

● HOW TO PLANT



Howard Lake & Victor Nurseries
(The Howard Lake Nursery)

Howard Lake, Minn.

E. D. Eddy & Wm. H. Eddy, Owners

IT IS FUN TO PLANT

There is no more satisfying experience than to plant trees, shrubs and flowers and care for them until they become beautiful, growing things. It is not at all difficult to give plants the proper start in life if you but follow the directions in this little booklet.

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How to Handle Upon Arrival



TAKE care of your nursery stock immediately upon its arrival. Weather conditions change suddenly and your stock might be frozen in transit. In that case, put in a cool but frostproof cellar. Don't unpack it until it is entirely thawed out.

The plants won't be damaged if thawed out gradually.

Trees dried out in transit through delays should be buried in wet dirt, tops and all, for a day or two.

If possible, plant at once when shipment is received. If the weather is too cold for planting, put the box or bundle in a cool but frostproof cellar. If the weather is warm and you are not ready to plant, heel the stock in (see next page) or unpack at once and place stock in a cool cellar. Cover the roots with damp packing from the box or bundle and spread out sacks or canvas over them. Sprinkle enough water on the trees to keep them from drying out, but do not drench the roots and tops.



Heeling-In Trees and Shrubs

Temporary Planting

Heel-in your trees in a place where they will have protection from the sun and wind, and their development will be retarded.

Select a well drained location. Dig a trench deep and wide enough to hold the roots without crowding. This trench or furrow should run east and west so the trees can be leaned toward the south or southwest. Throw the dirt from the trench so as to form a bank. Unpack the trees and place the roots in the bottom of the trench with the tops leaning against the bank.

Keep the varieties separate and spread out the trees so the dirt can be filled in about the roots. Fine, moist soil should be packed rather firmly about the roots to exclude air. Then heap more soil on the roots and a third or more of the tops. Some growers completely cover the trees. This prevents danger of injury from rabbits and mice and drying out of the tops if the weather turns warm. All packing material and grass that might harbor mice should be removed. If the ground is too dry, moisten the dirt about the roots.

How to Handle Evergreens

Evergreens that are balled and burlapped may be slightly dried out. By spraying the ball gently with a fine spray, the soil will become thoroughly moistened. If the plants are to be kept a few days before planting they must be stored in a cool place away from sun and wind. Keep earth balls moist by covering with moist soil, leaves or straw. Evergreens shipped without earth balls should be planted as soon as possible.

**Planting is the one purchase you can
make which increases in value and
beauty from year to year.**

Plant your grounds for maximum enjoyment.

How to Prepare the Ground for Planting

Prepare for planting by deep spading or plowing. On hillsides where the beds would wash or when set as specimens in lawns, shrubs and trees may be set in well dug holes in the sod, but for good growth the sod must be kept spaded two or three feet around the plant and this area kept cultivated or mulched. All ground to be set to berries and fruit should be plowed and harrowed before planting operations start.



SPADE DEEPLY

Distance Apart to Plant

SHADE TREES

Large growers, like Elm.....30 to 50 feet
 Medium growers, like Sugar Maple.....25 to 40 feet

EVERGREENS (Planted for Windbreak)

For results in 6 years or more.....10 feet apart
 For results in 4 years.....5 feet apart
 (Take out every other tree later)
 For results in two years.....2½ feet apart
 (Gradually thin out to 10 feet apart as trees develop.)

SHRUBS (In Beds)

Small dwarf varieties.....2 - 3 feet apart
 Medium tall growers.....3 - 5 feet apart
 Tall growers.....4 - 6 feet apart

Spacing Shrubs

LOW GROWING SHRUBS
CLOSE TOGETHER

LARGE GROWING
SHRUBS FAR APART



A ZIG-ZAG ARRANGEMENT IS BEST

Give your shrubs room to grow.

DISTANCE APART — Fruit Trees and Small Fruits

The locality and soil should be considered in spacing fruit trees. Orchard fruits make a more vigorous growth in heavy soils. Some varieties are small growers and others are more vigorous.

