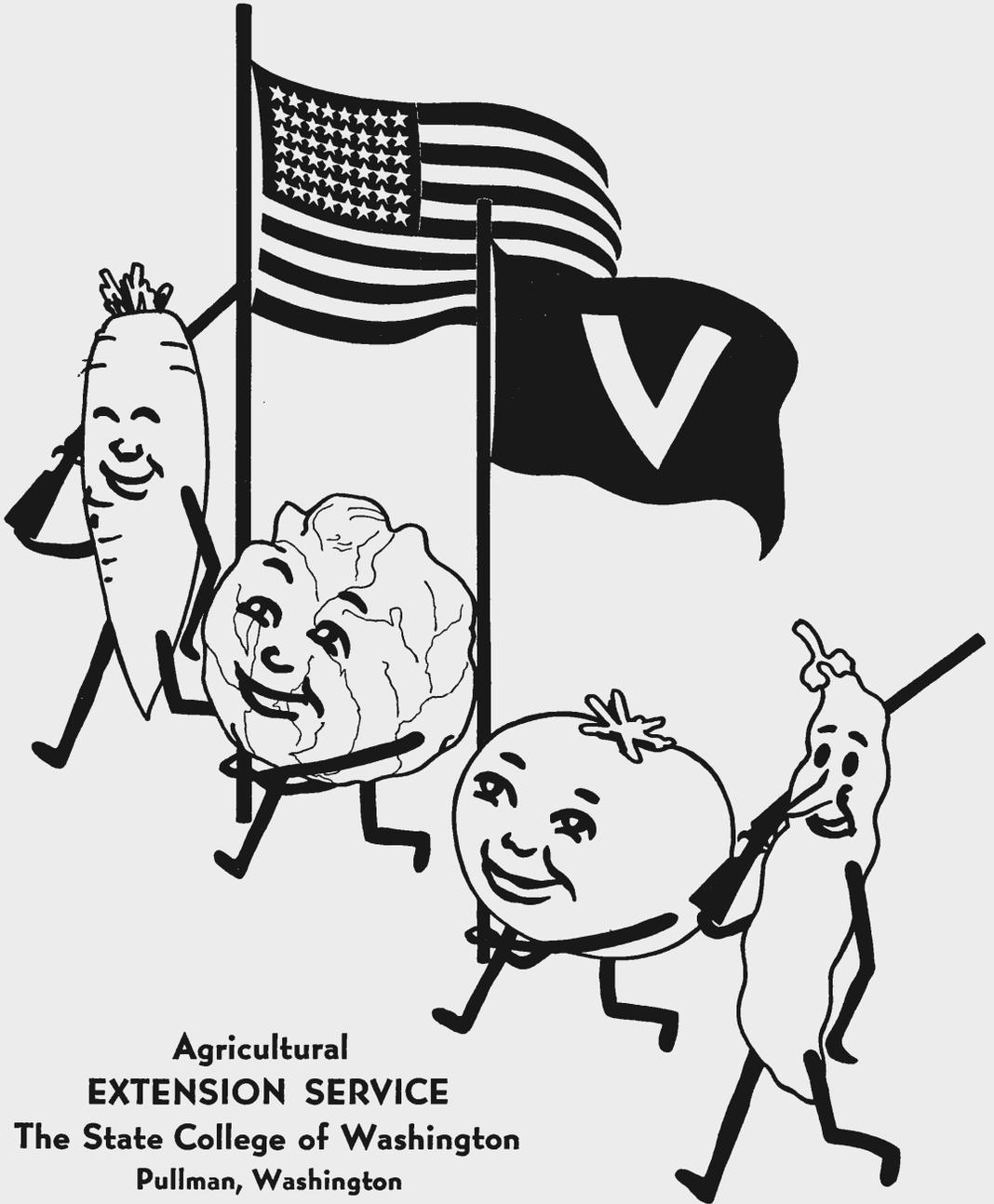


Victory Gardens



Agricultural
EXTENSION SERVICE
The State College of Washington
Pullman, Washington

VICTORY GARDENS

by

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Gardening is fun. You sow a handful of seeds and gather baskets full of vegetables. You help yourself to fresh air and sunshine as you wish. Exercise is yours without fees or travel. As you work with plants in the garden they share your burdens and cares. In addition to these and numerous other immeasurable benefits you enjoy all the health-giving elements fresh vegetables contain. The food you produce for yourself will help win the war.

A good garden, like other worthwhile achievements, requires work. It does not come just from a spurt of enthusiasm in the spring. There must be a "hang-over" of enthusiasm lasting until the garden season is over.

Select Location Carefully

Ideally the garden should be located near the house where spare time can be used in its care and the housewife can conveniently get fresh vegetables for each meal. If a convenient plot of good soil is not available, it is better to go some distance from the house than to try to garden on unsuitable ground. Occasionally the amount of soil near the house is not sufficient for the whole garden. It then becomes necessary to plant the vegetables needed for table use, during the growing season, near the house and the others elsewhere, perhaps in the field where they can be cared for along with field crops. Late potatoes and peas, beans, corn, cabbage or root crops that are harvested in large quantities for processing or storage can be handled in this manner.

Size of the Garden

The garden should not be so large that it cannot be given proper care. More vegetables can be produced on 100 square feet of garden soil given good care than on several hundred square feet if neglected. Extra space will not take the place of good care.

How the garden is going to be cared for should be considered when deciding upon its size. If it is to be cultivated with horse-drawn or power equipment, it should be larger than if cultivated by hand. Between one-eighth and one-quarter acre should be adequate for the average family except in irrigated regions where this amount may be reduced somewhat. In drier areas such as the Big Bend in Eastern Washington, the size of the garden should be increased to three-fourths to one acre to allow sufficient moisture for plant development.

Planning the Garden

A good garden does not just happen. It is the result of careful planning, and the benefits are enjoyed throughout the season.

Fence corners and angular plots are eliminated when possible, because they require extra labor in keeping the garden clean. In fairly large gardens,

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vegetables may be planted in long rows to permit the use of horse or power equipment where it is available. Its use reduces hand labor and frequently provides better cultivation than obtained by hand. If the required amount of any given vegetable does not fill one row, others may be planted in the same row.

It is customary to group vegetables in the garden according to planting time as given on page 14. Those planted first are placed on one side. Next come those planted second in order, and so on until the whole garden is planted.

Cool weather vegetables belong in the first two planting groups. These do not grow well in hot weather and, because they withstand low temperatures, they may be grown during frost periods.

Among the cool weather vegetables are those which may be planted extremely early, even in the fall if convenient. These are referred to as the **first group** in the planting scheme on page 14. (Spading or plowing part of the garden in the fall rather than in the spring may permit planting earlier than if plowing is delayed until spring.) These early vegetables may be planted as soon in the spring as the surface soil can be worked into a seed bed. The frost need not be completely out of the ground if the surface soil is dry enough to permit planting. To this group belong such vegetables as radishes, lettuce, spinach, onions, and early peas. Radish, lettuce, spinach and onion seed may be scattered on the surface of the soil as early as February.

The last of the cool weather vegetables, referred to in the diagram as **group two**, may be planted as soon as the soil is warm, even though the average date of the last killing frost is two or more weeks hence. These crops withstand freezing temperatures without injury. To this group belong such vegetables as carrots, parsnips, salsify, early cabbage, parsnips and beets.

The **third group** includes warm weather crops such as beans and tomatoes. These grow best during warm weather and are easily injured by frost. They are planted a few days before the average date of the last killing frost. In this way the plants are not exposed to frost and are up as soon as the frost-free period arrives. Those which are transplanted are put out immediately following the average date of the last frost. To plant them earlier not only risks injury from frost, but offers little, if any advantage in earliness because the young plants make little growth before the appearance of good growing weather.

The **fourth group** consists mainly of late cabbage and potatoes which are planted as early as necessary to give them enough time to mature before freezing weather arrives.

Some cool weather crops referred to as **group five** in the diagram on page 14 can be grown during the cool fall season. Generally, such vegetables as beets, carrots and turnips which are stored for winter use are better if grown in the fall than if grown in the spring.

Small Gardens

Where the garden is limited to a very small area, an effort should be made to grow those crops that produce the greatest nutritional values for the space used. Carrots, potatoes, onions, beets, broccoli, cabbage, celery, winter squash, turnips, spinach, snap beans, cauliflower and tomatoes in the order named produce the greatest values for the space used. Pole beans rank higher than bush beans. Radishes, lettuce and peas, which are often grown in home gardens, rank low in values produced in the space used.

Some conservation of space can be gained by trellising vine crops, by pruning and staking tomatoes and having the plants closer together, and by planting rows of small crops such as beets, carrots and onions a foot or even less apart where soil fertility and moisture conditions permit. Scattering the seeds of such crops as carrots, beets, turnips, and onions

in bands four to six inches wide rather than narrow rows will give greater utilization of space. Making double rows, four to six inches apart, with wider spacing between pairs of rows will also increase production per unit of area. Greater utilization of space can also be made by planting summer and fall crops in the rows from which early crops are removed.

Crowding crops together and growing more in a small space means greater fertilizer and moisture requirements. Allowances must be made for this in the soil management program.

Soil

The soil is the basis of success in gardening. A loamy soil, well supplied with organic matter, is well suited for the production of most vegetables. This does not mean that other types of soil cannot be used. Even relatively poor soils may be made productive if given proper management. The productivity of the garden is sometimes limited by trees that shade the crops and deplete the needed moisture. To avoid this handicap the garden should be away from trees.

PREPARATION OF SOIL

Time used in preparing the soil before planting is time well spent. It is usually desirable to plow or spade the garden to a depth of six or eight inches. Plowing may be done in the fall or spring. If done in the fall, the soil will settle and become mellow and free from large air spaces by planting time. In regions where weeds grow throughout the winter, it is sometimes desirable to delay plowing until late winter or early spring. If plowed in the spring, the soil should be disked thoroughly before plowing. Where fall plowing is practiced, it usually is not necessary to replot in the spring except where plant growth, either of weeds or green manure crops, is appreciable. Disking and harrowing is usually necessary in preparing the seed bed where either spring or fall plowing is done. Hand tools may be used if larger tools are not available or on small plots where it is impossible to use larger tools.

