from rain or dew. *Celeriac* is a turnip-rooted kind of celery grown for its fleshy roots, which make elegant salad. It is handled exactly like stalk celery, but should receive level cultivation.

UP-TO-DATE VEGETABLES

SWEET CORN

The introduction of several dwarf, compact-growing sorts of corn makes this luscious vegetable available for even the smallest garden. True, these small sorts bear small ears. But their flavor, as a rule, is delightful, and the opportunity of having delicious sweet corn within one's reach at the critical moment well compensates for loss of size in ear. The critical moment with sweet corn is between the time the ears are pulled and the time they are dropped into boiling water. Six weeks of work reap often poor rewards when this point is overlooked.

For earliest ears, sow seeds of Peep o' Day and Golden Bantam in rows, 2 inches deep, 4 inches apart in row, with 2 to 2½ feet between the rows, as soon as danger of frost is over. When the young plants are 4 inches tall, thin them to stand 1 foot apart in the row. As they grow taller, hill slightly. A common practice among home gardeners to secure extra early corn is to

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start several dozen paper pots with two or three seeds each in the house by the middle of April. Kept in a warm temperature and well watered, these pots will soon contain several young plants each. Set them out by the middle of May in hills $2\frac{1}{2}$ to 3 feet apart each way and protect during cool nights.

Cultivated all the time, corn will stand a remarkable amount of dry weather, provided a dust mulch is maintained between the rows. Two rows each 15 feet long of these two sorts will provide at least 3 dozen ears during the middle of July.

For successive crops the planter may either make repeated sowings of these small sorts every other week up to the middle of July or sow some larger, later sorts. Two splendid midseason sorts, which will mature ears between the extra early and late kinds, are Kendel's Early Giant and Cosmopolitan. Crosby's Early, another well-known second early sort, should be used with caution in the home garden, because its flavor does not come up to that of other sorts dur-

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ing the summer; planted late to mature during the cool fall months, it is unsurpassed.

Three splendid late types, which furnish the sweet corn season, are Red Cob Evergreen, White Evergreen and Country Gentleman. All these late sorts should be planted deeper than the early, small kinds, so as to give them the benefit of a firmer foundation and deeper rooting. Also, put 3 to 4 feet of space between the rows and hill them more to resist wind. Few if any of the late sorts surpass a good strain of the old-fashioned Red Cob Evergreen in flavor. White Evergreen is the most highly developed form of the popular Stowell's Evergreen, which sort it surpasses in color and uniformity of ears. Country Gentleman is, perhaps, the most widely grown of the three. Many people call it Shoe Peg corn on account of the irregularity of the grains in the ears. This has always been considered an indication of excellent quality.

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CUCUMBERS

The rather compact space to which the cucumber may be confined by pinching out the tips of the vines make it available for even small gardens. While cucumbers are generally grown in hills, they may likewise be trained to trellises, thus economizing space. Where space is plentiful, build hills about 6 inches above the surface of the ground, placing them 2 to 3 feet apart each way. Make the hills of well rotted manure or compost and cover these with about 4 inches of good soil. Sow a dozen seeds to each hill, planting them a quarter inch deep in heavy soil and from $\frac{1}{2}$ to 1 inch deep in light sandy soil, which cucumbers like best. After the young plants make the fourth leaf, and danger from insects is past, thin them out to three strong plants in the hill. Pick the fruits regularly, to insure a continuous growth. Great care should be exercised in gathering the fruits, since pulling or jerking the vines will prove injurious. Cut, don't pull.

UP-TO-DATE VEGETABLES

The first planting may be made as soon as the nights are thoroughly warm; late pickles should be planted toward the end of June. The best sorts for the home garden are of the White Spine type. While the Early Russian is the earliest of all cucumbers, it is not recommended for general use on account of its insignificant size, short bearing season, and indifferent quality. Fordhook Pickling, Davis' Perfect, and London Long Green are all good strains of the White Spine cucumber, and prove satisfactory with planters throughout this country. Japanese Climbing cucumbers rank first for training vines to trellises, because numerous tendrils cause them to climb readily. The only serious insect pest endangering cucumbers is a small, yellow and black striped beetle. As soon as it appears, dust the plant with slug shot or paris green mixed with land plaster. It attacks only young plants and is easily defeated if attacked in time.

EGGPLANTS

Being of tropical origin, the seeds require a very high degree of heat for proper ger-

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mination. On account of this, and because a dozen plants are usually all required for the home garden, it pays best, perhaps, to secure plants from some near-by florist or seedsman. Eggplants like rather sandy soil, enriched with plenty of well-rotted manure, Set out plants any time after Decoration Day in rows, 2 feet apart, with 3 feet between the rows. Hill slightly, to support the plants and keep the fruits off the ground. Dust young plants with slug shot or paris green mixed with 50 parts of flour, to prevent the potato beetle from doing damage. New York Improved Purple is the standard in all parts of the country, while Black Beauty is a somewhat earlier sort of great popularity in the east.