As a general rule the following distances are suggested:

Apples	30 to 40 feet each way
Sweet Cherries	20 to 25 feet each way
Pears, Apricots, Plums, Peaches..	16 to 24 feet each way
Quinces	10 to 16 feet each way
Grapes	6 by 8 feet or 8 by 10 feet
Currants, Gooseberries	4 to 5 feet each way
Raspberries (red & black)	3 to 5 ft. in rows 6 to 8 ft. apart
Blackberries	4 to 6 ft. in rows 7 to 9 ft. apart

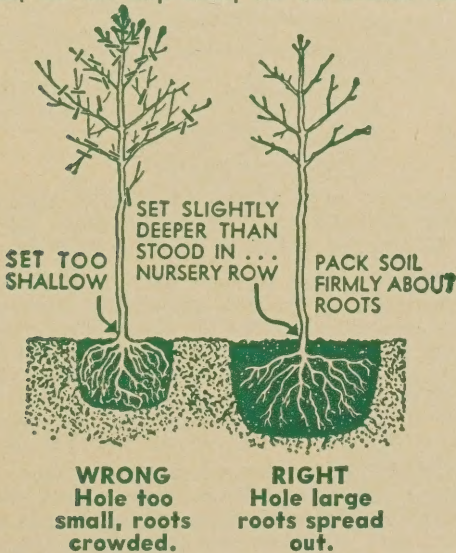
In case of dwarf apples or pears the distance may be one-half of the distance recommended for standard varieties.

How to Prune and Plant

Many failures of newly transplanted stock are due to the lack of proper pruning. When trees are dug in the nursery, some of the feeding roots are left in the ground, therefore, when transplanting it is necessary to restore the balance between the roots and the top by removing part of the tops.

In pruning, make a clean sharp cut. Do not leave stub ends in removing branches. Pruning shears, knives

Prune branches at points indicated by black lines, do not clip ends, cut off broken roots.

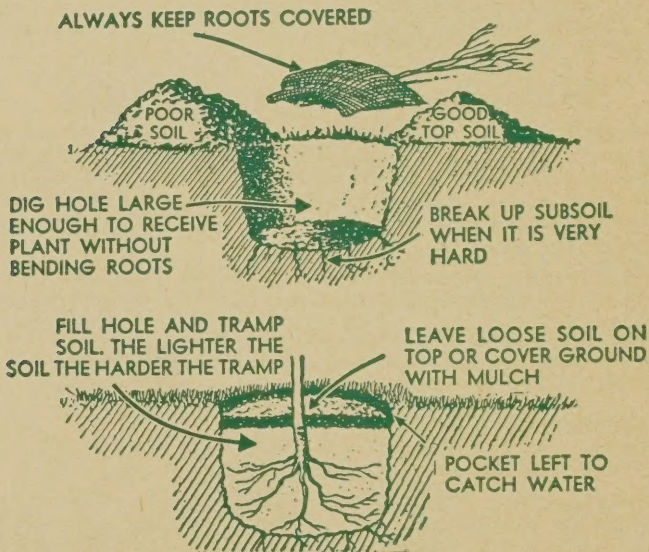


Proper planting extends tree life.

HOW TO PRUNE AND PLANT — Cont.

and hand saws are the best tools to use. All tools should be sharp.

In planting, dig generous sized holes with perpendicular sides (never saucer shape). Put the good dirt to one side so that you can use it around the roots. Loosen up the soil in the bottom of the hole. Set trees one or two inches deeper than they stood in the nursery; set shrubs at about the same depth they stood in the nursery or slightly deeper. Spread roots out naturally and work soil over and around them. Keep putting in good dirt until the hole is nearly full, tramping the dirt firmly about the roots. Fill the hole with water. Finally fill up the hole with loose dirt which should not be tramped, leaving a saucer-like depression to retain water.



