

Victory Gardens for Tenants of Housing Projects.

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VICTORY GARDENS FOR TENANTS OF HOUSING PROJECTS¹

HOW TO BEGIN. The first step in planning a victory garden is to decide on the location. If the rear yards are considered unsuitable for gardening, it will be the responsibility of the management to decide on the location of community or allotment gardens, and to assign a plot to each interested tenant. If the garden is to be adjacent to your dwelling you should be guided by the following suggestions in deciding on the location, arrangement, and size.

It is a mistake to dig up and plant more area than you and your family can comfortably care for. If you live in a row house, your garden will probably be limited by the size of your yard, unless you have one of the end units. If you live in a single or two-family house or if the buildings adjoin an open area, more space than you need is likely to be available.

Unless the rear of the building faces in a generally southern direction, the garden should be kept about 10 feet away from the house so that it will not be shaded. Vegetables will not do well in the shade. The location you choose should get at least 5 hours of sunshine on clear days. Don't locate your garden under or near large trees—besides the shade they give, the roots take so much nourishment and moisture out of the soil that it is impractical to attempt to grow anything near them.

SHAPE AND SIZE. In deciding on the shape and size of your garden, bear in mind that a bed longer than it is wide is better than a generally square one. It is advisable when possible to have the rows run north and south, but regardless of the points of the compass, the rows should run the long way of the garden for convenience in cultivating. As it takes about 2,500 square feet of garden to produce enough fresh vegetables for the average family, it is not expected, except in rare instances, that the garden will be big enough to supply all your needs for the season. Available space and time will, of course, govern the size, but no matter how small your garden, you will find it well worth the effort. Vegetables fresh from the garden taste better

than those bought in the market and contain more vitamins and higher food values.

ARRANGEMENT. It is a good scheme, before you begin, to make a plan of your garden on paper. A sheet of cross-section paper (paper marked off in small squares) is ideal for this purpose as it enables you to draw the plan to scale. Draw the rows and mark on each one what you intend to plant. This will help you to determine how much seed you will need. The taller growing vegetables like pole beans or tomatoes should be arranged so that they will not shade the lower growing kinds, like beets and carrots. If the rows run east and west, arrange the tall varieties on the north side, but if the rows run north and south, arrange the tall varieties in the center of the plot.

PREPARATION OF THE SOIL. Provided you have a fairly good location and give your plants normal attention, the results you get will depend almost entirely on how well you prepare the soil. It is impossible to stress this point too strongly. Of course, the amount of work you will have to do on the soil depends on the conditions you find. If the project soil is unusually good, all you will have to do is to dig up the area with a spade or digging fork, break up the lumps and remove the clumps of grass—shaking out the topsoil—and rake the soil into condition for planting—removing large stones, sticks, etc. If, on the other hand, the soil is very poor and mostly heavy clay, much more work will be required to get it in proper shape.

There is no advantage in working the soil in the spring until it is sufficiently dry. This is particularly true in the case of heavy clay soil. Heavy clay soils are benefited by alternate freezing and thawing during the winter months, and should be turned up in the late fall when possible. If the soil is so hard that it cannot be forked or spaded to advantage,