FERTILIZERS

The soil may be considered a reservoir of plant foods. If the supply is exhausted, the plant suffers. Stable manure, applied at the rate of 10 to 20 tons per acre in the fall or winter is perhaps the best means of restoring part of the soil fertility. When poultry manure is used, this quantity may be cut in half. If possible, use well rotted manure. Spade, plow, or disk it thoroughly into the soil.

Leaves, lawn clippings, and other organic materials may be converted into good fertilizers by piling the leaves and other material in successive layers six inches deep and sprinkling each layer with a mixture of ammonium sulfate superphosphate and lime. These ingredients are mixed at the rates of ammonium sulfate, 45 pounds; superphosphate (ordinary), 15 pounds; and finely ground limestone, or hydrated lime, or oyster shell, 40 pounds. One hundred fifty pounds of this mixture is used for each ton of the material to be composted. The compost pile is then wet down and allowed to decay. The pile should be kept moist but not wet enough to cause a loss of liquid from overwetting. It will be ready for use in about 90 days. The pile should be turned once or twice.

If manure is not available, a mixture of commercial fertilizer may be used. The grade 6-10-4 has been designated as the only grade of "mixed fertilizer" that may be used on "Victory Gardens." It is labeled "Victory Garden Fertilizer—For Food Production Only."* This adjustment in recommendations, made necessary because of the scarcity of chemical nitrogen, does not alter the value of mixtures recommended previously which are

*Commercial fertilizers are commonly designated by using three figures such as 6-10-4, 3-10-7, or 5-10-10. The first figure indicates the number of pounds of nitrogen in 100 lbs. of the fertilizer; the second figure refers to phosphoric acid; and the third refers to potassium.

also included in this bulletin. In general, the 6-10-4 mixtures may be substituted for mixtures used previously.

The Western Washington Experiment Station suggests a 3-10-7 for valley soils, a 5-10-10 for hill soils, and a 3-10-10 for muck or peat soils. The commercial fertilizer may be applied at the rate of 500 to 800 pounds per acre.

According to investigational work conducted in Eastern Washington by the Washington Agricultural Experiment Station at Pullman and branch stations, nitrogen is the principal limiting fertilizer element with vegetables in that region of the State. Phosphorus and potassium alone or in combination have not given added benefits. A nitrogen-carryng fertilizer such as ammonium sulfate applied at the rate of approximately 400 pounds per acre or 10 pounds per 1000 square feet is suggested.

The growth of some vegetables can be improved by placing small quantities of the above mixture in the soil near the roots. Care must be exercised when so placing the fertilizer to avoid injury to the roots. Directions for applying it to those crops which may be benefited in Western Washington by this practice are given in Table 1. For Western Washington the rate suggested in the table is in addition to the 500-800 pounds of commercial fertilizer or the barnyard manure applied earlier.

ROTATION

Rotating garden crops, rather than planting each in the same place year after year, improves the soil condition and contributes materially toward control of certain plant diseases. Planting may be started on one side one year and on the other the next.

By rotating garden and summer fallow two years of rainfall may be accumulated for the moisture necessary in growing a garden in the drier area.

FALL PREPARATION

As soon as the vegetables are taken from the garden in the fall, the soil should be put in shape for the next year. If manure is available, it may be applied before fall plowing. Whether the garden is plowed in the fall or not it should be cleaned of all debris, and sown to a green manure crop. A mixture of vetch and rye is good. The green manure crop should be sown as early in the fall as possible, and disked thoroughly in the spring before it is turned under.

GOOD SEED BED ESSENTIAL

Too much emphasis cannot be placed upon the importance of preparing a good seed bed. Seeds placed in moist, fine soil germinate readily. Small seeds placed in cloddy soil, usually germinate poorly, or germinate and soon die because the soil dries before the roots become established. Fine, mellow soil about the starting seedlings as they push through the soil favors good root penetration and results in strong, vigorous plants.

SEED TREATMENT AND SOIL STERILIZATION

In most soil and sometimes on the seeds there is a number of mold organisms capable of causing seed decay or death of young seedlings of many crop plants. These diseases are apt to be especially bad when garden crops are planted early in the season, when the soil is wet and cold. However, such disadvantages of early planting may be largely eliminated by dusting the seeds with Semesan, Spergon or Arasan. These fungicides and their use on seeds are described on page 21.

For hotbeds, cold frames, starting flats, etc., where seed decay, damping-off and root rot are likely to occur, it is a good idea to treat the soil. Soil sterilization on a large scale may be accomplished by steam, or formaldehyde treatment but for the Victory Gardener probably the best and simplest method is to apply a Semesan solution to the soil several days prior to planting as described on page 20. Provide good ventilation of treated soil and plant as soon as soil is dry enough. After seedlings have emerged,

Table 1. Directions For Making Fertilizer Placements

CROP	RATE OF FERTILIZER APPLICATION			METHOD AND TIME OF APPLICATION
	Per Acre	Per 1000 sq. ft.	Per 100 ft. of row	
Beans, beets, and peas	300-500 lbs.	7.5-12.5 lbs.	1.5-2.0 lbs.	Apply two inches to the side and slightly below the seed at time of planting OR side dress in a furrow 2 to 3 inches deep and 2 to 3 inches away from the base of the plants when they are 2 to 6 inches tall.
Cabbage, cauliflower, turnips and rutabaga	500-700 lbs.	12.5-17.5 lbs.	2.5-3.5 lbs.	Same as for beans.
Carrots, celery, parsnips, peppers and tomatoes	500-700 lbs.	12.5-17.5 lbs.	2.5-3.5 lbs.	Do not side dress. Mark row and broadcast fertilizer in band 1 foot wide and work into soil to depth of at least 3 inches before sowing seed or setting plants.
Cucumber, pumpkin and squash	400-600 lbs.	10-15 lbs.	4-6 lbs.	Place in a furrow 3 to 4 inches deep around hill at time of planting or after plants have started. Furrow should be 4 to 6 inches from seeds or plants.
Lettuce	400-800 lbs.	10-20 lbs.	2-4 lbs.	Side dress after plants are well started in furrow 2 to 3 inches deep and 2 to 3 inches from base of plants.
Onions	400-800 lbs.	10-20 lbs.	2-4 lbs.	Same as for lettuce.
Potatoes	500-1000 lbs.	12.5-25 lbs.	2.5-5 lbs.	Place in bands 2 inches from seed piece and slightly below at planting time or in furrow 3 to 4 inches deep and 4 inches from base of plants after plants are above ground.
Sweet corn	300 lbs.	7.5 lbs.	2.5 lbs.	Place in a furrow 2 to 3 inches deep and 2 to 4 inches from base of plants when plants are 2 to 6 inches tall.

apply solution again (always use freshly made solution) and repeat twice more at ten-day intervals. Additional protection may be had by dusting the seed with Semesan just before plantings.

Treatment of Seed Potatoes. Several very important diseases of the potato are carried on the surface of the tubers and can therefore be controlled by tuber disinfection. In general it is a good idea to treat all potato tubers used for seed, even when using certified seed. The grower should insist on obtaining certified seed if at all possible, but seed certification cannot guarantee complete freedom from disease organisms. Unless the seed is disinfected, the grower takes the chance of introducing certain diseases in his fields or garden. Certified seed potatoes are the best obtainable insurance against certain very destructive virus diseases but absolute freedom from all seed-borne potato diseases obviously cannot be guaranteed.

Formaldehyde solution, corrosive sublimate solution, and Semesan Bel are commonly used. Formaldehyde is very efficient but unpleasant to use. Corrosive sublimate requires more time and is highly poisonous. For the home gardener, the Semesan Bel is probably the most convenient and efficient potato seed disinfectant. These fungicides and their uses are described on page 21.

SOWING THE SEED

It has been customary to sow more seed than needed to obtain a good stand, and to thin the seedlings after they become well established. Faced with a possible seed shortage, we are urged to avoid this waste. Much seed can be saved by preparing exceptionally good seed beds and planting carefully. The amount of seed per designated feet of row for each vegetable is given on pages 16 and 17.

It is sometimes difficult to know just how deep to plant garden seeds. A common rule is to plant at a depth of four or five times the diameter of the seed. The depth is increased slightly in light and sandy soils and decreased in heavy soils. Planting a little deeper than usual in a trench extending down into moist soil is a common practice in dry areas. This practice not only places the seed where moisture, necessary for germination, is available but establishes the root system several inches below the surface where the moisture supply is more stable than at the surface.

Transplanting

Seeds of many vegetables are sown in greenhouse flats, hotbeds, or boxes kept near the kitchen window. The seedlings may be transplanted to coldframes, other flats, or individual containers as soon as they have produced their first set of true leaves. From these, they are transplanted directly to the field. A period of approximately six weeks from seed is required to produce cabbage, cauliflower, brussel sprouts and broccoli plants ready to be transplanted into the field; eight weeks are required for tomatoes, ten weeks for peppers and celery and five to six weeks for lettuce.

Usually it is not difficult to transplant most vegetables. However, the roots should not be exposed to the drying air. They should be planted slightly deeper than they grew in the coldframe except in the case of large tomato plants. These should be set in a slanting hole leaving only four or five inches of the top exposed. Planting in the late afternoon and removing about half of the leaves allows the plants to freshen during the night.

Watering the plants after transplanting settles the soil around the roots and eliminates air spaces which may otherwise allow the soil next to the roots to dry out.

Cultivation

Cultivation should be shallow and frequent. It is best to keep the soil from becoming packed and soggy. Cultivation following rains is desirable in order to control weeds and prevent the formation of a heavy crust.

A weedless garden should be the objective of every gardener. If allowed to grow, weeds use valuable plant food and reduce the moisture supply. Garden pests and diseases tend to be more numerous in weedy than in clean gardens.

Irrigation

Garden crops for the most part are rather shallow rooted. For this reason their growth frequently is seriously limited by allowing the soil to become too dry.