ENDIVE

While endive may be had very early in the season by sowing seeds and treating plants exactly like early lettuce, it is far better treated as a fall crop, because then other salad plants are scarce. Sow the seeds

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early in June in a well-prepared bed, the same as lettuce. When the seedlings are 2 to 3 inches high, transplant them to stand 4 inches apart in a shaded bed or a cold frame. In the middle of August they should be transplanted to the garden a foot apart, with 2 feet between the rows. Fifty to 75 plants are all an average family would use. When the plants are a foot across, gather the leaves and tie the tips together to blanch the heart of the plant. Be sure to open the plants after a rain to permit drying. Do not blanch more plants at one time than can be used. Two distinct types—Green Curled and White Curled—are available. There is very little, if any, difference in their quality and time of maturity.

KALE

A very hardy variety of cabbage, forming flat, spreading plants with many curly leaves. As a winter vegetable for greens it has few equals. Start the seeds at the same time and in the same way as late cabbage.

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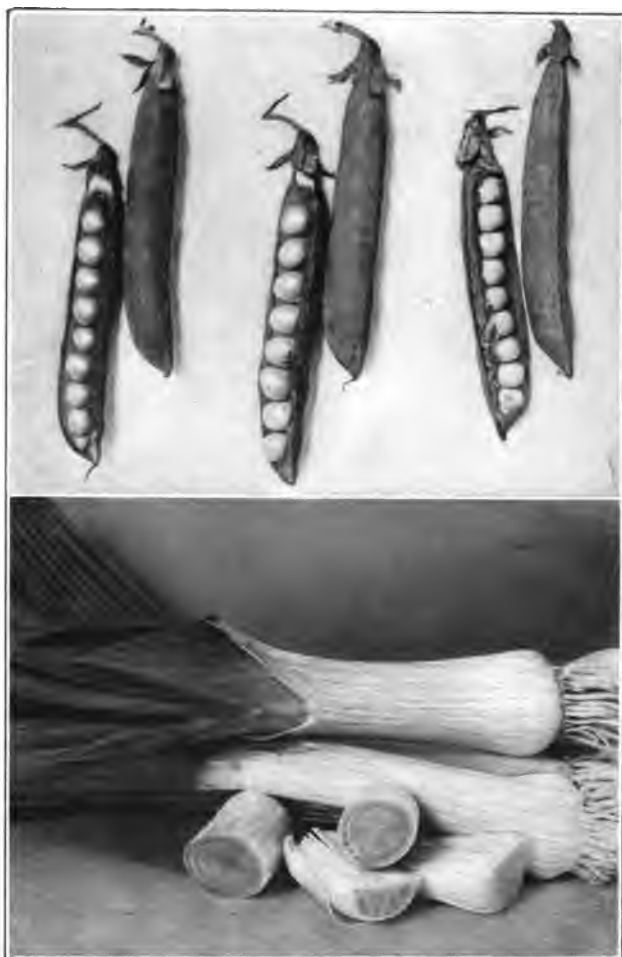
The end of July transplant the seedlings into rows 1 foot apart with 2 feet between the rows. Cultivate the same as cabbage. With the approach of cold weather gather the plants, hill slightly and protect with straw and boards. They stand considerable frost, which improves the quality. Dwarf German is the best sort for home use. A row 30 feet long, furnishes an ample supply for an average family.

KOHLRABI

This member of the cabbage family is grown for its fleshy stems which make an excellent dish, boiled and stewed like turnips. Kohlrabi is a distinct cool season vegetable, doing its best only early in the spring and towards fall. Treat seeds and plants like early and late cabbage. For late crops it is best to sow the seeds in rows where the plants are to mature. When 4 inches tall, thin the seedlings to stand 6 inches apart in the row. Use the stems while young and tender. For winter use, store in



Everyone Takes Pride in Well-Grown Cabbages



Above, Peas: Alderman (left), Boston Unrivalled (middle), Buttercup (right). Below, Leeks.

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a frost-proof cellar in boxes with sand. Early White Vienna is the most popular sort in cultivation today.

LEEK

Highly esteemed for soups and as a salad. Sow at the same time and treat exactly like onions. Transplant the seedlings to stand 4 inches apart in the row, and permit about 2 feet space between the rows. When the stalks are nearly full grown—about $1\frac{1}{2}$ inches in diameter—hill them to blanch. A row 20 feet long furnishes an ample supply for all purposes. Leeks keep splendidly and as they are hardy may be left where they grow, with a protection of boards; or they may be taken into the cellar, where they may be stored in the same manner as celery or carrots.

LETTUCE

Notwithstanding the fact that lettuce is one of the easiest grown vegetables, it is sel-

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dom one finds it of good quality in the home garden throughout the season. The reason is partly hot weather. Then again, planters do not pay enough attention to the proper selection of varieties for different seasons of the year.

No other vegetable shows as distinct characteristics as lettuce, adapting its various classes to different seasons. Most books state plainly which sorts do best during spring, summer, or fall. Still, planters disregard these facts, and thus secure bitter, tough lettuce, unfit for culinary purposes. The question of good lettuce in the home garden may therefore be sifted down to two points: Proper growing and correct sorts. The best of cultivation would not help May King to form good heads during July and August, while Iceberg would make only a fair growth during its proper season if cultivation were neglected.

For a succession of lettuce start the seeds of the earliest sorts in a cold frame by March 15. By April 15 these plants should be set in the garden, possibly between rows

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of slower growing vegetables, placing plants a foot apart to permit of perfect development. Between April 5 and 15, depending upon the condition of the soil and the season, the first planting should be made outdoors, selecting, again, early sorts. About May 1, sow seeds of solid heading, midseason varieties which will stand the heat of July and August without detriment to their quality. Finally, during July, sow again seeds of early sorts, which will head rapidly during the cool fall months and furnish the last lettuce of the season.