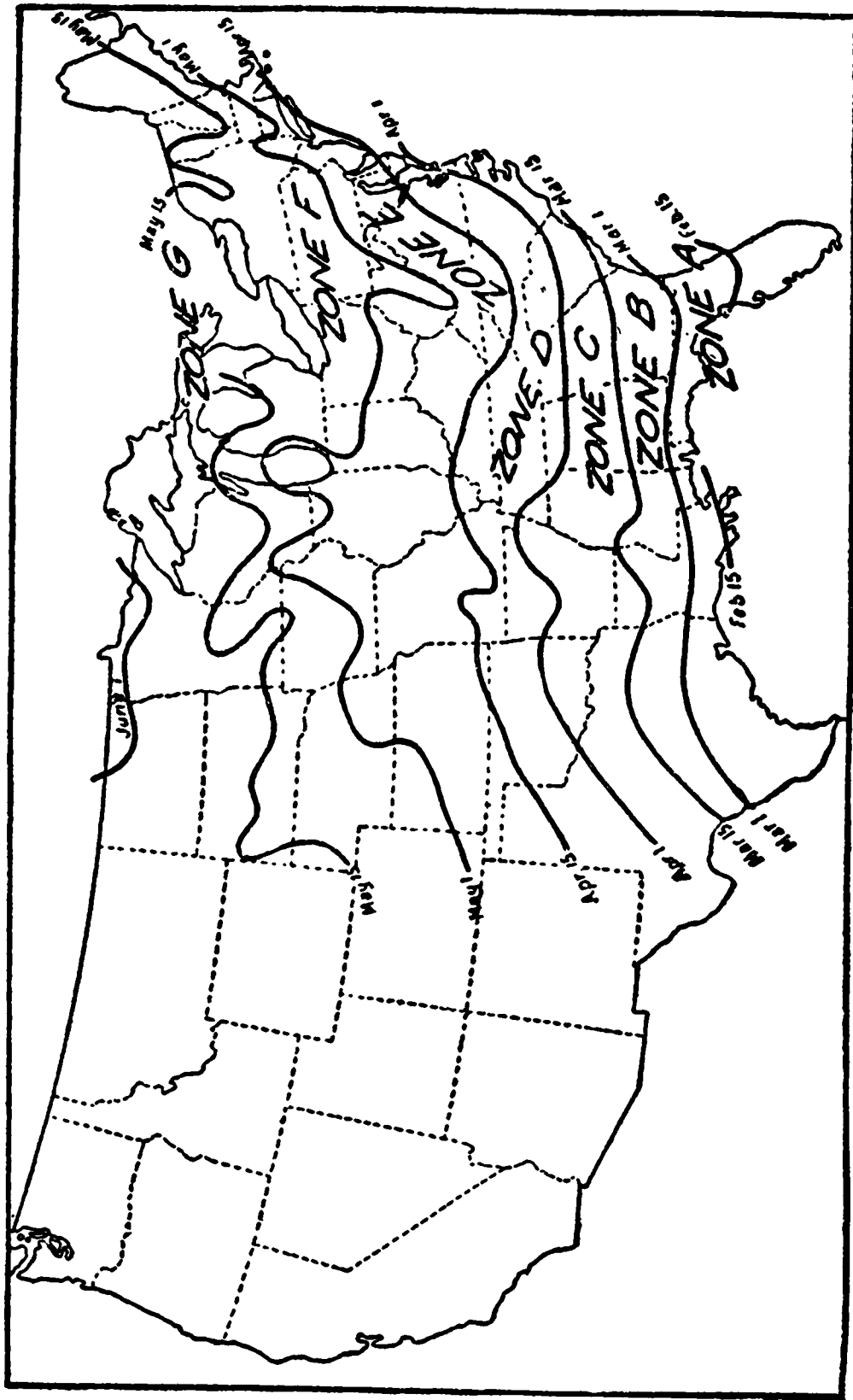
¹ Much of the information contained in this bulletin is based on information furnished by the U. S. Department of Agriculture.

EXHIBIT 1

Earliest safe dates for planting vegetables in the open in zones A to Z

[See also map on following page]