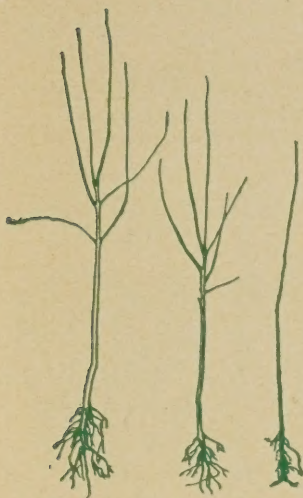
INCORPORATE PEAT MOSS OR OTHER HUMUS TO IMPROVE TEXTURE OF FILL BACK SOIL AND ENCOURAGE STRONG ROOT GROWTH.

SHADE TREES. With shade trees having a heavy top, at least one-third of the top should be removed. Prune branches at points indicated by black lines (see illustration on page 5). Prune to avoid crowding branches. Cut out a large proportion of the small branches and shorten back the side branches. Try to get well developed head, strong leader and branches at wide, not close, angles. Cut off all broken roots. Plant as directed above.

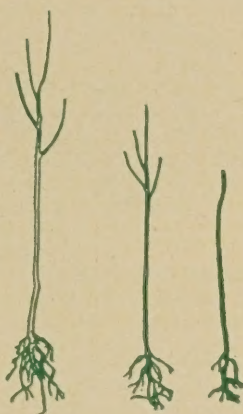
FRUIT TREES. With branched fruit trees as Peach, Cherry, Plum, Apple and Pear Trees, select three to five side branches on different sides of the trunk and 6 to 8 inches apart and cut back one-third their length. Select

Prune for the plant's sake, not for pruning's sake.

HOW TO PRUNE AND PLANT — Cont.



A 3 year old, 2 year old and 1 year old apple tree before pruning.



A 3 year old, 2 year old and one year old apple tree after pruning. Try not to leave two branches nearly opposite, they will form a bad crotch when the tree is older.

one of the top upright branches and cut it back in proportion to the side branches. Cut off all other branches close to the trunk. (See illustration above.)

With Fruit Tree Whips having no side branches, simply cut off the top just above a bud 2 to 2½ feet from the ground. (See illustration above.)

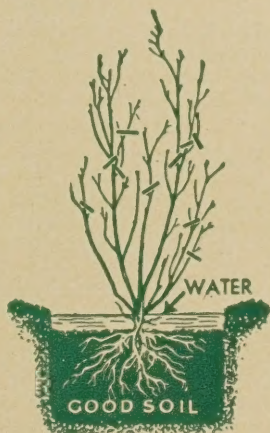
DWARF FRUIT TREES: Plant with bud union at least 4 inches above the ground. Trunks should be tied to permanent stakes.

To plant follow same procedure as given on page 6.

Fruit trees should always be protected against bark girdling by mice and rabbits. Two foot lengths of a galvanized wire screen (hardware cloth) formed into an 8" circle about the young trunks is a reliable protection.

SHRUBS. Cut off damaged or frayed roots before planting. Thin out tops of many branched shrubs, removing the old wood. Cut tops back one-third to one-half. Never allow roots to become dry.

To plant follow same procedure as given on page 6.



Success in gardening depends on fertile soil.

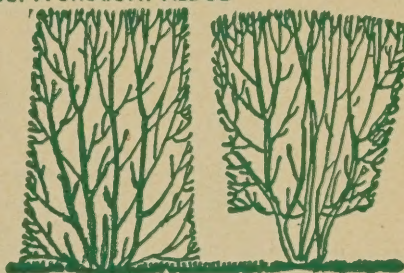
HOW TO PRUNE AND PLANT — Cont.



SET HEDGE TRIFLE LOWER THAN THEY WERE IN NURSERY TO GET A DENSE HEDGE AT BOTTOM

DIG ONE SIDE OF TRENCH STRAIGHT AND IN LINE, PLACE PLANTS AGAINST THIS SIDE TO GET A STRAIGHT HEDGE

HEDGES. Plant small shrubs which are to form a hedge less than 2 feet in height 10 to 12" apart on centers. Medium sized bushes 12 to 18" apart on centers. Set tall shrubs or trees for high hedges 2 to 4 feet apart. For the latter it is often more practicable to dig individual holes than to set by the trench method. A double staggered row of plants makes the most effective hedge.