While lettuce is a shade-loving plant, and thrives best in cool, moist weather, proper cultivation will overcome unfavorable weather conditions every time. Lettuce likes plenty of hoeing, and more hoeing. Keep a dust mulch around the plants and they will stand a surprising amount of dry weather and hot sun. No other vegetable will respond more gratefully to individual attention than lettuce. A well-grown, solid, crisp head is well worth all the trouble one takes to grow it.

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One of the points necessary to grow perfect lettuce, is timely thinning of the young plants to stand the proper distance apart in the row. As soon as seedlings are 3 to 4 inches high, thin them to stand 4 inches apart in the row. When their spreading leaves begin to crowd, cut out every other plant. Eight inches is usually enough space for the small, early sorts. But sorts like Iceberg and New York should have another thinning, leaving the plants finally 12 to 16 inches apart in the row. Do not delay this work, for as soon as lettuce plants become crowded they cease developing and tend to form seed stalks before becoming fully developed.

The earliest sorts are divided into loose-leaved and heading varieties. Early Curled Simpson, Black Seeded Simpson, Bon Ton and Prizehead are the best of the loose-leaved type. They mature in the order mentioned. Head lettuce of earliest maturity are Wayahead, May King, Golden Queen and California Cream Butter. All form heads within a week of each other if sown

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outdoors by the middle of April, following closely those that were transplanted from the cold frame at the same time.

Among the midseason sorts are two distinct divisions: Butterhead and crisphead—one with smooth, fatty leaves and the other with brittle, crisp leaves and prominent midribs. The best butterhead lettuce in this class is All Seasons, with Deacon as a close rival. All Seasons may be described as a black-seeded Deacon. There is very little difference in the quality of the plants.

The list of good crisphead sorts is long indeed, but any of the three sorts mentioned here will come up to quality requirements. Iceberg heads the list, with its handsome, light green, shapely heads. Denver Market is noticeable on account of its peculiarly "savoyed" or curly outside leaves. New York or Wonderful is the latest, but largest of this trio, forming remarkable heads of dark green outside color.

Finally, the Cos or Romaine lettuces deserve a few words of recommendation. Their upright, compact growth adapts them

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ideally to the home garden. When planted between tomatoes or in the cabbage patch they will form upright, elongated heads, which should be blanched like celery for best quality.

MUSKMELONS

The only way to get muskmelons that are just right in quality is to grow them in one's own garden. While they take up more space than other vegetables, and returns to the square foot are not so large, they may be confined to certain limits by pinching off the ends of the main shoots early in the season. This causes a more compact growth with many lateral branches and likewise induces plants to bear earlier.

Muskmelons are usually planted in hills, 5 feet apart each way, placing about a dozen seeds in each hill. As soon as young plants appear, sprinkle them slightly with slug-shot, to defy the insects. After seedlings have become well established, reduce them to three of the strongest plants in each hill.

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Weed the hills cautiously, and never hoe deeply, as muskmelons resent the least disturbance of their root systems. Some extra early fruits may be secured by starting plants in paper pots or boxes early in the house or frames. When setting these in the garden watch that the rootball remains undisturbed.

So long as only a limited number of hills can be accommodated in the home garden, it pays to give serious thought to the selection of the proper sorts at the start. Two distinct classes, one green-fleshed, the other salmon-fleshed, contain muskmelons for everybody's taste. The green-fleshed sorts are perhaps the more popular, though many yellow or salmon-fleshed sorts possess a quality not met with among the green-fleshed kinds. The highest quality is usually found among the small kinds, which are also the most productive.

Rocky Ford or Netted Gem is the most popular green-fleshed cantaloupe in cultivation. Jenny Lind is an old, very luscious, small, early sort, of great favor in many sec-

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tions in the east. Those who want a larger green-fleshed melon should try either Matchless, Acme, or Ohio Sugar. All are of fine quality and ideal for the home garden.

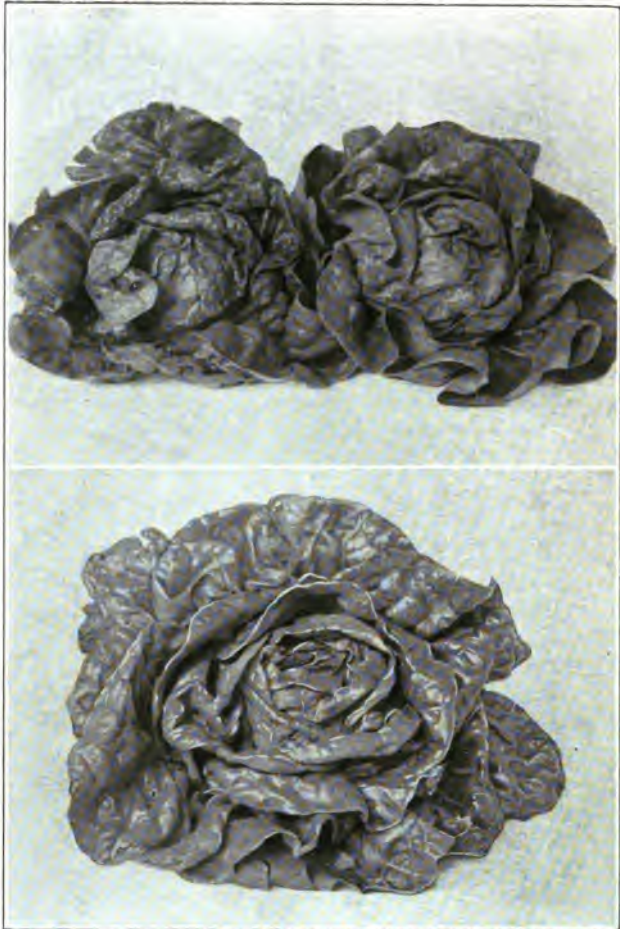
The salmon-fleshed sorts possess that peculiar musky flavor responsible for the name of this fruit. Their requirements as to culture and soil do not differ from those of the green-fleshed varieties. Emerald Gem is a small, deeply ribbed, very sweet sort of great popularity in all sections. Fordhook, a small but very delicious new sort of recent introduction, embodies table, as well as shipping qualities in an unusual degree. Burrell's Gem may be described as a salmon-fleshed Rocky Ford. It is more oval in shape and runs a little larger than that popular sort.