Crop	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	Zone G
Bean:							
Lima.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-15.....	May 1-15.....	May 15-June 1..	May 15-June 15..	
Snap.....	Feb. 15-Mar. 1...	Mar. 1-15.....	Mar. 15-30.....	Apr. 1-May 1...	May 1-15.....	May 15-June 1..	May 15-June 15.
Beet.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....	May 15-June 1..
Brussels sprouts..	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Cabbage.....	Jan. 1-Feb. 1.....	Jan. 15-Feb. 1..	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....
Carrot.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....	May 1-June 1..
Cauliflower.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Celery.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Chard, Swiss.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Collard.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..		
Corn, sweet.....	Feb. 15-Mar. 1...	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-May 1...	Apr. 15-May 15..	May 1-June 1.....	May 15-June 15.
Cucumber.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-15.....	Apr. 15-May 1...	May 1-June 1.....	May 15-June 15..	June 1-15.....
Eggplant.....	do.....	do.....	do.....	do.....	do.....	do.....	
Kale.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....
Kohlrabi.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-May 1.....	May 1-15.....	May 15-June 1..
Lettuce:							
Head.....	do.....	do.....	do.....	Mar. 15-Apr. 15..	do.....	do.....	Do.
Leaf.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....
Melon.....	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 1-15.....	Apr. 15-May 1...	May 1-June 1.....	June 1-15.....	
Okra, or gumbo...	Feb. 15-Mar. 1...	Mar. 1-15.....	Mar. 15-30.....	do.....	May 1-15.....	May 15-June 1..	
Onion sets.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 1-May 1.....	May 1-15.....
Parsley.....	Feb. 1-15.....	Feb. 1-Mar. 1.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-May 1.....	May 1-15.....	May 15-June 1..
Parsnip.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
Pea:							
Smooth.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-June 1..
Wrinkled.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 1..	do.....	May 1-15.....	May 15-June 1..
Pepper.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-15.....	Apr. 15-May 1...	May 1-June 1.....	June 1-15.....	
Potato.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-June 1..
Pumpkin.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-15.....	Apr. 15-May 1...	May 1-June 1.....	June 1-15.....	
Radish.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....
Salsify.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....	May 15-June 1..
Spinach.....	do.....	do.....	do.....	Mar. 1-Apr. 1.....	Mar. 15-Apr. 15..	Apr. 15-May 15..	Do.
Squash.....	Mar. 1-15.....	Mar. 15-Apr. 1..	Apr. 1-15.....	Apr. 15-May 1...	May 1-June 1.....	June 1-15.....	
Sweetpotato.....	do.....	do.....	do.....	do.....	do.....	do.....	
Tomato.....	do.....	do.....	do.....	do.....	do.....	May 15-June 15..	June 1-15.....
Turnip.....	Jan. 1-Feb. 1.....	Feb. 1-15.....	Feb. 15-Mar. 1..	Mar. 1-15.....	Mar. 15-Apr. 15..	Apr. 15-May 1..	May 1-15.....



Outline map of the United States, showing zones based on the average date of the last killing frost in spring. The time of planting for the various vegetables is determined for each section by the dates given on this map

you will have to use a pick or mattock and break it up to a depth of 8 or 10 inches. Plenty of manure, or well-rotted leaf mold and sharp sand will help to break up heavy soils and get them ready for planting. Anthracite or hard coal ashes are also valuable to assist in lightening heavy clay soils, although they have no value as a fertilizer. If used, they should be screened to remove clinkers, spread over the ground and thoroughly mixed with the soil. This operation can be repeated each spring and fall until the soil has reached the desired texture. *Bituminous or soft-coal ashes should not be used for any purpose in the garden except possibly for walks.* They will not lighten a heavy soil and they are detrimental to the plants. Very sandy soils are benefited by the addition of manure, leaf mold, or humus, as they are notably deficient in organic matter.

FERTILIZATION. Unless the soil is unusually fertile, it is essential to supply adequate plant food in order to get good results. The best plant food is well-rotted stable or cow manure and if it is available (or unless you have already used it in conditioning the soil), you should spread it over the ground about 2 inches thick (or about 1 pound per square foot) and thoroughly fork it into the soil. Complete chemical fertilizers, which can still be obtained in certain restricted formulas, can be used in the same way or can be worked in between the rows after the plants are up.

If the fertilizer is spread over the garden before planting, use about 3 pounds per 100 square feet or, in other words, about 15 pounds for a garden 16 by 30 feet. Cottonseed meal and bone meal are also good and can be used in the same way. Poultry, pigeon, or sheep manure are excellent for garden crops, but as they are very strong they should be used sparingly (about 10 pounds per 100 square feet). For the best results in a poor soil, fork the manure in before planting and after the plants are well established, dig in fertilizer around them, being careful not to disturb the roots.

The general use of lime is not advisable unless the soil is known to be very acid. It is better to apply a little lime to the crops that benefit by it, rather than to use it over the entire garden. Most vegetables do well in a slightly acid soil and all vegetables are injured by too much lime. Ashes from the burning of hardwood like oak or hickory are a valuable fertilizer, provided they have not

been exposed to the weather, as they contain quite a little potash. Ashes from pine or other soft woods are of little value. Ashes from paper or trash should not be used on account of the acid they contain.

STARTING THE PLANTS. Many vegetables, such as beans, peas, carrots and beets, can be planted in the open ground as soon as the danger of frost is past. If this is done, they are normally thinned out after the plants are up. Under present conditions, however, it is desirable to do as little thinning out as possible in order to conserve seeds. The seed should be planted sparingly and larger seeds placed at the distances apart that the plants are to grow. Other vegetables, such as tomatoes, peppers, early cabbage and early lettuce should be started in the house, or under glass, as they take longer to mature or are more sensitive to cold. Normally, plants of this type can be obtained at local stores in time for spring planting, but as the demand has greatly increased, it is advisable to start your own from seed rather than be disappointed.