Irrigation is essential in arid regions in Washington. In other regions the yield of vegetables may be increased by supplying needed moisture during the dry periods.

During the early seedling stage moisture is needed relatively near the surface of the soil. Later on the surface soil may be allowed to become rather dry, but that ranging from two to ten inches below should be kept moist. Frequency of irrigations can be determined by examining soil in which most of the roots are located. As long as a handful of it holds firmly together when pressed in the hand, plants are able to obtain needed moisture. It should not be allowed to get so dry it crumbles easily when pressed together. It may be necessary to irrigate the young seedlings every three or four days during dry periods until they become well established. Generally, light sandy soil should be irrigated every week and heavy soils every ten days or two weeks.

The growth of some vegetables is seriously injured by irregularities in moisture supply. Blossom end rot of tomato, for example, is aggravated by alternating excessively wet and dry soil conditions. Likewise, crops receiving excessive moisture during the first half of the growing period are easily injured by drought during the last half. An attempt should be made, therefore, to neither overwater nor underwater, but to maintain a uniform moisture supply during the growing season.

Mulch

A straw mulch of three or four inches can be used for most vegetables in the drier sections such as the Big Bend area. The mulch helps to retain moisture and hold down soil temperatures.

How to Obtain Fresh Vegetables Over a Longer Period

The largest percentage of produce from the home garden is obtained from midseason varieties planted at the time most suited for them. Although they may be grown mainly for processing and storing, they are used fresh as long as they are in season. Generally, the fresh vegetable season can be lengthened by planting early and late varieties along with those coming on at midseason and by making fall plantings of varieties suited for this purpose.

Lengthening the fresh vegetable season increases the value of the garden, not only by increasing the period during which fresh vegetables are available but also by furnishing vegetables of exceptional quality. The quality of snap beans grown in south central Washington from July plantings is usually better than the quality of those grown at the usual time. Likewise, carrots planted in late July are of excellent quality for fall and winter consumption.

A few vegetables suited for fall planting along with their planting dates are suggested in Table 2 below.

Soil for the garden must be well prepared regardless of when crops are to be planted. It usually is firm and in good condition after early crops have been harvested. It may be necessary to remove remnants of previous crops and weeds, and to cultivate and rake the surface in preparing a good seed bed. It is not advisable to spade or plow.

Table 2. VEGETABLES FOR FALL AND WINTER GARDENS

NAME OF VEGETABLE	TIME TO PLANT	
	Western Washington	Eastern Washington
Lettuce (leaf)	July 20 - August 10	August 1 - 15
Lettuce (head)	August 1 - 10	July 15 - 30
Spinach	July 15 - 31	July 15 - August 15
Turnips	July 15 - 31	July 15 - August 15
Carrots	July 15 - 31	July 15 - 31
Beets	July 15 - 31	July 15 - August 15
Beans (snap)	July 15 - 31	July 1 - August 1
Broccoli (Green Sprouting)	June (Transplant in August) Remove centers. Harvest Nov. to March.	
Broccoli (Valentine)	July 15 (Transplant to field, Sept. 1) Harvest Feb. - March.	
Cabbage (Danish Ballhead)	June 15 (Transplant to field in August)	
Onions (Winter)	July-August (Harvest March and April)	July and August (Harvest Dec. - March)

Fall crops are sometimes planted in soil kept clean during the early part of the summer until time to plant them. Summer fallowing in this way puts the soil in excellent condition for the fall crops.

Soil moisture is needed to germinate seeds. It is easily provided in irrigated regions, but in non-irrigated regions a special means of watering the fall garden may be provided. If watering is impossible perhaps a sub-irrigated site can be selected for the fall garden.

In western Washington, crops such as green sprouting broccoli, Valentine broccoli and turnips which grow during the fall and winter may be grown even without irrigation.

GARDEN CALENDAR

EASTERN WASHINGTON

JANUARY

Plan the garden.

Buy seed.

Spread manure on garden as it accumulates and weather permits, if it has not been done earlier.

FEBRUARY

Secure manure for hotbed.

Make hotbed, if needed.

Plant broccoli, cabbage, cauliflower and head lettuce in hotbeds or in containers in the kitchen.

Avoid overwatering, and keep soil well drained to help prevent damping-off.

Plow garden now or as soon as soil conditions permit if not already plowed in fall; if fall plowed, cultivate or disk four or five inches deep.

Apply commercial fertilizers to garden before plowing or cultivating if needed. (Consult your County Agent.)

Estimate needs and purchase insecticides and fungicides.

Purchase or repair hand duster or sprayer.

MARCH

Prepare for planting earliest vegetables in garden.

Guard against damping-off in hotbeds or flats by treating soil and seed. (See pages 6 and 21.)

Plant tomatoes, peppers, and eggplants in hotbeds or flats.

Plant radishes, lettuce, spinach and peas in the garden as soon as conditions permit. Seed may be treated to prevent decay and damping-off several days before planting.

Apply cutworm and slug baits to garden area before planting.

APRIL

Transplant or thin plants growing in hotbeds, and apply more fungicide solution if necessary.

Harden off plants by reducing water supply or temperature or both. Set broccoli, cabbage, cauliflower, and lettuce in garden.

Obtain certified potato seed, as nearly locally grown as possible. Treat seed at time of planting.

Plant Irish potatoes, kale, onion seed, Swiss chard, turnips, beets, carrots; second planting of lettuce and radishes.

Watch for cutworm and slug injury and apply baits immediately if needed.

Watch for flea beetles, aphids, and cabbage worms on cabbage, turnips, and similar plants; dust if necessary.

Apply treatment for asparagus beetles if damage occurs.

Cover radishes with cheese cloth to protect them from maggots.

Apply onion maggot treatments in infested areas.

Place tar paper disks about cabbage and cauliflower plants to protect them from cabbage maggots.

MAY

Plant tomato seed, early and late sweet corn, pole snap beans, bush snap beans, cucumbers, and melons in field, first treating the seed with fungicide.

Transplant tomatoes, peppers, and eggplants to garden.

Thin and weed beets, carrots, parsnips, and lettuce.
Continue cultivation and weeding.
Plant pumpkins and squash towards the end of the month.
Apply first potato flea beetle dust and repeat every ten days.
Apply treatment for flea beetles, worms, and aphid that feed on the foliage of many vegetables.
Apply pea weevil dust as soon as peas bloom and at 5-day intervals.
Apply bait for earwigs by May 15.
Watch for grasshoppers and apply bait if necessary.

JUNE

In irrigated sections, keep soil moist by irrigating thoroughly about every 10 days or as soil shows a need for it.
Plant lima beans. (Spergon only fungicide recommended for lima bean seed treatment.)
Continue treatments for control of insects and diseases where necessary.
Apply onion thrips treatment when injury first appears.
Plant bush beans, beets, carrots, turnips, radishes, lettuce, spinach and potatoes for the fall crop. (Zones IV and V)

JULY

Clean off and destroy old pea vines immediately after harvest.
Clean, repair, and disinfect storage cellar.
Treat spinach and potato seed. (See page 6.)
Plant bush beans, beets, carrots, Swiss chard, radishes, lettuce, kohlrabi, rutabagas and potatoes for the fall crop. (Zone III)
Dig early Irish potatoes.
Fertilize asparagus and rhubarb.
Apply corn earworm treatments.
Continue treatments for potato flea beetles, other flea beetles, and cabbage worms which may be found feeding on foliage.
Apply bait for earwigs during latter part of month.

AUGUST

Continue treatments for control of insects and diseases where necessary.
Plant fall vegetables such as lettuce, radishes, turnips, beets and spinach.

SEPTEMBER

Watch for slug damage on late vegetables.
Harvest and put in basement large green tomatoes in areas where first frost occurs this month.
Harvest and store pumpkins and squash in late September or early October (after frost kills vine).
Harvest, dry, fumigate and store dry beans.
Clean off and burn vines immediately after harvest to destroy infested beans.
Fumigate dry beans.

OCTOBER

Harvest and store carrots, beets, cabbage, turnips, and celery for winter use. Dig and store late potatoes.
Dig all carrots and destroy wormy ones.
Remove all refuse to eliminate overwintering quarters for insects and diseases.

NOVEMBER

Dig and store parsnips.
Remove debris from garden; manure and plow garden.
Complete garden record.

DECEMBER

Organize next year's garden.

WESTERN WASHINGTON

JANUARY

Plan garden.

Buy seed.

Construct or repair hotbed and cold frame, if needed.

Spread manure on garden as it accumulates and weather permits.

FEBRUARY

If hotbed is needed, secure manure for it; make hotbed 10 days later.

Plant broccoli, cabbage, cauliflower, and lettuce in cold frame.

Avoid overwatering and keep soil well drained to help prevent damping-off.

Apply commercial fertilizer if needed. (Consult your County Agent.)

Prepare soil for and plant asparagus, early peas and rhubarb, first treating to control damping-off.

Estimate needs and purchase insecticides and fungicides.

Purchase or repair hand duster or sprayer.

MARCH

Prepare garden soil for planting other early vegetables.

Transplant broccoli, cabbage, cauliflower, and lettuce to garden.

Apply cutworm and slug baits to garden area before planting.

Plant horseradish.

Plant Irish potatoes, spinach, kale, lettuce, parsley, turnips, onion sets and onion plants, first treating seed with fungicide. (See pages 6 and 21.)

Place tar paper disks about cabbage and cauliflower to protect from cabbage maggots.

APRIL

Prepare hotbeds or flats for transplant crops and treat soil to control seed decay and damping-off. (See pages 6 and 21.)

Plant tomatoes, peppers, and eggplant in hotbeds or flats.

Plant beets, carrots, parsnips, second planting of lettuce, and radishes, first treating seed.

Stake peas.

Cultivate and weed garden.

Watch for cutworm and slug injury and apply baits immediately, if needed.

Watch for flea beetles, aphids, and cabbage worms on cabbage, turnips, and similar plants, and dust if necessary.

Apply treatment for asparagus beetles if damage occurs.

Cover radishes with cheese cloth to protect them from maggots.

Apply onion maggot treatments in infested areas.