Right

Wrong

Prune tops back to 6" — 12" above the ground. Each spring the hedge can be trimmed back to the desired height and width. Frequent trimming during early summer will make the hedge grow dense. Trim both the sides and the top or else hedge will grow wider at the top and become open at the bottom.

Bush Fruits

Currants and Gooseberries

Set 2 or 3 inches deeper than in nursery. Cut off half the tops. Plant 4 or 5 feet apart. Most currant or gooseberry pests can be controlled by dusting or spraying with Rotenone. Always cut out infested canes.

Red & Black Raspberries and Blackberries

Plant in good garden soil 3 or 4 feet apart in rows 6 feet apart. Set Red Raspberry plants 1 to 2 inches deeper than they were in the nursery and Black Raspberries 1 inch deeper. Firm soil over roots, and water. Cut back all plants to about 6 inches in height. Don't let any fruit set first year. Allow new shoots to make rows 6 to 8 inches wide.

After fruiting each year, cut out old canes and burn, leaving a few vigorous new ones to grow for fruiting the following year. These fruiting canes should be cut back to about 2½' early in spring to encourage fruiting laterals. Mulching always pays. In the spring, spray raspberries and blackberries just before the buds open; with lime sulphur or Bordeaux mixture.

Plant Home Fruits for high quality.

How to Plant Blueberries

Highbush Blueberries are a worthwhile addition to the home fruit garden — IF soil requirements are right. Soil should be moist, light textured, contain a high proportion of organic matter, test acidity from pH 4.5 to 5.0. Set bushes 5 feet apart in rows 8 to 10 feet apart. Mulch each year with 3 to 4 inches of sawdust or peat. Cultivate shallowly if at all because of shallow root system of blueberries.

How to Plant Strawberries



- 1 A STRAWBERRY PLANT SET TOO DEEP
- 2 SET AT JUST THE RIGHT DEPTH
- 3 PLANTING WHICH IS TOO HIGH
- 4 THE POINT AT WHICH THE ROOTS SHOULD BE PRUNED

Hill System:

12 to 18 inches apart in rows 2 to 3 feet apart. Keep all runners nipped off.

Matted Row:

Rows 4 to 5 feet apart, plants set 24 inches apart in row. Allow runners to fill to 24 inches wide.

Plow or spade land deeply before planting. Plant with a spade. Push spade into ground to its full depth in spot where plant is to be. Press it to one side, insert roots and spread them out in fan shape and hanging down to their full length. Set plant with crown at surface or a little below it. (See illustration.) Remove spade and press dirt against roots by placing foot on either side of the plant and tramping lightly with ball of feet. Leave loose soil around plants. Remove all young leaves.

Extremely long roots may be cut back for convenience in planting. Carry plants in pail of water. Water each plant after planting.

How to Plant Rhubarb

Plant Rhubarb 3 feet apart in rich garden soil, with the buds 1 inch below level of the ground. Fertilize Rhubarb liberally with stable manure every year.

How to Plant Asparagus

Set Asparagus 2 feet apart if in a single row, with rows spaced 3 feet apart if in a bed. Plant to cover roots as for any perennial. Prepare soil by spading plenty of humus and fertilizer into it. Asparagus likes plenty of feeding so fertilize liberally with stable manure each year. Start cutting stalks when they are as thick as

Strawberries are the home gardener's most popular fruit.

HOW TO PLANT ASPARAGUS — Cont.

your thumb. Never cut thin stalks as they are probably young plants which will renew your bed. Stop cutting June 1 to 15 to allow bed to build up for the next year.

PLANT
JUST ABOVE
SECOND BUD.



Grapes

Dig the hole broad and deep to accommodate entire root system. Trim the roots slightly and cut back the top to three or four strong buds. Fill the hole up to the right depth for planting with compost or rich soil. Always plant firmly and water well. Leave a mulch of strawy manure around plant.

How to Plant Evergreens

- (1) Dig hole a foot larger and deeper than ball of earth. Provide good, loamy top soil to fill around ball.