Seed can be started in the house in shallow boxes or flats or, if only a few plants are required, in a cigar box or shallow tin with a few holes punched in the bottom. Fill the trays or boxes with sifted topsoil, smooth off even with the top and press the soil firm with a piece of board. Use the edge of a ruler or piece of thin board to make little grooves in the soil about 2 inches apart and about $\frac{1}{4}$ of an inch deep, in which to plant the seed. Scatter the seeds thinly in the rows and cover them by sifting a little soil over the entire surface. Smooth the top of the soil gently and water lightly with a fine spray. Be sure to label each row or group of rows so you won't forget where you planted the various seeds.

After the seeds are planted the boxes should be placed where they will be kept at an even temperature, as near 70° as possible. Keep the soil moist but not too wet and the plants should come up in 5 to 8 days. A piece of glass placed over the tray or box will help to retain the moisture and maintain the proper temperature. After the plants are up, the boxes should be placed in a sunny window and turned daily as the light will draw them towards the window. Water them thoroughly every day if the soil begins to look dry. When the plants are large enough to handle, they should be transplanted so that they will stand 2 or 3 inches apart in both directions. This is

absolutely necessary for proper development of the seedlings. If they are left in the rows as they come up, the plants will be weak and stringy and not fit to use in the garden. Seeds can also be started in the house in paper pots, cups or ordinary flower pots, but be sure to thin them out to a single plant, so that they can develop properly.

Another way to start early plants is in a cold frame. Possibly a group of tenants could cooperate on construction of a frame and start enough plants for all. A cold frame can be made from any sash that is available. Standard cold frame sash are 3 feet wide and 6 feet long and the size of the bed should be governed by the number of sash used. A framework of boards 18 to 24 inches high at the back and about 12 inches high in the front is set about 6 inches into the ground in a sunny location. About 3 or 4 inches of fine garden loam is spread evenly in the frame. Seeds can be planted directly in this soil and thinned out after they are up, or plants started in the house can be transplanted to the frame. Before the plants are transplanted to the garden, they should be hardened by giving them more ventilation each day and finally removing the sash entirely on sunny days, only replacing it at night.

WHAT TO GROW. In deciding on what crops to grow, you should be guided more by the suitability of the crops to your conditions and the ease or difficulty with which they can be grown than by your personal preference. Also you should consider that many vegetables, like potatoes, corn, cucumber, pumpkin, squash, and muskmelon require a great deal of space in relation to their yield.

Another factor to consider is your climate and the fact that certain crops are sensitive to cold and others dislike hot weather. By a little thought and planning, you can make your garden much more productive by arranging a rotation of crops—that is, following a spring crop with a summer crop or a summer crop with a fall crop. Also, by sowing seed every two or three weeks, you can have a succession of the same crop. Certain small vegetables, such as lettuce and radishes, can be grown between the rows of larger vegetables, but avoid crowding your garden to the point where proper cultivation becomes difficult.

The best vegetables to grow in a small garden, under average conditions, for the best results and the most food value are beans, tomatoes, carrots and beets. To these should be added

one or more of the green leafy vegetables like kale, spinach, chard, collards or turnip greens. The Department of Agriculture is also recommending sprouting broccoli for home gardens. However, it is a mistake to grow too many varieties in a small garden as this will naturally reduce each crop to a point where you won't be able to gather enough of any one vegetable at a time to serve your family. Tenants of war housing projects will hardly find it worth while to plant perennial vegetables like asparagus and rhubarb, as they take up too much space and take too long to produce.

Here are a few important DON'TS:

1. Don't neglect proper preparation of the soil.
2. Don't start too late in the spring or don't start too early. The fruit trees are a good guide to the season. When the apples bloom almost anything can be planted outdoors.
3. Don't plant all your seed at one time. Make successive plantings for a continuous yield.
4. Don't *fail* to plant crops for winter use or storage such as kale, turnips, beets, carrots and cabbage.
5. Don't attempt to grow vegetables in the shade.
6. Don't order more seed than you need and don't plant more than you need to get a stand. Share your seed order with your neighbors or give them your surplus seed. *Don't waste seed.*

Following are brief cultural notes on the principal crops, which may be helpful—they are applicable under average conditions and subject to modification for certain soils and climates. In heavy soils avoid planting seed too deep, in light soils plant to the full depth given. The time given when it is safe to plant outdoors is for the latitude of New York; further south, plant earlier; further north, plant later. (Detailed information regarding planting times can be found in *Exhibit 1* of this bulletin.)