MAY

Transplant tomatoes, peppers and eggplant to garden.

Plant pole snap beans, bush snap beans, midseason sweet corn, cucumbers, squash, and pumpkins, but first treat seed. (See pages 6 and 21.)

Thin beets, parsnips, carrots and lettuce.

Plant second plantings of carrots and beets.

Continue cultivation and weeding.

Apply first potato flea beetle dust and repeat every 10 days.

Cover carrots with cheese cloth to protect them from rust fly.

Apply treatments for flea beetles, cucumber beetles, worms, and aphids that feed on the foliage of many vegetables.

Apply pea weevil dust as soon as peas bloom.

Apply bait for earwigs by May 15.

Watch for grasshoppers and apply bait if necessary.

Apply treatments for aphids and mildew on peas.

JUNE

Plant late sweet corn where practical to grow, but first treat seed. (See pages 6 and 21.)
Continue cultivation and weeding.
Treat potato seed. (See pages 6 and 21.)
Plant late potatoes. (Late June to early July.)
Stake tomatoes.
Apply first late blight treatment to tomatoes and potatoes and destroy infected plants.
Harvest early peas in Western Washington to avoid pea moth damage.
Continue treatments for control of insects and diseases where necessary.
Apply onion thrips treatments when injury first appears.

JULY

Clean off and burn pea vines immediately after harvest.
Continue cultivation and weeding.
Dig and store early Irish potatoes.
Dig unused early carrots.
Apply carrot rust fly treatments to late carrots for storage.
Apply corn earworm treatments.
Repeat late blight treatments to tomatoes and potatoes.
Continue treatments for potato flea beetles, other flea beetles, and cabbage worms which may be found feeding on foliage.
Apply bait for earwigs during later part of month.

AUGUST

Harvest, cure and store onions.
Continue cultivation and weeding.
Plant late lettuce, radishes, green sprouting broccoli, carrots, and beets.
Repeat late blight treatments to tomatoes and potatoes.
Continue treatments for control of insects and diseases where necessary.

SEPTEMBER

Watch for slug damage on late vegetables.
Harvest, dry and store dry beans.
Clean off and burn vines immediately after harvest to destroy infested beans.
Fumigate dry beans.
Harvest and lay in basement large partially ripe tomatoes.
Clean, manure, and plow that part of garden from which crops have been removed.
Plant green manure crop as soon as possible.

OCTOBER

Dig late potatoes and store.
Harvest and store pumpkins and squash.
Harvest and store carrots, beets, cabbage, turnips, celery, and horseradish.
Dig all carrots and destroy wormy ones.
Remove all refuse from garden to eliminate overwinter quarters for insects and diseases.
Clean, manure, and plow that part of garden from which crops have been removed if it has not already been done.
Plant green manure crop if it has not already been done.

NOVEMBER

Dig and store parsnips.
Remove debris from garden; manure and plow garden.
Complete garden record.

DECEMBER

Organize next year's garden.

Approximate Planting Dates*

Zone (Map page 16)	First Planting	Second Planting	Third Planting	Fourth Planting	Fifth Planting
I	April 1	May 1	May 25	June 25	August 1
II	April 1	April 20	May 15	July 1
III	March 1-15	March 20-30	May 1	July 1-15	August 5
IV	April 10	May 1	May 10-15	July 1-5
V	April 15-20	May 10-15	May 20	July 1

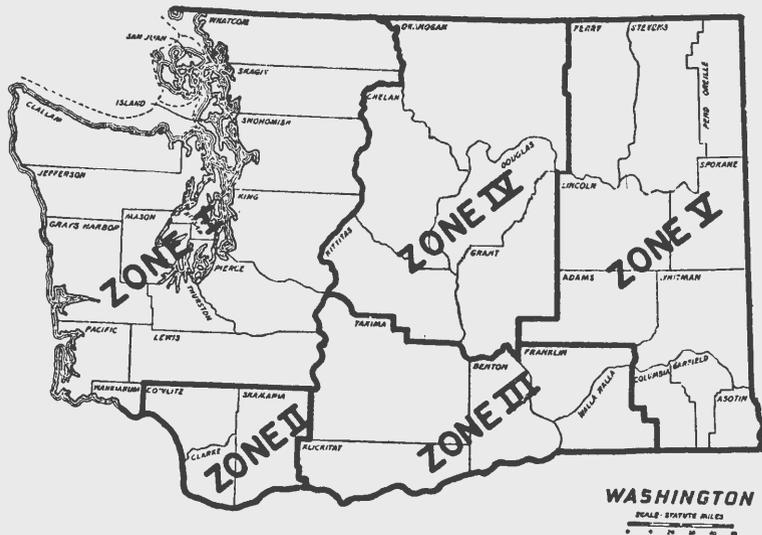
*Variation due to climatic and soil conditions may be as much as two weeks.

PLANTING PLAN FOR A GARDEN 100 x 110 FEET

(Approximately one-fourth acre)

100 ft.

Perennials and First Planting Group	Asparagus (Rhubarb, Horseradish, Winter Onions, Parsley) Early Radishes, Early Lettuce, Early Spinach and Chard Onion Sets, Onion Seed, Beets Early and Midseason Peas	17'	} 112'
Second Planting Group	Early Potatoes, Carrots, Beets, Parsnips, Salsify Early Cabbage, Sprouting Broccoli	12'	
Third Planting Group	Succession of Sweet Corn (each variety should be blocked out in several short rows to insure good pollination) Tomatoes Snap and Bush Beans Cucumbers, Summer Squash and Winter Squash	30'	
Fourth Planting Group	Main Crop of Potatoes Late Cabbage Late Planting of Snap Beans	33'	
Fifth Planting Group	Summer and Fall plantings of: Carrots Beets Turnips, Rutabagas, Kohlrabi Lettuce, Radishes, Spinach, Chard	20'	



Garden Chart For A Family of Five

Crop	Variety	Zones, Planting Dates, Growing Period in Days						Feet of Row ¹	Amount of seed or plants required for space stated	Depth of Planting (inches)	Distance Rows apart		Distance between plants (inches)
		Planting Dates Zones 1 and 2	Growing Period	Planting Dates Zone 3	Growing Period	Planting Dates Zones 4 and 5	Growing Period				Hand Cult. (inches)	Horse Cult. (in.) ^a	
Asparagus	Mary Washington	March	2 yr.	March	2 yrs.	April	2 yrs.	50	40 pnts.	8-10	30	40	12-16
Beans, pole	Blue Lake	May	85-90	May	65-90				½ lb.	1-1½	30	36	36-48
	Kentucky Wonder	May	85-90	May	65-90				½ lb.	1-1½	30	36	36-48
	Oregon Giant	May	85-90						½ lb.	1½	30	36	36-48
	Oregon Lima	May-June	120						½ lb.	1½	30	36	36-48
Beans, bush (Green)	Stringless Green Pod	May-June	75	May, July	50-60	June	60-65	200	1 lb.	1-1½	24	30	2-4
	Refugee	May-June	80	May	75				1 lb.	1-1½	24	30	2-4
Beans, bush (Wax)	Round Pod Kidney	May-June	75						1 lb.	1-1½	24	30	2-4
	Keeney's Stringless	May-June	75						1 lb.	1-1½	24	30	2-4
	Pencil Pod Blk Wax	May-June		May, July	50-65	June	60-65		1 lb.	1-1½	24	30	2-4

(Continued on next page)

GARDEN CHART FOR A FAMILY OF FIVE (Continued)

Crop	Variety	Zones, Planting Dates, Growing Period in Days						Feet of Row ¹	Amount of seed or plants required for space stated	Depth of Planting (inches)	Distance Rows apart		Distance between plants (inches)
		Planting Dates Zones 1 and 2	Growing Period	Planting Dates Zone 3	Growing Period	Planting Dates Zones 4 and 5	Growing Period				Hand Cult. (Inches)	Horse Cult. (In.)*	
Beans, lima (bush) (pole)	Fordhook			June	100-120			100	½ lb.	1-1½	24	30	6
	Henderson			June	100-100				½ lb.	1-1½	24	30	4
	King of Garden			June	120				1 lb.	1-1½	30	36	6
Beets*	Early Wonder	March	60-70	Mar.-July	60-70			50	½ oz.	1	24	30	2-4
	Detroit Dark Red	Mar.-Aug.	70-80	Mar.-July	65-70	April	65-70	100	1 oz.	1	24	30	2-4
Broccoli	Ital. Gr. Sprouting	May	150-180	Mar.-July	120-130	Feb.-Apr.	85-90	50	25 plts.	½	30	36	18
Cabbage	Golden Acra	January	180	March	105-135	March	65-70		60 plts.	½	24	36	18-24
	Danish Ballhead	March	240	July	150-170	May	105-120	150	90 plts.	½	24	36	18-24
Carrots*	Nantes	Apr.-July	75-80					50	¼ oz.	½	24	30	1-3
	Imperator	Apr.-July	75-80	Mar.-Aug.	75	Mar.-Aug.	70-75		¼ oz.	½	24	30	1-3
	Chantenay, red-cored	Apr.-July	75-80	Mar.-Aug.	70-90	Apr.-Aug.	70-75	100	½ oz.	½	24	30	1-3
Cauliflower	Early Snowball	February	110-115	July	115	May	105-115	50	35 plts.	½	24	30	20
	St. Valentine Broccoli	July	105-115						35 plts.	½	24	30	20
Celery	Utah (Green)	February	135-165					25	40 plts.	¼	24	30	6-8
Chard*	Lucullus	March	60-76	Apr.-Aug.	60-70	April	65-70	25	½ oz.	½	24	30	6
Cucumber* (Pickling) (Slicing)	National A & C	May	60	May	60-75	June	60	25	¼ oz.	½-1	36	48	24-36
	Straight Eight	May	75	May	75	June	55	25	¼ oz.	½-1	36	48	24-36
		May	75	May	75	June	60		¼ oz.	½-1	36	48	24-36
Endive	Broadleaved Batavian			Mar.-Aug.	90			15	⅛ oz.	½	18	24	5-10
Kohlrabi	White Vienna	Mar.-Aug.	50-60	Mar.-July	55-75	Apr.-July	55-70		¼ oz.	½	18	24	2-4
Lettuce, head*	Imperial No. 847	Feb.-July	75	Mar.-Aug.	85	March	75	50	¼ oz.	½	18	24	10-18
	New York No. 12			Mar.-Aug.	80	March	75		¼ oz.	½	18	24	10-18
Lettuce, leaf*	Grand Rapids	March	50-55	Mar.-July	70	Mar.-July	70	50	⅛ oz.	½	18	24	5-10
Muskmelon	Honey Rock	May	90-120					50	½ oz.	1	38	48	18-24
	Hale's Best 36			April	85-110	Late May	90		½ oz.	1	36	48	18-24
	Heart of Gold			April	100-115	Late May	120		½ oz.	1	36	48	18-24
Onions (dry)*	Sweet Spanish	March	165-180	March	165-180			100	1 oz.	1	14	24	2-3
	Yellow Glb. Danvers	March	130-140	March	130-140	March	130-140		1 oz.	1	14	24	2-3
	Southport Yel. Glb.			Mar. trnsp.	120	March	140-150		1 oz.	1	14	24	2-3
	French (Walla Walla)								1 oz.	1	14	24	3
Parsnips	Hollow Crown	May	120	April	100-130	April	130-150	50	¼ oz.	½	24	30	2-4
Peas, Tall	Thomas Laxton	March	100-120	March	75-90	April	80	250	2½ lbs.	1-1½	30	36	1-2
	Imperial Garden	March	100-120	March	75-90	April	80-75		2½ lbs.	1-1½	30	36	1-2