WATERMELON

The general management of watermelons in the home garden differs little from that of muskmelons, for which explicit directions



Collection of Squashes and Pumpkins



Lettuce, May King (above), Wayahead (below)

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are given in the preceding chapter. Owing to their rampant growth, it is almost impossible to confine them to any boundary—hence watermelons are not recommended for home gardens with limited space.

The hills of watermelons should be placed 9 to 10 feet apart each way. The thinning process, and general care of plants, while young, does not vary to any extent from that of the muskmelon. Cultivate just as long as you can do so without disturbing the vines. Stepping on them will stop their growth, and in this respect watermelons are easily the most sensitive of all the vining plants. About a dozen hills will provide all the fruit the average family needs for home consumption. As watermelons require a long growing season, successive plantings are rather out of the question, so an early and a late variety should be grown in order to make sure of a continuous supply throughout the season.

The earliest watermelons of good size, and one that is ideal for the home garden, is Fordhook Early, a round melon with dark

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green skin, weighing 8 to 10 pounds. It is one of the sweetest melons grown, and as it is only a few days later than some of the poorer flavored kinds, better wait for it. Next in season, and perhaps better in quality than Fordhook Early, are Halbert Honey, Kleckley Sweets, Tom Watson and a recent introduction called Sugar Stick. This last is the only light-skinned melon in the collection. All the rest have a dark green skin faintly striped with a lighter green. They range from 10 to 20 pounds each. There are showier melons, but for quality these few sorts are the ideal kinds to plant in the home garden.

MUSTARD

Mustard is a short-season crop, used in connection with other vegetables. It should be sown in small quantities only, and used up quickly, as it goes to seed in a short time. Sow seeds of varieties recommended below thinly in drills 18 inches to 2 feet apart. When the seedlings are 3 to 4 inches tall,

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thin them to stand 6 inches apart in the row. Constant cultivation promotes rapid and continuous growth. As soon as the plants are fully grown, use them, as seed stalks form rapidly and they become unfit for use.

One of the best ways to use mustard is in connection with endive or spinach, which vegetables are greatly improved by the peculiar pungent flavor mustard lends to the dishes. Varieties especially recommended for home growing are Fordhook Fancy, with handsomely curled leaves, Southern Giant Curled, a variety freely used in the south, and Elephant Ear, a large sort with fine fleshy leaves. Make it the rule to sow mustard frequently, planting little at a time.

OKRA

Few people north of Mason and Dixon's line are acquainted with this easily grown vegetable, which forms the basis for many splendid southern dishes. Okra grows 2 to 5 feet tall, with a spread of 2 to 4 feet, according to the variety. Sow the seeds

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toward the end of May in the latitude of New York, dropping them 4 inches apart in rows 3 feet apart. When the plants begin to crowd, thin them out to stand 2 to 3 feet apart in the row, according to the kinds grown.

The earliest and choicest of Okras is White Velvet, a variety with many handsome, smooth, velvety, white pods. Perkins' Perfected Long Podded is the tallest of all kinds, with handsome green pods of excellent quality. Okra has no insect enemies, is of easy culture and bears freely on all kinds of soil.

ONIONS

The earliest supply of green onions the home garden yields is usually produced by planting onion sets late in the fall previous. These onion sets, which can be secured in white, red, and yellow, are really small onions grown from seed the summer before. Onion sets may be planted in the fall, just before the ground freezes, and left out in the garden all winter with but a slight protection of coarse manure.

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As early in the spring as the ground becomes fit for digging, plant an additional supply—say 20 feet of row, every other week up to May 1. This should provide green onions for all purposes up to the time the onions from seeds become large enough for use.

Since it is now a recognized fact with all experienced growers that large onions may be grown from seed in one season, onion sets are being utilized only to furnish green onions, also called scullions or scallions in many sections of the country. To raise large onions from seeds, two methods may be employed. Early in March, sow seeds of large varieties, like Prize Taker, Gigantic Gibraltar or Ailsa Craig, in a hot-bed in drills 4 inches apart. As soon as the ground can be put in good condition, transplant these seedlings in rows 4 to 6 inches apart with 18 to 20 inches between the rows. Keep the seedlings free of weeds, and cultivate thoroughly and often. By August 1 you should have fine large bulbs, ranging

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from one and a half pounds to two pounds each.