1. Beans. The most important crop for the small garden. Beans are high in food value, can be grown in almost any soil and give a large amount of food in relation to the space required. They do not need a great deal of fertilizing. Snap, or string, beans should be grown in every victory garden either in bush or pole form,

preferably both. Avoid cultivating beans of any kind when they are wet, as brushing against the foliage will spread disease.

(a) *Snap or string beans. Bush form.* Plant outdoors from May 1 to 15, but not before weather is settled as they do not like cold. Plant seeds 1 to 1½ inches deep in rows 2 to 2½ feet apart. Plant seeds 3 to 4 inches apart so that no thinning out will be necessary. Plant every 2 or 3 weeks until August 1 for a continuous supply. One pound of seed is sufficient for 200 feet of row, one packet for about 35 feet. Beans are most delicious if they are picked before they have reached full size. This will also make the plants bear longer.

(b) *Snap or string beans. Pole form.* As they are less hardy than bush beans, pole beans should be planted about a week later. Although they come in later, they continue to produce much longer. Kentucky Wonder is one of the best varieties. They can be eaten pod and all while young and tender, as shelled beans when more mature or as dry beans after they ripen. Plant in hills about 3 feet apart with a rough pole about 7 feet long in the center. Put about 4 beans 1½ to 2 inches deep around each pole and firm the soil well. They twine counter-clockwise and should be given a little help in getting started. They can also be grown on a fence or trellis.

(c) *Lima Beans.* Although the limas can be grown in any type of soil, they do best in a rich well-drained sandy loam and require more fertilizing than snap beans. As the seed is sensitive, they should not be planted until the ground is quite warm and fairly dry—generally May 15 to June 1 or a week or two later than snap beans. The bush limas should be planted in rows about 2 feet apart. Plant the seeds edgewise, eye down about 10 inches apart. Pick the pods as soon as the beans have reached edible size. Any beans that become too old for immediate use, should be allowed to ripen and saved for planting next season or for use as dried beans. Pole limas are grown the same as pole snap beans, except that they should be planted about a week later. They mature later than the bush form of lima, but give a bigger crop in relation to the square foot of garden space. One packet of seed will plant about 12 poles. They can also be grown on a fence or trellis.

2. Peas. Although high in food value and a rich source of Vitamins A, B, and C, peas require considerable space, as 15 feet of row

should be planted for each person in the family. Peas may well be omitted where space is very limited or only an early crop planted. Peas are a cool weather crop and can be planted just as soon as the ground can be worked (March 15 to April 15). Plant about 2 inches deep in rows 1½ to 3 feet apart, according to the size of the variety and about 1 to 2 inches apart in the rows. The taller growing varieties will require some support, such as brush stuck in the ground, but the shorter kinds can be planted in double rows (two rows about 8 inches apart) so that the plants will tend to support each other. To enjoy peas at their best, they should be picked while tender and cooked within a few hours. One packet of seed is sufficient for 30 feet of row, 1 pound for 150 feet of single or 2 pounds for 150 feet of double row.

3. Beets. Beets should be grown in every victory garden. They are not particularly sensitive to heat or cold and can be grown in almost any soil. However, it is wise to apply a little lime to the soil if it is known to be very acid. Sow the first crop outdoors as soon as the ground can be worked (April 15 to May 1) in rows about 16 inches apart and plant the seeds 1 inch deep. Beet seeds are actually fruits, each containing two or three seeds and therefore should be sown thinly and after they are up, thinned out to stand about 3 inches apart. If they are not too thick at the start, they can be allowed to reach a height of 4 inches before thinning and the thinnings used for greens. A row 50 feet long (requiring 1 ounce of seed) will furnish enough early beets for the average family. For a continuous crop successive sowings should be made every three or four weeks, up to the end of July. The later sowings will produce the best beets for winter storing. Dig them before cold weather and store in a cool place, packing them in slightly moist earth until ready to use.