	Improved Gladus Tall Alderman	March	100-120	March	75-80	April	70-75		2½ lbs.	1-1½	30	30	1-2
Peas, Dwarf*	Hundredfold World's Record			March	100-120	April	80	100	1 lb.	1-1½	24	36	1-2
				March	70-80	April	70		1 lb.	1-1½	24	36	1-2
Peppers, sweet	California Wonder Oakview Wonder	February February	180-200 180-200	February February	175-190 160-175	March March	170-190 170-190	25	15 plts.	½	18	30	18
									½	18	30	18	
Potatoes* (White)	Irish Cobbler Bliss Triumph Netted Gem	Mar.-Apr. Mar.-Apr. June	90-110 90-110 95-125	April April June	90-110 90-110 120-150	April April May	90-120 90-120 120-160	300 1200	½ bu. ½ bu. 2 bu.	4 4 4	30 30 30	32-36 32-36 32-36	10-12 10-12 12
Potatoes (sweet)	Florida Nancy Hall			May May	150 150			100	100 plts. 100 plts.		30 30	36 36	12 12
Pumpkin	Small Sugar Kentucky Field	May	135	May May	110-155 110-155	June	120	50	½ oz. ½ oz.	1 1	60 60	72 72	48 48
Radishes	Early Scarlet Globe White Icicle	Mar.-Sep. Mar.-Sep.	25-35 25-35	Mar.-Sep. Mar.-Sep.	25-35 25-35	April April	30 35-40	50	½ oz. ½ oz.	½ ½	12 12	24 24	1 1
Rhubarb	Victoria, Wine	March	1 year	March	1 year	April	1 year		30 crns.		36-48	36-48	36-48
Salsify	Mammoth Sandwich			April	180-120			25	¼ oz.	½	18	30	2
Spinach*	Giant Thick Leaved (Nobel) Improved Thick Leaved (Viroflay)	March	50-55	Mar.-Aug. Mar.-Aug.	55 55-60	 April	 55-60	100	1 oz. 1 oz.	½ ½	18-24 18-24	24-30 24-30	2 2
Squash (summer)	Straightneck	May	75-90	April	60	June	75	25	⅛ oz.	1-1½	30	36	24
Squash (winter)*	Golden Delicious Green Hubbard Table Queen Marblehead	May May May May	135 135 135	 April	 120-150	June June June	120-130 120-130 130	50	¼ oz. ¼ oz. ¼ oz. ½ oz.	1-1½ 1-1½ 1 1-2	60 60 60 60	72 72 60 84	48 72 60 84
Sweet Corn*	Seneca Golden (Hybrid) Spancross (hybrid) Carmelcross (hybrid) Goldencross (hybrid)	May May May May	75-80 80-90 110-115 115-120	 May May May	 70-75 80-85 85-100	 May May May	 75-80 80-85 85-100	100 150 300	2 oz. 2 oz. 3 oz. 6 oz.	1 1 1 1	30 30 30 30	32-36 32-36 32-36 32-36	12-24 12-24 12-24 12-24
Tomatoes*	Chatham Bounty Chalks Early Jewel Bonny Best Stokesdale Wasatch Beauty	March March March	115-120 125-130 135-140	 April April April April	 115 125 125 125	 May May May May	 125-135 140-150 140-150	150	50 plts. 50 plts. 50 plts. 38 plts. ² 38 plts. ² 50 plts.	½ ½ ½ ½ ½	36 36 36 36 36 36	48 48 48 48 48 48	36 36 36 48 48 36
Turnip	Purple Top	Mar.-Aug.	50-60	Mar.-July	55-75	Apr.-July	55-70	50	¼ oz.	½	18	24	3
Watermelon	Early Kansas Striped Klondike			April	90-125	Late May Late May	90-100 100-110	50 50	½ oz. ½ oz.	½ 1	60 60	72 72	48 48

(1) Feet of row designated refers to total amount of crop in question. Early varieties appear first.

(2) ¼ oz. when seeded directly into the row (calculated on the basis of 1¼ lbs. of seed per acre.)

(3) Distances for horse cultivation must be adapted to machinery available.

* Recommended for dry land areas. Row spacing should be similar to that indicated for horse cultivation with 50 per cent greater distance between plants in the row.)

PEST CONTROL

The home gardener soon learns there are numerous difficulties encountered in the production of thrifty crops and foremost among these is control of pests. Pests when uncontrolled cause serious losses.

Many pest control measures are preventatives rather than cures; therefore, the gardener should become familiar with the major pests of each vegetable before the garden is planted. Control measures must be timely to be effective. Do not delay treatment!

CULTURAL PRACTICES

Because many insects and diseases spend the winter in crop refuse and in other debris about the garden, it is desirable to collect and burn this material in the fall. Burn infested and damaged vegetables. Many insects and diseases are thus destroyed. Every effort should be made to keep down weeds in and about the garden because they may serve as wild hosts for insects and diseases.

TYPES OF INSECTS AND DISEASES

Insects may be divided into two classes according to their feeding habits. (a) Grasshoppers and cabbage worms are examples of chewing insects, for they eat a part of the plant. Stomach poisons applied to the foliage as a spray or dust or about the plant as a bait will control this type of insect. (b) Aphids and leafhoppers are examples of sucking insects; they insert their slender beaks into the plant tissue and extract the plant juices. Contact poisons as sprays or dusts are used mainly to control this type of insect.

Diseases of plants may be divided into three groups: (1) parasitic—which usually are caused by minute forms of plant life, living upon crop plants; (2) non-parasitic—caused by unfavorable environmental conditions, such as poor soil, too much or too little water, or an excess or shortage of plant foods, etc.; (3) virus diseases, produced by some unknown principle which may be spread from plant to plant by insects or in many cases by mechanical contact of diseased plants with healthy ones.

Insecticides and Fungicides

The supply of insecticides and fungicides containing arsenic, rotenone, mercury and copper is limited. Use these materials wisely. Don't buy more than you need, and don't use more than is recommended. Diligent application of cultural practices will help reduce the need for chemical control.

Dusts. Certain insecticides and fungicides are diluted with carriers such as hydrated lime and talc and applied as foliage dusts with a small hand duster. Others are applied as seed dusts. When applied to the foliage, dusts should form an even film on the under surface as well as the upper surface of the foliage. Dusting should be done when the air is still. Dusting materials usually are cheaper and easier to apply than sprays. Many dusts can be purchased already mixed; however, the ingredients also may be purchased and mixed by the grower. Small plunger type dusters may be purchased at a cost of about \$1.00. Dusts usually are applied at the rate of 20 to 40 pounds per acre ($\frac{1}{3}$ to $\frac{2}{3}$ pound per 100 linear feet of row).

Liquids. Some insecticides and fungicides are diluted with water and applied as sprays, drenches, or dips. Sprays are generally more difficult to use, because they require agitation and the water is heavy to carry. Spray equipment is usually more expensive than that required for dusting. Small compressed-air-type knapsack sprayers may be purchased at a cost of about \$3.00.

Caution: When using poison dusts, sprays, or baits, caution should be exercised. All such materials should be properly labeled "Poison" and kept out of reach of children, poultry, and pets. Some of the materials are

caustics or nasal irritants. Care should be taken to protect the user when necessary. If poison baits are spread thinly, poultry and pets cannot get them in quantities. All containers should be carefully cleaned after using. The hands should be washed. Avoid using any insecticides or fungicides that will leave a poisonous residue of arsenic, fluorine or copper on edible portions of vegetables. **Don't be careless.**

WHERE TO PURCHASE MATERIALS AND EQUIPMENT

Most hardware, feed and seed, and drug stores handle insecticides, fungicides, and equipment. These materials are cheaper in bulk form (for example, 4-pound bags of calcium arsenate) than in small tins. Pool your needs with neighbors.

1. ROTENONE. Dusts and sprays containing rotenone are considered relatively non-poisonous to warm-blooded animals at concentrations used for insect control. Sunlight causes rotenone to deteriorate so that it becomes ineffective a few days after it has been applied.

As a Dust: Use a prepared dust containing 0.5 of one per cent ($\frac{1}{2}$ per cent) rotenone. Commercially prepared dusts which contain both rotenone and sulfur also are available. These dusts act both as insecticides and fungicides for certain insects and diseases. Use at the rate of 20 to 40 pounds per acre (about $\frac{1}{3}$ to $\frac{2}{3}$ pound per 100 linear feet of row).