Those who have no facilities to pursue this method, may start growing onions by sowing seeds directly in the open ground in a well-prepared bed early in April. Sow the seeds thinly in rows 12 to 18 inches apart, and when the young seedlings are 3 to 4 inches tall, thin them out to stand 4 inches apart in the row. Give shallow cultivation throughout the season and keep the row free from weeds. In the fall, when the tops begin to bend over, which is an indication of ripening, pull the onions and leave them in rows exposed to the sun for several days, so they may dry thoroughly. After they are dried, trim the necks and store in a cool room for winter use. They will stand cold air better than warm air, which is apt to cause them to sprout and spoil.

The onion is one of the few vegetables that may be grown on the same piece of ground for several years without detriment to quality. It is not always wise to do this, however, because of the possibility of dam-

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age by the onion maggot. The earliest varieties are the so-called Queen and Barletta onions, seeds of which are imported from France. Next to these in season of ripening come the earliest American varieties, of which the Southport White Globe and Southport Yellow Globe are easily the most beautiful and most productive. The Yellow Globe Danvers onion, enjoys great popularity in many sections of the east, while in the central west, Southport Red Globe and Red Wetherfield are the most popular. These last two are the largest of all American onions. Prize Taker, Gigantic Gibraltar and Ailsa Craig are the largest onions in cultivation today. They are a peculiar greenish-yellow, distinct from any other variety of American origin.

PARSLEY

Parsley comes in so handy in connection with such a great variety of dishes, that a short row should be found in every garden. The seeds are of rather slow germination.

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Best results are obtained by soaking them in warm water 24 hours before sowing. When the seedlings are 2 to 3 inches tall, thin them out to stand 6 to 8 inches apart in the row. Even if cut freely, parsley will come again from the roots. A few roots dug in the fall and planted in pots will provide an ample supply during the winter. The earliest varieties and the best for the home garden, Moss Curled and Dwarf Double Curled, combine beauty with utility. Dwarf Perfection is a beautiful, compact-growing sort, ornamental enough to be utilized as a border plant around flower beds.

PARSNIPS

A wholesome vegetable grown for its fleshy roots, which form a delicious dish when boiled and fried. The seeds are rather fine and should be sown thinly in drills not more than $\frac{1}{4}$ inch deep, with 2 feet between the rows. Two rows, 15 feet long each, will furnish an ample supply for the average family. Transplant the seedlings to stand

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6 inches apart in the row. The roots are very hardy and as frost improves their quality, they may be left in the ground all winter. Long Smooth or Hollow Crown is the standard variety for all purposes in all sections of the country.

PEAS

The garden pea is one of the comparatively few vegetables that can be grown with a fair degree of success on nearly all soils, and in all sections of the country. It does best in cool climates and revels in rich, moist soil, containing plenty fertility. As it is a short-season crop, repeated sowings should be made, and as it takes a long row to furnish a mess sufficiently large for an average family, it must of necessity, occupy considerable space during the season. But this is amply compensated by the rich, luscious peas one may gather. No peas bought on the market can compare with those grown in the home garden, picked at the right moment and cooked soon after they are gathered.

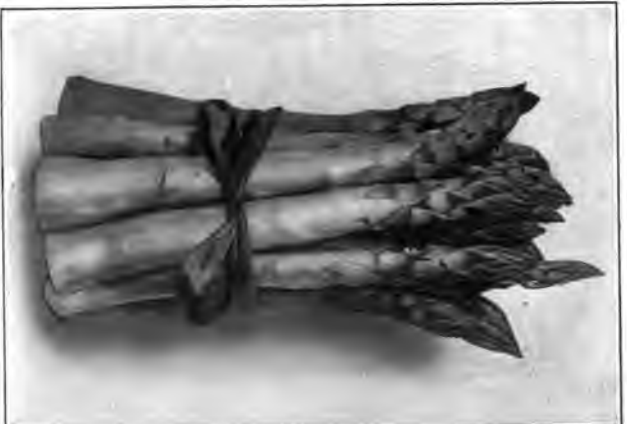
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Smooth-seeded peas are sown as early in the spring as the ground can be put in shape. The early wrinkled kinds should be sown about two weeks later, when the soil has become warm. Sow peas in drills, dropping the seeds about 2 inches apart in the row, and permitting 2 to 2½ feet between the rows for the tall varieties. The dwarf kinds may be planted as close as 18 inches apart. It is a good scheme to sow them in double drills with 4 inches between the drills. These broad rows will then support themselves and require no staking. For the tall kinds, drive a stake at each end of the row, or if the rows are very long, place the stakes about 10 feet apart. Then run twine from the base of the stake and between the stakes, placing the rows of twine 4 to 6 inches above each other.