4. Carrots. Carrots are a rich source of vitamins, A, B, and C, and are particularly desirable for children. They are hardy, easily grown, and take relatively little space. Successive planting every 3 weeks will insure a continuous supply. Plant the first crop as soon as the ground can be worked (April 15 to May 1), in rows 14 to 16 inches apart. The rows of smaller varieties can be as close as 12 inches apart. One-quarter of an ounce of seed is sufficient for two sowings of 50 feet each. Plant about 15 or 20 seeds to a foot and cover them with a half inch of light soil or not more than

a quarter of an inch of heavy soil. When they are large enough to handle, thin to about 2 or 2½ inches apart. Or, the plants can be left closer and thinned a second time, using the first young carrots, when they are about half an inch in diameter, as creamed baby carrots. During a drought, carrots should be watered freely as they are inclined to split if the growth is checked. Late crops can stay in the ground until after the first frost, then dug, topped and stored for winter use. Nantes and Touchon are good reliable varieties.

5. Tomatoes. No victory garden is complete without a few tomato vines, as they take little space and produce freely. They can be grown on poles, fences or trellis with little difficulty. To have tomatoes early, the seed must be sown in the house about 5 to 7 weeks before they are to be planted outdoors. Two small packets of seed, one of an early and one of a late variety, will provide enough plants for a small project or a large group of tenants. Possibly you can arrange with your neighbors to grow tomato plants for their gardens.

Start the plants in a flat box or tray as described in the general directions under "Starting the Plants." As soon as they form one or two true leaves, they should be transplanted to other boxes or to a cold frame, and given about 3 inches of space each way or transplanted to 3-inch pots or quart berry boxes—one plant to a pot or box. Tomato plants can be set outdoors as soon as the danger of frost is past (May 1 to June 1). The best way to grow them in a small garden is to prune the plants to a single stem, or at most two stems, and tie them to 5-foot stakes with soft twine or strips of old cotton goods. By this method, the plants can be set as close as 2 feet in each direction. If preferred, they can be tied to a trellis made of light boards or lath or to a handy fence.

The plants are pruned by pinching out the side shoots where the leaf joins the main stem. The fruit clusters appear on the opposite side of the stem where there is no leaf. Marglobe and Rutgers tomatoes defy disease and produce firm juicy fruits. Jubilee is a fine new mild-flavored, golden-yellow variety. Ponderosa is an old favorite that produces large delicious fruits.

6. Kale. Because it is very high in the essential vitamins, as well as in food value, kale is strongly recommended. A pound of kale contains 225 calories as compared to 110 for

spinach. Kale is a spring or fall crop and can be left late in the ground as it is improved by a light frost. In fact, where the temperature does not go below zero, it can be planted in the fall for use the following March and April. A row 50 or 60 feet long planted during June will give an ample supply for fall and early winter. For a spring crop sow about April 1 in rows 2 feet apart. Sow the seeds a half-inch deep and thin the plants out later to stand about 12 inches apart in the row. One ounce of seed will plant about 200 feet of row, 1 packet, 30 feet.

7. Spinach. Spinach is a cool-weather crop and in warm climates it is useless to attempt to cultivate it in midsummer. It does not like an acid soil; therefore, a little lime should be mixed with the soil if it is known to be very acid. For an early crop, sow the seed about April 1 in rows 14 to 16 inches apart, covering the seed to a depth of half an inch. When the plants are up, thin them out to stand about 4 inches apart. Long-standing Bloomsdale or Savoy are good varieties for home use. Two or three successive plantings can be made until about June 1. For fall use, plantings may be resumed about August 15. One packet of seed is sufficient for 25 feet of row, 1 ounce for 100 feet. Spinach requires ample fertilization. Rotted manure (at the rate of 1 pound per square foot) and commercial fertilizer (at the rate of 4 pounds per 100 square feet) should be thoroughly mixed with the soil before planting.

New Zealand spinach, while not related to common spinach, is a valuable green and unlike regular spinach, thrives in hot weather. It makes strong plants which will give a continuous supply of young greens during the summer and fall. The seed is slow to germinate; therefore, it's a good plan to soak it in water overnight before planting. Sow the seeds about an inch deep, in rows 3 feet apart, as soon as the danger of frost is past. Thin the plants to stand 2 feet apart. In gathering, the tops are cut off which makes the side shoots develop and prolongs the yield. It thrives in almost any soil and stands drought well.