As a Spray: The spray powders or liquids should be used according to the manufacturer's directions.

2. PYRETHRUM. The available supplies of pyrethrum are required for military needs. Any pyrethrum insecticides the grower has on hand may be used for cabbage worm control.

3. NICOTINE SULFATE. Nicotine sulfate as a spray or dust should be used immediately after mixing and when temperatures are above 65°F. Because this material kills by contact with the insect, a thorough coverage of the entire plant is necessary.

As a Dust: For garden insects a 4 per cent dust is satisfactory, and is made as follows: Place 1 quart of hydrated lime in a large can equipped with a tight-fitting lid; then sprinkle $1\frac{1}{2}$ ounces of nicotine sulfate (40 per cent nicotine) over the lime. Add a few gravel stones the size of walnuts and shake with a rolling motion for 4 or 5 minutes. After mixing, screen the dust through a window screen and crush any lumps. Mix only enough dust for one application.

As a Spray: Dissolve 1 ounce of soap in 1 quart of warm water, and then add 3 quarts of cold water. To this soapy water add $1\frac{1}{2}$ to 2 teaspoonful of nicotine sulfate (40 per cent nicotine).

4. CALCIUM ARSENATE. This insecticide contains arsenic, which is poisonous and should not be used on foliage or fruit which is to be eaten unless the residue is removed at harvest time.

As a Dust: Place 1 pound of calcium arsenate and 3 pounds of hydrated lime in a large can and mix as under nicotine sulfate dust.

As a Calcium Arsenate-Copper-Lime Dust: Add 1 pound calcium arsenate and 1 pound of mono-hydrated copper sulfate to 2 pounds of hydrated lime and mix as directed under nicotine sulfate dust.

As a Spray: Place $\frac{1}{2}$ teaspoonful of casein spreader or soap in 1 gallon of water and add 3 tablespoonsful of calcium arsenate. Keep the mixture agitated while spraying. When used in Western Washington, a tablespoonful of hydrated lime should also be added.

5. FLUORINE COMPOUNDS. Commercially prepared fluorine dusts are available which contain sodium fluosilicate, barium fluosilicate, or cryolite as the active ingredients. These dusts should be substituted for rotenone and calcium arsenate dusts wherever possible.

As Dusts: These materials may be used where recommended but the poison residue (fluorine) must be removed at harvest from edible portions of plants. Dusts should contain at least 20 per cent of the active ingredients.

6. CALOMEL (Mercurous Chloride).

As a Suspension: Mix $\frac{1}{2}$ ounce of calomel with 5 gallons of water. Calomel will not dissolve; therefore it must be stirred often to keep it from settling to the bottom of the container. With a dipper or watering can with the nozzle removed apply this suspension to the soil around the cabbage plants at the rate of $\frac{1}{2}$ cup for each plant (2 gallons for 65 plants). If only one application is to be made, use 2 ounces of calomel to 5 gallons of water. On radishes, moisten soil along each side of the row at the rate of about 1 gallon to 40 linear feet of row.

As a Dust (Calomel-Hydrated Lime): Mix 1 ounce of calomel with 1 pound of hydrated lime, using the method for mixing as described under nicotine sulfate dust.

As a Seed Treatment for Maggots: Mix 2 parts of calomel with 1 part seed. Sow the mixture in the row so that the calomel is evenly distributed with the seed.

7. CRUDE NAPHTHALENE.

As a Repellent: Sprinkle the crude naphthalene by hand around the plants or along the rows at the rate of $1\frac{1}{2}$ pounds per 100 linear feet of row. This acts as a repellent only. Treatments should cease one month before harvest to prevent vegetables from retaining the odor of naphthalene.

As Soil Fumigant: Spread crude naphthalene on surface of soil at the rate of 5 pounds to 500 square feet and mix thoroughly, as deep as possible by spading or harrowing a few days before planting.

8. CARBON DISULFIDE. This material is inflammable. **Keep away from fire or sparks.**

As a Seed Fumigant: In fumigating small amounts, place the seed in a 2-quart jar, pour 1 tablespoonful of carbon disulfide over the seed, close the lid tightly, and after leaving for 48 hours, pour the contents on a paper outside to air out. Fumigation is not effective below a temperature of 60°F.

9. SEMESAN. A poisonous organic mercury compound and an important seed disinfecting dust. Also very effective as an agent for treating soil on small scale to prevent damping-off and root rot. Complete directions are contained with product.

As a Seed Dust: Apply enough to coat seed by shaking seed and dust together in tightly closed container. Screen or sift off any excess, and save for re-use. The seed may be stored, or may be planted at once. Semesan dust should not be inhaled. Do the work in the open air.

As a Soil Disinfectant: Apply (sprinkling can recommended) 1-400 solution (1 level tablespoon Semesan per gallon water) at rate of 3 pints per 10 square feet soil.

10. SPERGON. A non-poisonous compound of rather recent appearance on the market. It has similar purpose and use as Semesan, except is not good for soil disinfection. It does not require addition of graphite to facilitate passage of treated seed through drill machines. Directions supplied with product.

11. ARASAN. A non-poisonous compound of very recent introduction. It has similar purpose and use as Semesan and Spergon for treating seed. Directions supplied with product.

12. SEMESAN BEL. A poisonous organic mercury compound developed for the disinfection of potato seed tubers. Controls only certain seed-borne diseases such as Scab, Rhizoctonia and Black Leg. Directions with product.

13. FORMALDEHYDE. Fungicidal preparations of formaldehyde are all derived from the commercial 40% water solution.

As a Soil Disinfectant: One gallon of the commercial product is diluted with water to make 50 gals. of solution. This solution is added to the prepared soil at the rate of one-half gal. per square foot. The soil is then covered with canvas for 24 to 48 hours. Seven to ten days should be allowed before seeding the treated soil.

As a Drip with Seeding of Onions: The 1-50 dilutions may also be used as a drip in conjunction with the seeding of onions. The formaldehyde is dripped into the rows just before the seed is covered. A medium sized sprinkling can will deliver approximately the proper amount of formaldehyde when carried slowly down the rows.

As a Dip for Seed Tubers: One pint of formaldehyde is added to 15 gals. of water. The tubers are held in this solution for 2 or 3 minutes at 122° to 125°F. They are then drained and allowed to dry.

14. CORROSIVE SUBLIMATE. Mercuric chloride or bichloride of mercury has been widely used in the treatment of seeds and seed stock.

As a Dip for Seed Tubers: The tubers are washed and stored in moist sacks for from 12 to 24 hours. The whole tubers should then be dipped into the bichloride solution (1 oz. of bichloride of mercury to 7 gals. of water) for 1½ hours. Dry immediately after treatment. Corrosive sublimate is **both corrosive and poisonous**. It should be used only in **wooden or concrete containers** and treated tubers should **not** be used for food or feed.

As a Dip for Seed: To assure freedom from bacterial canker, dip tomato seed in corrosive sublimate solution, 1-3000, for 10 minutes. Rinse and dry the seed. Your druggist can make up a gallon of the solution or give you prepared tablets with directions for preparing the proper strength solution. The solution is **deadly poisonous**.

15. BORDEAUX MIXTURE.

As a Spray: This is a spray compound which has been used successfully for many years. Its active ingredient is copper. Standard Bordeaux mixture is said to be "4-4-50 Bordeaux" referring to 4 lbs. of copper sulfate and 4 lbs. of quicklime to 50 gals. of water. The components should be prepared separately and mixed just before applying. Instant Bordeaux is available in package form so that the addition of water is all that is necessary to prepare the spray.

16. COPPER LIME DUSTS. These dusts consist of 10 to 25 per cent mono-hydrated copper sulfate and the balance hydrated lime. They are widely sold under a variety of names.

As Dusts: In general, copper lime dusts are intended as substitutes for Bordeaux mixture and their popularity is based on ease of application. Calcium arsenate may be added as an insecticide (4).

Copper lime dusts are frequently used in the control of downy mildew, but they are not as effective as Bordeaux mixture.

17. SULFUR. Sulfur is a valuable fungicide with many uses. It is cheap, effective and easy to apply. Sulfur may be used with calcium arsenate or rotenone to prepare a mixture which has both fungicidal and insecticidal properties.

As Dusts: Powdery mildew of many crop plants is readily controlled by the use of sulfur dusts. Sulfur for dusting purposes is sold as finely

ground pure sulfur, 200 to 300 mesh. Sticking and conditioning agents may be added.

As Sprays: Spray powders are also available in the form of wettable sulfur.

18. TAR PAPER DISKS.

As Preventive: Cut tarred building paper into pieces 5 inches square. Make a cut from one side to the center. Cut several small slits radiating from the center to allow room for disk to fit around the stem. Place the disk around the plant and press firmly to the ground. The disk must fit snugly to prevent the flies from laying eggs in soil near the stem.

19. POISON BRAN MASH BAIT.

As Bait for Cutworms and Grasshoppers:

Bran	1 quart	or 5 pounds
Paris Green, White Arsenic, or Sodium Fluosilicate	1 tablespoonful	or $\frac{1}{4}$ pound
Sirup or molasses	2 tablespoonful	or 1 pint
Water	1 pint	or 3 to 4 quarts

Thoroughly mix the dry ingredients together. Mix the sirup and water.

Sprinkle the liquid over the bran a little at a time and mix until the bran is thoroughly moistened. Spread as thinly as possible. One and a half or two pounds is enough for an area of 4000 sq. ft. (50 x 80 ft.).

20. FISH OIL BAIT.

As a Bait for Earwigs:

Bran	6 pounds
Sodium fluosilicate	$\frac{1}{2}$ pound
Fish oil	1 pint

Mix the dry ingredients together; add the fish oil slowly, and mix thoroughly with hands. Use no water. Many dealers carry this bait already mixed. This amount is enough to cover approximately 4000 sq. ft. of garden area.

21. METALDEHYDE BAIT.

As Bait for Garden Slugs: A new chemical called metaldehyde is effective in controlling slugs when mixed with bran and calcium arsenate and applied as a bait. Supplies of metaldehyde are not easily obtained; however, there are a number of commercially prepared baits containing this chemical on the market. The bait should be broadcast or placed in heaps about the size of a dollar on moist soil near plants, rocks, or walls at intervals of about three feet. Apply bait at the rate of 1 lb. for 4000 sq. ft.