- (5) FILL HOLE WITH SOIL, PACK FIRMLY AND LEAVE TOP OF GROUND COVERED WITH LOOSE EARTH, OR A HUMUS MULCH. PEAT MOSS OR OTHER HUMUS GENEROUSLY INCORPORATED THROUGH THE FILL BACK SOIL WILL ENCOURAGE ROOT GROWTH.

Water evergreens thoroly in late fall before ground freezes.

How to Plant Perennials

The soil should be well worked in specially prepared beds 2' to 2½' deep with good drainage. Plant food and plenty of humus are necessary ingredients for successful perennial flower growing. Most perennials respond best if planted in a sunny location.

The average planting distance for perennials is 1 foot apart. Vigorous growers like peonies and mallows require as much as 3 feet.

No. 1 plants (see below) such as Iris should be planted with the roots below the surface of the ground and the rhizome just on the surface.

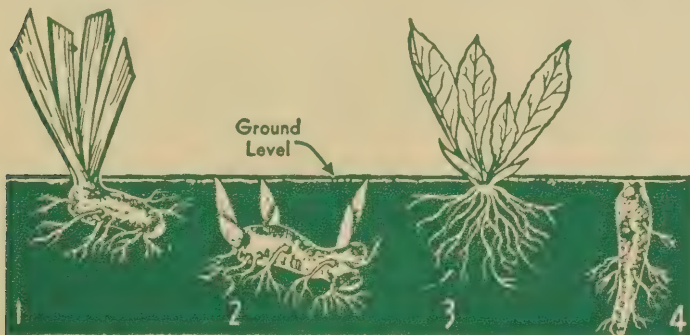
No. 2 plants such as peonies should be planted with the tips of the buds just below the surface of the ground (about 1"). Peonies will not bloom well if planted too deeply or if deprived of ample plant food.

No. 3 plants, on which the leaves spring from a crown, should be planted with this crown just at the dirt line.

No. 4 plants with a fleshy root such as Hollyhocks, should be planted with the tap root straight down and the bud just below the surface of the dirt. In all planting, spread the roots out naturally and do not crowd. Bring the soil in contact with all roots and press firmly. Water thoroughly.

Most winter injury to herbaceous perennials is caused by alternate freezing and thawing of the soil. A mulch of salt hay, straw or leaves applied to the ground after it is frozen will prevent injury to most perennials. Plants which maintain a crown of green leaves through the winter, such as Shasta Daisies, will need special protection in the way of a mulch which will not pack down and cause the leaves to rot. Some plants, such as chrysanthemums, will benefit from a mulch of sand.

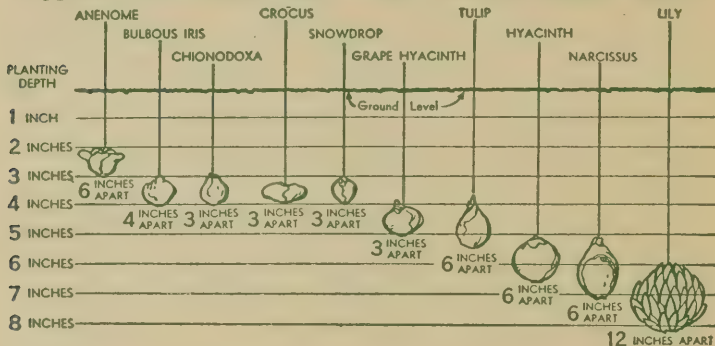
Most perennials make rapid growth and need dividing every few seasons. Large clumps produce mediocre bloom because the inside roots are starved and crowded. Perennials may be divided and reset in either early fall or spring.



Perennials give beauty year-after-year.