8. Lettuce. Lettuce is one of the few garden crops that does not require full sunshine. It is very sensitive to heat and therefore does best as an early spring or late fall plant. Lettuce prefers a rich moist cool soil to which a little lime should be added, if the soil is very acid. It requires little space and can be grown between other crops that take longer to ma-

ture. The heading varieties are more difficult to grow than the loose-leaf varieties, as they are more sensitive to adverse conditions. Lettuce will stand a temperature as low as 25° F. In regions where warm weather comes early, it is generally useless to sow head lettuce outdoors and expect firm heads. For an early spring crop, sow seed indoors about March 1, and plant out in April in rows 18 inches apart. Heading varieties should stand about a foot apart in the rows, but the loose-leaf varieties can be grown as close as 4 to 6 inches. For a fall crop, sow outdoors in August about ½ inch deep and thin out after the plants are large enough to handle. If sown thinly, the young plants pulled out in thinning can be used on the table. Grand Rapids and Early Cured Simpson are good loose-leaf varieties. Good heading varieties are Big Boston, New York, Hanson, and May King. Mignonette, though small, is one of the surest heading and most tasty of all lettuces.

9. Onions. Onions can be grown from sets (small onions grown the previous year) or from seedlings, or seed. The usual method is to plant a quart or two of sets as early in the spring as the ground can be worked. In the South, the sets can be planted in the fall and mulched for the winter. If planted in rows, the sets should be placed root end downward, about 3 inches apart and covered to a depth of 1 inch. Onion plants can frequently be purchased in the market; they produce good mature onions and are a little less expensive than sets. Plant in rows 12 inches apart with plants 3 inches apart in the rows. Onions grown from seed are satisfactory in the North, where the summers are relatively cool. Sow seed indoors in February or March and plant in the garden in April or May, or sow outdoors ½ inch deep in late April or early May. Fully grown onions should not be pulled until the tops have broken over and partially ripened. Mature onions should be stored in a cool dry place.

10. Cabbage. Only a few heads of early cabbage should be grown in a small garden. The plants should be started indoors, or purchased in the market, but can be set out quite early if properly hardened off. Set the plants about 15 inches apart. It is important to give cabbage plenty of plant food so that it will make a quick tender growth. Late cabbage can be planted as a follow-up crop for early snap beans. Rows should be 30 inches apart and

plants 18 inches apart in the row. Sow outdoors in late May or early June about ½ inch deep. Owing to the prevalence of the cabbage yellows disease, only the resistant strains, such as Early Jersey Wakefield, Golden Acre or Wisconsin All Seasons should be planted. Cabbage can be stored in a cool dry cellar or in an outdoor pit in the garden.

11. Broccoli. Green or sprouting broccoli, which belongs to the cabbage group, is fast replacing cabbage in many small gardens because of its long season of yield and because it is excellent for canning. The cultural directions are similar to cabbage. Sprouting Broccoli is very resistant to heat. Spring-grown plants in the latitude of Washington, D. C., will yield until midsummer or later. The sprouts carrying the flower buds are cut about 6 inches long, and other sprouts arise in the axils of the leaves, giving a continuous harvest. Sprouting Broccoli is not difficult to grow and it is strongly recommended for the small garden.

The cabbage group also includes cauliflower, kale, collards, brussels sprouts and kohlrabi; general cultivation is practically the same for all. Kale has already been described and recommended. Cauliflower is somewhat difficult to grow and is not generally recommended.

MISCELLANEOUS. In addition to the items mentioned above, there are many other crops that may be considered. Most tenants will want a few radishes and they are easily and quickly grown. Ten feet of row should be ample for the average family. Turnips, which in the North are planted as a late season crop and harvested after the first heavy frosts, or in the South as a spring crop should also be considered. Turnip greens are a valuable source of vitamins and minerals—for greens, only the variety Seven-Top is recommended. Sweet corn, which everyone would like to grow, takes so much space that it is not adapted to small gardens. If grown, the rows should be about 3 feet apart and the hills of (three plants) about the same distance. Corn requires a rich soil and should not be planted until the ground is warm. Potatoes also requires a great deal of space and therefore have no place in a small victory garden. The same is true of the vine group, such as cucumber, squash and muskmelons. Most people like sweet peppers and as six or eight good plants are enough for the average family, a small space may be found

for them. The plants should be handled in the same manner as tomatoes, but remember that peppers are more delicate and will not withstand any frost.