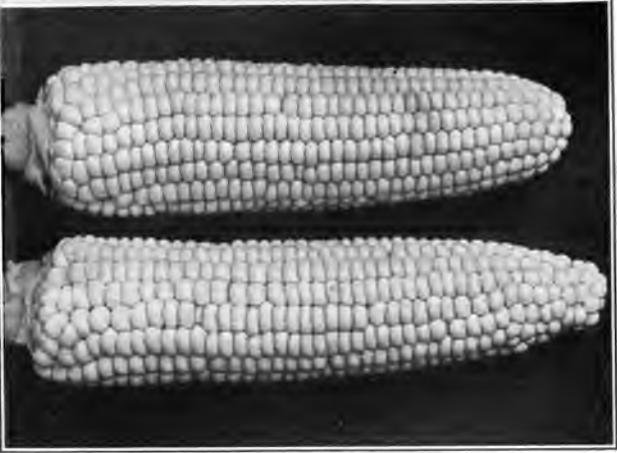
Peas appreciate liberal manuring. Excellent results are obtained by digging deep trenches in the bottom of which manure is placed. On top of this spread a layer of soil an inch or so thick and sow the seeds and cover with about 2 inches of good, loose soil.



Hoeing the Second Planting in the Home Vegetable Garden



Asparagus



Stowell's Evergreen Corn

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As the vines push through the soil, fill in the trench until it is level with the ground, then supply supports. Splendid crops of all good varieties may be raised if this method of planting is employed. Should the green aphids attack the vines, spray with a weak solution of kerosene emulsion, or a solution of whale oil soap. Both will prove effective.

Two distinct types of peas deserve consideration—the dwarf and the tall kinds. The dwarf are, perhaps, most suitable for home garden culture. However, the tall varieties which should always be staked, yield so much bigger crops, and bear so much longer, that they, too, deserve the planter's full attention.

The earliest among the dwarf peas is the smooth-seeded type, represented by Pedigree Extra Early, Prolific Early Market, and First and Best. As all these are very similar in both habit of growth, and character of pods, only one variety need be grown. The quality of these smooth-seeded early kinds is only fair. About five days

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later, if planted on the same day, the first of the sweet-flavored sorts will be ready for use. This is Gradus or Prosperity, a large-podded kind with very large sweet peas. Following closely in season come Sutton's Excelsior, Little Marvel and Thomas Laxton. Experts pronounce the last named the finest all-around American pea in cultivation today. In most sections of this country, none of the varieties mentioned will grow vines taller than 18 to 30 inches, according to variety. Gradus, in cool sections, will prove ideal in the home garden, since it will furnish a continuous supply of sweet luscious peas from the middle of May until the first week of July, if sowings have been made not later than the middle of April. Foremost among the tall varieties are Alderman and Boston Unrivalled, both maturing four to five days after the last picking of the early kinds has been used up. These varieties grow 4 to 5 feet tall, and should be staked.

Following these midseason varieties, come the late kinds, the three best of which

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are British Wonder, Champion of England and Potlach. Potlach is a decided improvement over the popular Nott's Excelsior. These late peas are dwarf, making vines 2 to 2½ feet tall. All are very prolific and mature pods in the order mentioned. After they mature, the weather usually turns so hot there is little use to attempt to grow peas for succession. But along in August several sowings of early kinds may be made, which will again provide the table with delicious peas just before frost. While the yields at that season will not compare favorably with those recorded in the spring, the quality secured in home-grown peas will make the extra effort worth while.

PEPPERS

Pepper plants are usually started by sowing seeds in the house or in hotbeds toward the end of February. The young plants are potted when they get large enough, in which shape they are kept under cover until cool nights are a matter of the past. A dozen

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plants provide usually an ample supply of peppers for all purposes. Set them in well-enriched soil, 2 feet apart each way, and cultivate freely. Hill the stems slightly to resist wind and weather. The best way in which to secure a succession of peppers is to pick out suitable varieties which bear at different seasons.

The earliest of all peppers of good size is Early Neapolitan, a medium-sized, elongated kind, of sweet flavor. Following Neapolitan in season comes Ruby King, which is easily the most popular and most widely grown sort in all sections of the country. Bell or Bull Nose follows Ruby King in season. Chinese Giant is the latest of all, but the largest of the large-fruited peppers suitable for making "mangoes." It is not recommended to grow Chinese Giant in sections of the country having a shorter season than northern Ohio, as its fruit requires a rather long season to mature.

A few plants of a small hot variety will be found useful for flavoring. The most popular of these is Long Red Cayenne, pods

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of which become 4 inches long by about 2 inches in diameter. Hottest of all small hot peppers is Tabasco, the kind used in the manufacture of Tabasco sauce. Another good kind belonging to this class is Red Cluster. Any of the above three will serve the purpose admirably.

PUMPKINS

Pumpkins were formerly grown in connection with field corn; since the advent of modern cultivators this practice is less general. As they are of rather spreading growth and are apt to "mix" with melons, squashes and other vining plants, they are rarely grown within the limited area of the home garden.

When sown with corn the pumpkin seeds are planted when the corn is thinned out and hoed for the last time, which is about the latter part of June. As the corn has usually made considerable headway before the pumpkin vines begin to run, these two crops may be produced on the same piece of

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ground without any detriment to either. Pumpkins have practically no insect enemies and are remarkably free from disease. They fail in hot dry seasons only when the corn absorbs all the moisture in the soil, causing a stunted growth of the pumpkin vines, and injury to the fruit. Pumpkins should be gathered before severe cold weather sets in. If they are handled carefully, they will keep for a considerable length of time. Among the best varieties for home use are Small Sugar and Crook-neck of the early sorts; Cushaw and Golden Oblong among the winter varieties.