22. SWEETENED BAIT.

As Bait for Sow Bugs: Mix together thoroughly 1 teaspoonful of Paris Green and 8 teaspoonful of powdered sugar. Apply in evening where sow bugs are congregated. The poisoned bran bait as recommended for cutworms is also effective against sow bugs.

23. POISONED CARROT BAIT.

As Bait for Pocket Gophers: Cut 1 quart of fresh carrots into pieces $1\frac{1}{2}$ inches long and $\frac{1}{2}$ inch square and dust over these with a shaker $\frac{1}{16}$ ounce of powdered strychnine alkaloid. Insert pieces of bait at intervals along main runway. This bait is extremely poisonous.

PEST AND DISEASE CONTROL CHART

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
General Feeders	Aphids	Green, black, or gray plant lice feeding on stalks and undersides of leaves. Spray or dust with nicotine sulfate (3*) as soon as insects appear. A second application may be necessary in 3 or 4 days.
	Blister Beetles	Long, narrow, shiny black or bluish colored beetles appear in numbers and settle on vegetables in Eastern Washington. Cause severe damage to foliage in short time. Dust with rotenone (1) or fluorine (5) dusts immediately. Avoid fluorine dust on edible portions of plants.
	Cutworms	Dark-colored worms about 1 inch long. Feed at night and lie curled up beneath lumps of earth or debris during the day. Feed on stems and foliage of many plants. Apply poison bait (19) to seed bed before planting. If damage to plants occurs later, it may be necessary to make two or three applications of bait at intervals of two days. Spread bait in evening.
	Earwigs	Dark brown-colored insects, bearing long forceps on the posterior end of the body. Insects feed at night and hide during the day. The insects befoul lettuce, sweet corn and other vegetables which provide a suitable hiding place. In the evening scatter poison bait (20) thinly over entire yard and garden and especially along fences, walks and buildings. Do not sprinkle water on area treated for two nights. Apply bait before middle of May and again the last of July to avoid killing beneficial parasites.
	Flea Beetles	Small, shiny, blue-black or black colored beetles which feed on foliage of many plants producing small round holes in the leaves. Grubs of beetles feed on roots. Apply rotenone (1), calcium arsenate (4) or fluorine (5) dust at $\frac{1}{2}$ lb. per 100 ft. of row. Repeat every week until damage ceases.
	Grasshoppers	Feed on foliage of many plants usually in late summer when fields adjacent to garden become dry. Spread bait (19) on garden and surrounding area early in the morning before it becomes hot. Repeat at 3 day intervals until damage is stopped.
	Garden Slugs	Soft, slimy slugs which hide under rocks, boards, debris and plants in and about the garden during the day, come out at night, and eat large ragged holes in the leaves. Apply metaldehyde bait (21) to the seed bed and about fences and walks before

*Figures in parenthesis refer to insecticides and fungicides discussed on pages 18 to 23.

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
General Feeders	Garden Slugs	planting. After plants are up, watch for injury and trails of slime and make applications every few days until injury ceases.
	Sowbugs	These oval, grey-colored animals, that roll up into a ball when disturbed, are found in dark damp places. They feed primarily on decaying organic matter but attack plants on occasion. Apply sweetened bait (22) to infested area in the evening. Repeat in a few days.
	Wireworms	Waxy, yellow-colored worms in the soil, feed on many plants causing damage to roots, tubers or bulbs. A poor stand may develop on heavily infested soil. In irrigated valleys of Eastern Washington, when possible plant gardens on ground that has been in alfalfa for 3 or 4 years. Wireworms will be less numerous in ground planted to alfalfa. If ground is infested, plant before middle of April or after first of June. Treating soil with naphthalene (7) will reduce wireworm population for 2 to 3 years.
	Seed Corn Maggot	Small, white maggots feed on decaying organic matter, seed potatoes, seeds of beans and corn, and in the crown of spinach. If troubled with this pest do not plant on freshly plowed soil. Plant seed shallow so it will germinate quickly. Do not plant during cool, rainy periods. Do not plant warm season crops too early. Do not fertilize heavily with barnyard manure. Use mineral fertilizers. No satisfactory means of chemical control.
	Moles	These small animals feed mainly on earthworms and larval stages of insects but they may feed on many vegetables causing damage to roots, tubers or bulbs. Trapping is best method of control.
	Pocket-Gophers	These small animals feed on many plants causing damage to roots, tubers and bulbs. They may completely cut off roots of plants. Locate main runway, make openings and insert pieces of poisoned carrot bait (23). Close holes.
Asparagus	Asparagus Beetle	Orange and blue colored beetles and dark olive-colored grubs feeding on tips of cutting shoots or foliage. Dust cutting shoots at weekly intervals with rotenone-bearing dust (1) when beetles appear. After cut-

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Asparagus		ting season, apply calcium arsenate dust (4). Repeat as necessary.
	Cutworms	Worms feed on sides and tips of cutting shoots. (See general feeders).
	Rust	Rusty or black pustules on stems and foliage. Eventually diseased plants show loss of vigor and poor growth. Destroy "escape" plants in the vicinity of the planting.
Beans	Bean Weevil	Small beetles which emerge from dry beans, leaving small round holes. Fumigate beans with carbon disulfide (8) immediately after harvest, and store in closed metal or glass container. Burn vines after harvest. Allow no weevils to escape from infested seed in the spring. See U.S.D.A. Farmers' Bul. 1275.
	Wireworms	See General Feeders.
	Aphids	See General Feeders.
	Seed Corn Maggots	See General Feeders.
	Bacterial Blight	Watersoaked lesions on leaf surrounded by a border or halo. Stem lesions sometimes occur and yellow spots may appear on the seeds. Occasionally wilt and stunt occur. May be controlled by rotation and the use of clean seed. Avoid cultivating plants while wet.
	Curly Top	Plants become yellowed and dwarfed with brittle puckered leaves, and often die. No entirely satisfactory control for this disease is known. Remove and destroy affected plants as soon as noticed. Use resistant varieties.
	Rust	Rust colored pustules on leaves, stems and pods. Pustules become black late in the season. Plants show decreased vigor. Clean up and destroy old vines at end of season.
	Seed Decay and Damping-Off	Rotting of seed during germination, especially in cold wet soil; followed by sudden wilting of very young seedlings shortly after emergence. Dust seed with Semesan (9), Spergon (10), or Arasan (11).
Beets	Aphids	See General Feeders.
	Flea Beetles	See General Feeders.

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Beets	Curly Top & Mosaic	Virus diseases causing yellowing, stunting, irregular growth, and often death of affected plants. Good sanitary practices, insect control, and roguing are helpful.
	Damping-Off & Root Rot	Rapid death of seedlings and root rot of older plants. Treat seed with Semesan (9), Spergon (10), or Arasan (11), and avoid overwatering. Keep soil well drained and aerated.
Broccoli		See Cabbage Insects.
Cabbage Cauliflower	Aphids	See General Feeders.
	Cutworms	Worms feed on plants often cutting them off at surface of soil. See General Feeders.
	Cabbage Worms, Cabbage Looper, Diamond-back Moth	Greenish-colored worms that feed on the foliage and developing heads. Dust or spray plants with rotenone (1) as soon as injury appears. Repeat at weekly intervals as long as necessary.
	Flea Beetle	See General Feeders.
	Cabbage Root Maggots	Small white maggots that tunnel in the roots causing the plants to wilt. Place tar paper disks (18) about plants or sprinkle handful of calomel dust (6) on soil around stem of plant immediately following transplanting. Calomel suspension (6) may also be used.
	Club Root	Enlargement and malformation of roots. Plants may become stunted and often wilt during the heat of the day. Some plants may be killed. Obtain plants from disease-free beds and do not replant in infested soil. Destroy cruciferous weeds, such as wild mustard. Liming the soil is sometimes of value. Rotate with unrelated crop.
	Ring Spot	Gray or black spots on the leaves and purplish brown areas on stems, branches, and seed pods. Remove and destroy old plants at end of season. Rotate with unrelated crop.
Carrots	Carrot Rust Fly	Yellowish-colored maggots that tunnel in taproot in Western Washington. Plant early carrots so that they may be harvested by July 15. Do not plant late carrots before June 1. Rust fly may be controlled by applications of crude naphthalene flakes (7). However, carrots cannot be used for at least one month following applications of naphthalene because they will retain the odor of naphthalene. Therefore, naphthalene treatments would be

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Carrots	Carrot Rust Fly	more practical on late carrots grown for storage. On late carrots make applications at weekly intervals beginning when flies emerge (about July 20th). Continue treatment up to 1 month before harvest. If used on early carrots, make 3 applications at weekly intervals, beginning when flies emerge (about May 10).
	Wireworms	See General Feeders.
Sweet Corn	Corn Earworm	Plant recommended varieties. Because pyrethrum is not available for corn earworm control, the following alternates are suggested: a. Use commercial corn earworm oil preparations according to directions furnished by manufacturers. b. Apply undiluted calcium arsenate or cryolite dust (5) to fresh silks two or three times at weekly intervals.
	Earwigs	Enter end of ear and feed on kernels and befoul the ear. (See General Feeders).
	Seed Corn Maggot	See General Feeders.
	Wireworms	See General Feeders.
	Seedling Blight	Poor stand with numerous unthrifty seedlings. Plants may fail to grow normally and many may die. May be especially bad in cold, wet soil. Older plants may have ear rot. May be controlled by treating seed with Semesan (9), Sperguson (10), or Arasan (11).
	Smut	Swellings on stalks, leaves, tassels, or ears, which become black powdery masses, partially covered with a silvery membrane. Remove and burn diseased plants. Do not use infected plants for feed.
Celery	Carrot Rust Fly	See carrots.
	Damping-Off	See beets.
Cucumbers		See insects under squash.
	Mosaic	Growth stunted, leaves mottled, fruits discolored and deformed. Control insect pests, eliminate weeds, and eradicate diseased plants as soon as noticed.
	Powdery Mildew	Grayish powdery masses of the fungus on leaf surfaces. Leaves may eventually appear to be dusty from the large amount of fungus material present. The application of finely divided sulfur dust readily con-