CARE OF THE GARDEN. Victory gardeners should keep in close touch with their gardens and give them a little daily care. If this is done, it will be found that the work required is less arduous than if it is allowed to accumulate for a week or more so that the whole area must be worked at once. Cultivating is the principal item—as soon as the soil is dry enough to be properly worked after each rain, it should be thoroughly hoed to kill weeds that have sprouted and to leave the surface in a loose, friable condition. Cultivation should not be deep enough to injure the roots that lie near the surface. During dry periods, do not let the soil bake. With certain soils it is advisable to mulch the area between rows with straw, dried lawn clippings or leaves to conserve moisture, keep down weeds and keep the soil from packing and baking.

The garden should be kept free of weeds as they rob the plants of water, nutrients, space and light. Weeds that come up again after cultivation should be pulled up and carried out of the garden.

WATERING. Frequent light watering is a bad practice and is one of the commonest mistakes made by amateur gardeners. If the garden needs watering, it should be thoroughly and deeply soaked and watered again only when the soil shows signs of becoming dry. Do not judge the condition of the soil, either before or after watering, by the surface. Often the surface will appear very dry when investigation will prove that there is ample moisture below the surface. Similarly, the soil may appear very wet after watering and investigation will show that the water has penetrated to a depth of only half an inch or less.

Generally speaking the best method of watering is to thoroughly soak the soil about once a week provided there is insufficient rainfall. One of the best ways to do this is to open slight furrows along the rows and allow the water to flow gently along these furrows. If this is done (the evening is the best time) it is important that the pressure from the hose should not be strong enough to wash the soil from the roots of the plants. In small backyard gardens watering may be done with a

sprinkling can, in which case owing to the labor involved, it is much more likely that insufficient water will be applied to reach the roots.

DISEASES AND INSECTS. It is impractical to attempt to give a complete discussion of the many insects and diseases that attack garden crops. However, the beginner should understand that there are two main classes of insects to be dealt with: The chewing or biting insects, which are controlled by the use of stomach poisons, such as arsenate of lead or paris green, or by hand collection; and the sucking insects, especially plant lice, which must be controlled by contact poisons such as nicotine or pyrethrum.

Some of the most important disease control measures are soil treatment, seed treatment with fungicides, spraying and dusting with fungicides and the use of disease-resistant varieties. The latter method is by far the most satisfactory when possible and fortunately, great improvement has been made along these lines in recent years.

Small compressed-air sprayers are satisfactory for the small garden and one might be purchased by a group of tenants or possibly borrowed from the management. Even an ordinary Flit gun can be used where the crop to be sprayed is very small. Powdered poisons may be applied by means of a small cheesecloth bag, the poison being dusted on the plants when they are moist with dew.

Whenever poisons are used, great care should be taken to see that they are stored in a safe place where there will be no chance of children or animals being poisoned. Garden crops should not be sprayed or dusted with poisons after the edible portions have formed.

Tenants who are not familiar with the insect or disease and the proper treatment should consult the project manager who will get in touch with the proper authorities to obtain the necessary information. He may also have on hand a copy of Farmers Bulletin No. 1371, Diseases and Insects of Garden Vegetables which will doubtless help you to solve the problem.

TOOLS. In its bulletin on Victory Gardens, the United States Department of Agriculture warns us that metals and tools are scarce during wartimes and suggests that we buy only our minimum requirements, keep them clean and well-oiled, and take good care of them. This is

very important and it is to be hoped that tenants of housing projects will cooperate in every way possible.

For a small garden, the essential tools are a spade or spading fork, a steel rake and a common hoe. In hard soils a grub-hoe or pick is very useful. Many other tools, especially a trowel, are nice to have but not absolutely necessary. A strong cord is helpful in laying out the rows and a short length of hose, or a sprinkling can, is essential for watering.

Fortunately tenants of housing projects can do much to make a few tools go a long way.

Through your garden clubs, groups of tenants can arrange for the cooperate purchase and use of essential equipment. Also, the project manager should be consulted as he may have quite a few tools on hand that he can loan or sell to the tenants. If tools cannot be obtained in this way, a search of the second-hand market should be made. Nearly every farm home has a certain number of discarded tools in the shed or barn that can still be put to good use. If you put second-hand tools to work to grow your own vegetables, you will be making a definite contribution to the war effort.