How to Plant Fall Bulbs For Spring Flowers

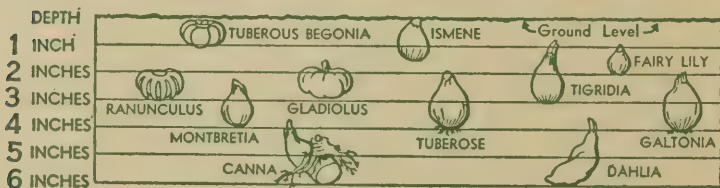
Spring blooming bulbs such as tulips, narcissi and hyacinths must be planted in fall — narcissi and the small bulbs like crocus — in early fall (September): tulips and lilies as late as the ground is workable. Fall planted bulbs should be planted in specially prepared beds which possess good natural drainage. The most satisfactory soil for growing bulbs is a fibrous loam well supplied with sharp sand. See planting chart below.



Tulips may be planted deeper than indicated (to 1') if soil is not too heavy and their location is permanent. Deep planting prolongs the effectiveness of the tulip bulb.

How to Plant Summer Flowering Bulbs and Tubers

Most summer flowering bulbs are warm weather plants. Don't plant too soon. Cannas, Tuberous Begonias and Dahlias may be started in flats indoors and set out after danger of frost. Tritomas should be planted in early spring. Gladioli can be planted at 10 day intervals for a succession of bloom allowing 70 to 90 days for maturity.



How to Plant Lilies

The most desirable soil for lilies is a loose sandy loam which should be enriched by top dressing of manure and should be well drained. Plant lilies in groups about 4 to 6 inches deep for base rooting types, 5 to 8 inches for stem rooting. Tip bulbs on sides slightly and surround with a few handfuls of sand to assure sharp drainage around each bulb. They may be left in the ground from year to year.

For beauty and enjoyment, plant more bulbs.

How to Plant ROSES

Roses prefer a good garden loam or clay loam with a plentiful supply of organic matter incorporated. Soils of this nature retain moisture well and roses like plenty of moisture but resent wet feet. Provide for drainage if the rose bed is located where water does not drain readily away.

An improvement in both soil conditions and drainage can be gained by proper preparation of beds.

If soil is poor dig out the rose bed to a depth of three feet and fill the bed with alternate layers of fertile, medium heavy soil and humus, allowing for a settle. If the soil is good, preparation is easy. Incorporate some humus such as rotten manure into the top 18 inches of soil and plant. Beautiful roses can be grown in good soil with no more preparation than that necessary for garden vegetables.

The manner of planting a rosebush is much the same as planting a shrub. The hole or trench should be deep and broad enough to adequately spread out the roots in a down-slanting position. A mound or cone of soil built up in the hole under the base of the bush as one plants is helpful in spreading the roots in the proper position. The soil should be packed firmly through and above the root system and "puddled in" with water before the hole is completely filled with soil. Hybrid roses are grafted upon a sturdy understock, and the position of this graft in planting varies with climate. In mild climates, the graft joint should be at or slightly above the surface of the soil. In severe climates, it is recommended to bury the joint 1 to 3 inches below the soil level.

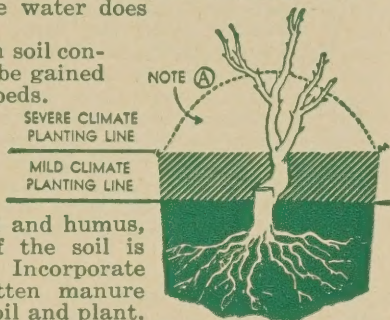
Roses should be pruned when planted. Straggly or injured roots should be trimmed back. Weak branch growth should be removed, leaving only 2 to 5 strong canes with 4 or 5 buds on each cane. Established bushes should be pruned in late winter. Prune to keep the bush shapely. Remove all dead or weak growth.

Fall planted roses should be protected by mounding up the dirt over them. Spring planted roses should also be mounded until the bush begins to bud.

Winter protection of roses in severe climates should consist of an 8" earth mound over the base of the bush. In milder climates where there is only danger of freezing, a 3" earth protection over the graft is sufficient.

Spacing Roses

—Planting Distance—	Close	Normal
	Shrub Roses	3 feet
Hybrid Teas	1½ feet	2½ feet
Hybrid Perpetuals	2 feet	3 feet
Climbers, on banks	2½ feet	3 to 4 feet
Climbers, on fences	8 feet	10 to 15 feet



Planted right. Roots spread out, deep enough.