To grow extra large pumpkins for fairs, care should be taken to make the soil extra rich by incorporating plenty of well-rotted stable or cow manure. Water freely, and reduce the number of fruits to two to the vine. Later in the season, remove one, permitting only the larger to develop.

RADISHES

The short season in which they mature if grown on correct soil and under proper con-

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ditions makes radishes adaptable to cultivation between other crops. Space that will be occupied by crops of later maturity may be utilized for the production of early varieties.

As early in the season as the ground is in fit condition to be worked, seeds of early spring varieties may be sown in the open ground in rows 8 to 13 inches apart. It is very important that radishes be thinned out to stand the proper distance in the row, so they may develop properly. The smallest kinds should be thinned to stand 1 to 2 inches apart in the row; larger and later varieties require 3 to 4 inches for proper development.

With proper management, radishes may be enjoyed from early in the spring until well into the winter. As the crops of early spring radishes deteriorate very rapidly, it is advisable to plant short rows often, rather than to plant one long row. Make repeated sowings of the earliest kinds and larger sowings of the summer and winter varieties which will stand the heat readily.

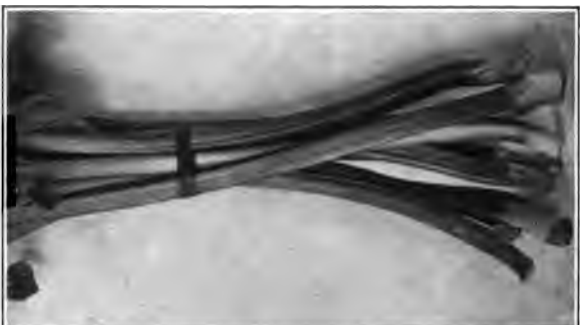
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Among the earliest spring radishes, several varieties will mature in 20 to 24 days. Rosy Gem is one of the earliest as well as one of the most beautiful of this extra early type. Ne Plus Ultra, Scarlet Globe, Snow Ball and Hailstone are all extra early round or turnip-shaped varieties. Among the so-called olive-shaped sorts, French Breakfast is easily the handsomest, while Twenty-Day Forcing is a splendid sort of solid scarlet. Next in season of maturity are the early long sorts, of which Wood's Early Frame, Long Scarlet Short Top, White Icicle and Cincinnati Market are the best. These mature in the order mentioned.

As hot weather approaches all these varieties become unfit for use. Beginning in June, sowings should be made of summer varieties, which have a firmer texture, and stand the heat better. The best known red, long, summer radish is Chartiers, while Long White Vienna and White Strasburg are the choicest white sorts of this type. These mature in July.



Early Jersey Wakefield Cabbage (above), Copenhagen Market Cabbage (below).



Rhubarb



Kohl-Rabi



Self-Blanching Celery

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Two distinct classes of winter radishes are found in the Chinese and the California types. California Mammoth Winter and White Celestial are the largest growing of the California winter radishes. Round Black Spanish and Long Black Spanish are of much firmer texture. They will keep well until spring if properly stored in sand in the cellar during the winter. Sowings of winter radishes should be made in July and should be treated in the same manner as turnips.

RHUBARB

Sow seeds thinly in drills about half an inch deep with 1 foot between the rows. Be sure to press the soil firmly over the row to insure even germination. Keep the row free of weeds and give frequent cultivation to encourage rapid growth of the seedlings. Early in the spring, before they start to sprout, take up these seedlings and transplant them to their permanent location, 2 to 3 feet apart each way.

Since rhubarb occupies the same piece of

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ground for years, it pays well to make the soil very rich, by incorporating plenty of well-rotted manure. A dozen plants supply usually an ample amount of stalks for a small family.

Rhubarb is easily forced by taking up a large clump late in the fall after all top growth has disappeared, and the clumps are frozen. Bring it into the house and place it in a barrel in the cellar. Soon, long delicate stalks will appear, which will make delicious sauce and extend the season for this delicious vegetable late into the winter.

SALSIFY

Often called oyster plant and vegetable oyster. Seeds should be sown in very shallow drills, 15 inches apart, during May, in fine, loose soil. Transplant seedlings to stand 4 to 6 inches apart in the row and cultivate freely to insure good size. The roots of this vegetable are very hardy and can be left in the ground or stored in the cellar during the winter. The best known variety

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for all sections is Mammoth Sandwich Island.

SPINACH

Spinach is a short-season crop which may profitably be grown in the same row with vegetables of later maturity, such as carrots and parsley. It does well only in cool seasons, although some of the newer sorts stand heat so well they extend the season of these delicious greens well into the summer.

Sow the seeds thinly in rows 12 to 18 inches apart. While it has been customary to let spinach grow in a solid row, much better results are obtained by thinning the seedlings to stand 6 to 8 inches apart in the row, thus giving each plant a chance for perfect development. In this fashion, large plants are raised, and are not only easier to clean, but also furnish more and better leaves.

Plantings made early in the spring are usually exhausted by end of June, when Swiss Chard, described under the heading of beets, will begin to serve the purpose of spin-

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ach greens. There is little use of planting spinach during July or August, but by the end of August sowings may be made for fall use. Repeated sowings during September will supply the table with spinach right up to cold weather.