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
	Curly Top	trols the disease (17).
		See bean.
Horse-radish	Diamond-back Moth	See cabbage.
Lettuce	Cabbage Looper	See cabbage.
	Aphids	See General Feeders.
	Slugs	See General Feeders.
	Wireworms	See General Feeders.
	Damping-Off	See beet.
	Downy Mildew	Yellowish spots on upper surface of leaves, grayish-white mildew on lower surface of same spots. Destroy old plants at end of season.
Muskmelon		See insects under squash.
	Curly Top	See bean.
	Powdery Mildew	See cucumber.
	Wilt	Damping-off and stunt of seedlings, and wilt of older plants. Use resistant varieties. Treat seed with Semesan (9), Spergon (10), or Arasan (11).
Onions	Onion Thrips	Small, slender insects feeding on the leaves, causing silvery areas to appear with subsequent wilting in case of heavy infestations. Make applications of nicotine dust or spray (3) when injury first appears. Repeat applications 3 to 5 times, at weekly intervals.
	Onion Maggot	Small, white maggots which tunnel in bulbs or stems. Before planting mix 1 part seed with 2 parts of Calomel (6). Plant seed shallow.
	Wireworms	See General Feeders.
	Bulb Rot	Die-back or yellowing of leaves after mid-season. Bulb rot and pink root are often additional symptoms. Mummification may finally occur. Control by rotation, insect control, and storage temperatures below 45°F. (33° to 35°F.).
	Downy Mildew	Purplish mildew on stems and leaves followed by yellowing of affected parts. Spray with Bordeaux and add sticking agent such as Penetrol at rate of 1 part to 300 parts Bordeaux solution.
	Neck Rot	Bulbs show water-soaked areas and gray fungous masses may appear. Small, hard,

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Onions		black resting bodies are often formed on badly decayed bulbs. Last stage is the production of a dry mummified bulb. Control may be obtained by the use of colored varieties and thorough curing of harvested bulbs. Store at about 33° to 35° F.
	Soft Rot	A slimy soft rot of onions in the field and in storage. Eliminate diseased bulbs before storage. Avoid bruising during harvest and storage.
Parsnips	Carrot Rust Fly	See carrots.
Peas	Pea Weevil	Small, grayish-colored beetles marked with black and white spots feed on the pollen of pea blossoms and deposit eggs on the developing pods. The eggs hatch into small worms, which bore through the pod and feed inside the pea seed. Worms transform to adults when peas become mature. Emerging adults leave small, round holes in dry seed. Dust with rotenone dust (1) when peas come into bloom and repeat every 4 days until they go out of bloom. Use ½ pound of dust to each 100 linear feet of row. Burn vines immediately after harvest.
	Pea Aphid	Small, green insects clustered in tips of the plant. Feeding causes withering of the plants and deformity of the pods. Apply nicotine dust (3) ⅔ lb. per 100 ft. of row, if aphids appear before bloom, otherwise pea weevils dusts will hold infestation in check.
	Pea Moth	In some areas of N. W. Washington, a small white worm feeds on the peas inside the pod. No control measures have been developed. Peas should be planted early so that they may be harvested by the last of June. Burn vines immediately after harvest.
	Blight	Purplish-brown spots on leaves and stems, also basal stem rot. Plants eventually blighted. Use seed produced under semi-arid conditions and rotate crops.
	Downy Mildew	Mildew and yellowish spots on leaves and pods. Clean seed, sanitation, and Bordeaux mixture (15) are the best control measures.
	Mosaic	Leaves discolored and mottled. Control aphids. See General Feeders.
	Powdery Mildew	White powdery areas on leaves, stems, and pods, finally speckled with tiny black dots. Dust vines with fine dusting sulphur.

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
	Root Rot, Damping-Off	Damping-off of seedlings and root rot of older plants. Treat seed with Semesan (9), Spergon (10), or Arasan (11).
	Wilt and Near Wilt	Yellowing of plants, growth stunted, leaf margins curve downward. Eventually rapid wilt occurs. Use resistant varieties.
	Flea Beetle	See General Feeders.
Peppers	Curly Top	See tomato.
	Stem Rot	See tomato.
Potatoes	Potato Flea Beetles	Small, shiny, black-colored beetles feed on the foliage and deposit eggs in soil around base of plant. These eggs hatch into small white worms which feed on the developing tubers, causing small black tunnels near the surface. Early potatoes should be harvested before July 10, and late potatoes should not be planted before June 1. On early potatoes apply calcium arsenate dust (4) as soon as the beetles appear on the foliage. Repeat applications at 10-day intervals until harvest. On late potatoes apply dust when potatoes are 2-3 inches high and repeat applications at 10-day intervals up to September 1. Use calcium arsenate-copper-lime dust (4) for both potato flea beetle and late blight in Western Wash.
	Colorado Potato Beetle	Round-shaped beetles, with yellow and black stripes, and reddish-colored grubs feeding on the foliage. Apply calcium arsenate dust (4) or fluorine dust (5) when insects appear. Repeat applications as necessary.
	Wireworms	Harvest early potatoes as soon as possible. Damage reduced if late potatoes are planted late in June (See General Feeders).
	Black Leg	Growth stunted, foliage somewhat yellowed and branching poor. Leaf curl often noted and occasionally black stem rot may occur causing wilting and death. Use certified seed, treat seed (12-14) and plant soon after seed is cut. Eradicate diseased plants.
	Black Scurf (Rhizoctonia)	Symptoms variable, most important are hard black fungous bodies on tubers, brown or black lesions on the below-ground stems and the killing of the underground growing point. Use certified seed and rotate crops.
	Late Blight	Dark purplish-black lesions on leaves and stems which may spread to cause complete foliage blight. Mildew apparent on under surface of leaves. Infected tubers become

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Potatoes		discolored and flesh adjacent to the skin becomes brown. Soft rot of the tubers usually follows late blight infection. The systematic application of copper sprays (15) or copper lime dusts (4-16) effectively controls this disease.
	Scab	Corky scabs on tubers. Best controlled by formaldehyde dip (13). Russet varieties are resistant. Long rotation with grains, grasses, or legumes recommended. Use certified seed.
	Virus Diseases	Variable symptoms including, mottling, yellowing and wrinkling of the leaves and dwarfing of plants are found. A number of viruses are involved. The best control is to use only certified seed . Insect control is helpful in reducing spread in field.
Radishes and Turnips	Cabbage Root Maggot	Small white maggots tunnel into taproot. Most economical method of preventing wormy radishes is to plant in a 4 to 6 ft. square, then place 10 or 12 in. boards on end around the area and cover top with cheese cloth as soon as plants come through the ground, or treat seed with calomel (6) or apply calomel dust (6) heavily along row as soon as plants come up. Calomel suspension (6) may be used.
	Flea Beetle	See General Feeders.
Spinach	Aphids, Cabbage Looper	See cabbage.
	Seed Corn Maggot	See General Feeders.
Squash	Aphids	See General Feeders.
	Cucumber Beetle	See beans.
	Squash Bug	Long, mottled greyish-black colored insects attack plants soon after plants come up. (In Eastern Washington only). Brown-colored eggs are deposited on undersides of leaves in clusters along veins and hatch into small green and later greyish-colored nymphs. Adults and nymphs suck juices from plants causing them to wilt and die. No satisfactory control in heavily infested areas. Hand pick eggs. Trap adults early in the season. Place shingles under plants and destroy bugs clustered under shingles each morning. Apply nicotine dust (3) whenever bugs are present. Bugs prefer squash but also attack other cucurbits.
	Seed Corn Maggot	See General Feeders.
	Storage Rot	Store in dry place. Keep dry. Store at temperature of 40° to 60°F.

CROP	PEST	DESCRIPTION, INJURY, AND CONTROL
Squash	Curly Top	Vines stunted, leaves puckered, rough, brittle, especially at tip of vine. Remove diseased plants as soon as noticed.
	Tomato Hornworm	Large green worms, with horn protruding from posterior end, feeding on the foliage. If these worms are present each year, dust plants early in July with calcium arsenate dust (4). Repeat application 1 or 2 times at 10-day intervals. Hand picking the worms or cutting them with scissors may be practiced. Wash harvested fruit to remove any poisonous residue.
Tomato	Flea Beetles	Adults feed on foliage and larvae feed on roots thus reducing vigor of plants. Use calcium arsenate dust (4) early in season. Apply rotenone dust (1) late in season to avoid poison residue. (See General Feeders).
	Bacterial Canker	Light colored streaks on stems, stem cankers, stunt, wilt, deformed and cankered fruit. Rotate crops. Use seed collected from canker-free plants. Treat seed in corrosive sublimate 1-3000 solution (14) for 10 minutes.
	Blossom End Rot	A non-parasitic disease resulting from improper water relationships. A soft rot develops at the blossom end of the fruit which is often followed by a bacterial soft rot. Good soil drainage, uniform moisture supply, and cultural practice to keep fruit off the ground will control the disease.
	Curly Top (Yellow Blight)	Leaves become rolled, thickened, and brittle with a yellow blade and purple veins. Growth checked. Remove and destroy diseased plants as soon as noticed.
	Fruit Rot	Usually associated with growth cracks. Parasite enters through the cracks and causes a progressive rot. Black mold often on cracked surfaces. Non-cracking varieties, careful handling afford control.
	Late Blight	In Western Washington, purplish black mildewed areas on leaves and stems. Lesions spread and eventually foliage blight results. Fruit becomes discolored by the presence of yellowish-brown, water-soaked areas. Soft rot usually follows late blight. Regular applications of copper fungicides (4) (15) (16) afford satisfactory control.
	Wilt	Blanching or yellowing of the foliage from lower leaves upwards and often temporary or permanent wilting. Rotate with unrelated crop.

Ask your County Agent for bulletins mentioned.

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