In dry weather give roses plenty of water.

Care After Transplanting

Pruning Trees and Shrubs. After trimming back and pruning the limbs of ornamental trees, when planting, they need only enough trimming to shape them properly. Low side limbs should not be removed to raise the head until after two season's growth, when they may be gradually removed until the head is at the desired height. Shrubs need heading-in of the limbs getting out of bounds and the cutting out of older wood occasionally to keep them in the proper form. The general rule is to trim fall blooming shrubs, like hydrangeas, in the spring, and spring blooming shrubs, like spireas, in the early summer directly after they have bloomed.

Cultivation. Frequent shallow cultivation will produce a dust mulch and conserve much needed moisture in the soil. That is the most practical method of handling larger plantings.

In the Orchard it is best to cultivate around young trees for several seasons — but only until midsummer. Then a cover crop should be planted to help harden off the new growth, prevent blowing and washing of the soil and improve its chemical and physical condition. The cover crop should be disced into the soil the following spring. Garden crops may be grown between young orchard rows.

Mulching. For only a few trees, shrubs, etc., a mulch of such materials as grass clippings, old strawy manure, marsh hay or dead leaves may be used instead of a dust mulch.

Watering. Artificial watering of new plantings during dry spells is necessary. Water thoroughly. Do not sprinkle.

Give the plant all the water the soil about it will take at one time. No more water need be applied for several days when this is done.



Fig. 1—A Common Aphis. An insect which sucks out the vital juices of the plants. It is found on the young growth and on the under side of the leaves. The leaves usually wither and curl on the infested part.

Fertilizing

Barnyard manure is excellent when obtainable. One-quarter pound of a commercial nitrate fertilizer per year of growth, broadcast under the spread of the branches in early spring, is excellent for established trees. On bearing trees, make application from two to four weeks before bloom.

Small fruits benefit from the same treatment.

Trees and shrubs are not luxuries.

Insect Pests

There are two classes of bugs and insects that may attack trees and plants. The first class eats the plant tissue and is best controlled by poisons which they take into their stomachs.

The second class is not as easy to control since they can be killed only by hitting each individual with the insecticide.

Plant Diseases. These may be classed as physiological, bacterial and fungous. Good culture will aid materially in preventing these troubles. Spraying also should be preventive.

Although spraying is one of the most expensive of the several orchard operations, it is absolutely essential to the production of high class fruit. It isn't a question any more of can you afford to spray but rather can you afford not to. It must not be assumed that spraying operations are uniformly successful. Success depends upon a thorough application of the right material at the proper time, or maybe several times. Of course to accomplish this one must first become familiar with the insects or diseases that infest the orchard.

Remedies for Sucking Insects

Soft-bodied, sap-sucking insects (see figure 1) such as aphids, white fly, red spider and mealy bug, which suck the juice, are best controlled by some Nicotine Solution. Rotenone or pyrethrum compounds should be used on vegetables as they are non-poisonous to humans.

Hard-bodied, sap-sucking insects, like scale which suck the juice from the twigs or branches and even from the trunk itself, are best controlled by some dormant spray, such as Lime Sulphur solution or miscible oil.

Remedies for Chewing Insects

Leaf-eating insects (see figure 2), such as beetles, weevils, grubs, worms, etc., are controlled by poison applied to the leaf. Arsenate of Lead is most commonly used. Rotenone or pyrethrum should be used on vegetables. DDT is effective on some things, for instance, leaf-miners, chinch bugs in lawns, codling moths on fruits.

Combinations of fungicide and insecticide chemicals are time savers for the small garden. These materials come under various trade labels. Manufacturers' instructions should be rigidly followed. Consult us and we will be glad to offer suggestions.



Fig. 2 — A Common Worm. One form of chewing pests. Chewing insects eat the leaves of the plant entirely or eat holes in leaves.

Spray — but remove and burn infected material.

Planting
adds beauty to
your home grounds



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