The best varieties for the home garden are Victoria, Long Season and Triumph. The last sort produces fine, crisp plants of rather flat, spreading growth. New Zealand spinach, although not a member of the spinach family, may be considered another excellent substitute for greens during the hot summer months. This peculiar stranger from the southern hemisphere develops plants of remarkable size, some attaining a spread of 6 to 8 feet.

SQUASHES

Two distinct types of squash, the summer and the winter varieties, make this vegetable useful during a long season. Squashes have the advantage over pumpkins in having a number of bush varieties, which, on account of their compact growth, are adaptable to

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the small area of the home garden. There is very little difference in the requirements and cultivation of pumpkins and squashes, with the exception that squashes are always planted as a distinct crop.

Foremost among the bush squashes, rank the popular White Bush and Yellow Bush, the former being better known under the name of Patty Pan. Fordhook, a variety found in both bush and vining form, is likewise highly recommended on account of its excellent quality. While some of these early varieties are good keepers, they cannot compare with the winter squashes, which grow to much larger size and have a very hard shell. The most important of all winter squashes in most sections of the country is Hubbard, and a strain of it called Warded Hubbard. Another very popular variety in many sections of the east is Boston Marrow. A handsome sort of finest quality introduced in late years is Delicious.

Squashes, like pumpkins, should be stored before heavy frost makes its appearance. If they are put away in good condition and

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properly taken care of, they will keep almost until the next season's crop is ready.

TOMATOES

Tomatoes are among the most profitable crops in the home garden. Few other things yield as handsome returns to the square foot. With careful management, a constant supply may be secured from the middle of July until frost. Tomatoes are not particular as to soil. They thrive to perfection in nearly all parts of the country. The seeds are usually sown in a box in the house in February.

When the seedlings are 3 to 4 inches tall, they should be transplanted into other boxes 4 inches apart each way, or they may be set into individual paper pots. After the transplanted seedlings have become well rooted, they should be kept in a somewhat cooler temperature, in order to encourage a sturdy, stocky growth. Any time after the middle of May, or when all danger of night frost is past, the plants may be set in the garden, $2\frac{1}{2}$ to 3 feet apart each way. Where staking and pruning, as advocated below, is

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practiced, they may be planted as close as 2 feet apart each way, and good results may be gotten.

As a rule three dozen plants of the right sorts will furnish an ample supply for a constant succession from early in the season until frost. The tomato is a long-season crop. For this reason the planter should depend for a successive supply on varieties maturing at different seasons, rather than to make subsequent sowings of seeds. In preparing the soil in which plants are to grow, keep in mind that the danger lies in getting the ground too rich. This is apt to create too much foliage growth, to the detriment of the fruits.

The ideal way of planting tomatoes in the home garden is to set them to stakes 2 to 2½ feet apart each way, and reduce the number of branches on each plant to three of the strongest. These branches should be tied to the stakes with raffia or rags. When they reach a height of 4 feet, the tops should be cut off, to throw all the strength of the plant into the three branches. This mode of treat-

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ment will produce an abundance of handsome fruits that will ripen uniformly and be free of all defects.

Constant succession of fruit from early in July until frost may be secured by planting the following varieties: Spark's Earliana, the earliest of all bright red tomatoes, maturing in some sections as early as the first week in July, from plants set in the ground the middle of May. It is closely followed in season by Chalk's Early Jewel, another bright red sort of large size and somewhat milder flavor. When Chalk's is in full bearing, the first of the late kinds, of which Stone is the main representative, will become fit for use. By the time Earliana is exhausted, Chalk's should be in bearing. Chalk's as well as Stone will bear till frost. Of the pink or purple sorts, June Pink is the earliest. It resembles in many respects Earliana, among the bright red sorts. In Beauty we have the best main crop and midseason purple sort for all purposes. It bears during a long period and the fruits are of uniformly good size, shape and fine, mild quality. For

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those who like rather large-sized fruits, Ponderosa will fill all requirements.

Tomatoes have few insect enemies. During the middle of the season, large green tomato worms are apt to appear. They should be carefully picked off and destroyed. Should blight attack the vines, it may be well to spray with bordeaux. However, the safest course is to destroy blight-stricken vines by removing them from the garden and burning them. In planning the garden, care should be taken that tomatoes will not occupy the same piece of ground two seasons in succession. Disregard of this precaution is responsible for most of the blight.

TURNIPS AND RUTABAGAS

Extra early crops of turnips may be secured by sowing seeds of early kinds in the spring, as soon as the ground can be put in condition. The main plantings, however, are usually made at the end of July, with a view of storing the roots for winter use. Sow the seeds very thinly half an inch deep in

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rows 18 inches apart. Thin out the seedlings when they are about 4 inches tall, and cultivate the rows freely and thoroughly. The old way of broadcasting turnip seed is not recommended as practicable for the home garden, since too many of the roots will not develop properly.

Rutabagas, or Swedish turnips, are much later than common turnips, but have flesh of much firmer texture. They also keep better. Besides being grown for home consumption, both turnips and rutabagas furnish excellent stock feed.

Among the earliest varieties of turnips, Extra-Early White Milan and Extra-Early Purple-Top Milan are the most popular. Good main crop varieties of turnips are Purple-Top Strap-Leaved and Purple-Top White Globe. Excellent rutabagas are Yellow-Fleshed Neckless and Elephant, which latter reaches a good size. Both turnips and rutabagas should be stored in frost-proof cellars or buried in pits, to furnish a supply during the winter.