

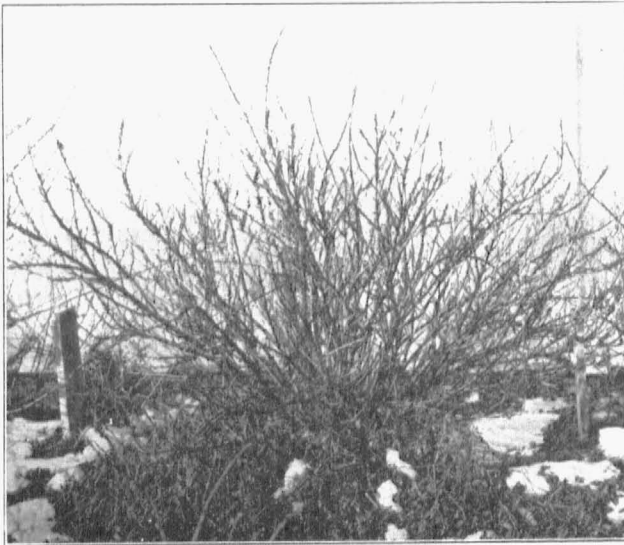
UNIVERSITY OF MISSOURI

COLLEGE OF AGRICULTURE

AGRICULTURAL EXPERIMENT STATION

BULLETIN 232

# Gooseberries and Currants



COLUMBIA, MISSOURI

APRIL, 1925

## FOR FRUIT GROWER AND GARDENER

The following publications on gardening and fruit growing may be obtained without cost by addressing the Missouri College of Agriculture at Columbia.

### Station Bulletins

- 198. Spraying Irish Potatoes
- 204. Controlling Soil Moisture for Vegetable Crops in Missouri
- 205. A New Method of Making Engine Oil Emulsions
- 212. Tomato Culture in Missouri
- 216. Spraying Missouri Fruits
- 231. Blackberry, Raspberry and Dewberry Culture
- 232. Gooseberries and Currants.
- 234. Grafting Budding and Early Care of Fruit Trees

### Station Circulars

- 83. The Home Vegetable Garden
- 99. Federal and State Laws Regulating Nursery Stock
- 103. Sweet Potato Culture in Missouri
- 106. Seed Potatoes for Better Yields
- 107. Winter Injury of Fruit in Missouri
- 109. Controlling San Jose Scale
- 112. Controlling Peach Tree Borers with Paradichlorobenzine
- 113. Picking, Handling and Exhibiting Fruit
- 120. Pruning Apple and Pear Trees

### Circulars

- 123. Strawberry Culture in Missouri
- 124. Apple Blotch Control in Missouri
- 135. Cedar Rust of Apples in Missouri

### Extension Circulars

- 21. The Time of Planting Vegetables
- 53. Storing Vegetables
- 64. Potato Culture for Missouri
- 65. Planting a Backyard Orchard
- 93. Selected Apple Recipes
- 114. Pickling Fruits and Vegetables
- 115. The Use and Preparation of Vegetables
- 125. Cluster-Bud Spray for Apples
- 126. The Calyx Spray
- 127. Third Summer Spray for Apples
- 128. Spraying for the Second Brood of Codling Moth
- 142. Cluster-Bud Spray for Apples
- 147. The Fourth and Fifth Summer Sprays

### Extension Leaflets

- Leaflet 21. Fourth Summer Spray for Apples.

# Gooseberries and Currants

H. G. SWARTWOUT

**Abstract.**—The recommendations included in this publication are based on recent work at the Missouri Agricultural Experiment Station. Their purpose is not so much to emphasize the commercial planting of gooseberries and currants as to increase the usefulness of these fruits in the home garden. Soils, sites, propagation, planting, cultivation, mulching, fertilization, pruning, and harvesting are discussed. In considering the varieties best adapted to Missouri the author ranks Downing and Houghton as the best gooseberries, and Wilder, Fay, Red Cross and Perfection as the most satisfactory varieties of currants. The insect pests and diseases most damaging to gooseberries and currants are described together with the methods most effective in their control.

Gooseberries and currants are not very extensively grown in Missouri, but both are excellent fruits and deserving of more general culture in the home fruit garden. Both fruits are hardy and able to withstand low winter temperatures, but may show some injury during hot, dry summers. The gooseberry is better adapted to Missouri conditions than the currant and is planted to some extent near the cities and larger towns for local market trade. The currant is of practically no commercial importance and is the least planted of all our common small fruits.

Unless the gooseberry or currant has been grown and has proved profitable in a given locality it is usually desirable to make only a small planting at first. If this proves profitable the size of the plantation may then be increased.

## SOILS AND SITES

**Soils.**—Gooseberries and currants do best in deep, cool, fertile and well drained soils. The heavier types of soils such as the silt and clay loams are usually preferable to the lighter and more sandy types. It is essential that the soil be well drained. The currant and gooseberry will not succeed where water stands for any length of time, although they require an abundance of water.

**Sites.**—Northern slopes on which the plants will be better protected from the hot sun are preferable. Where small plantings are to be made, the north side of a building, the north side of a picket fence or other cool and shady spot may be selected.

Owing to the susceptibility of gooseberries to mildew, good air drainage is important in the selection of a site. Both gooseberries and currants bloom early in the season. Consequently, land of higher elevation than that of the surrounding country should be chosen where

possible in order to avoid the danger of injury to the flowers from late spring frosts.

### VARIETIES

**Gooseberries.**—Downing and Houghton are the standard varieties of gooseberries. Of the two Downing is the more popular, because of the larger size of the fruit.

**Currants.**—Few varieties of currants are suitable for Missouri conditions. The varieties which appear the most satisfactory are Wilder, Fay, Red Cross and Perfection. All four are mid-season varieties producing big red berries in rather large and compact clusters. If a white currant is desired, the White Dutch is perhaps the most worthy of trial; while of the common black currants, the Naples is probably the best.

Another currant which bears black berries and which does well in Missouri is the Crandall. This variety is able to endure our hot, dry summers and with good care bears abundantly. The berries are large, though borne in small clusters, and ripen unevenly, necessitating several pickings. The Crandall is excellent for canning, preserving and jelly and is much prized by those who have acquired a liking for the peculiar flavor of this variety.

### PROPAGATION

Gooseberries are propagated both by means of mound layering and hardwood cuttings. Plants grown from cuttings are to be preferred; but for varieties like the Downing which do not root readily from cuttings, it is necessary to resort to mound layering. For mound layering the plants are cut back heavily in the fall or winter. By midsummer many vigorous new shoots will have been produced. Early in July, soil should be mounded about half way to the tops of the plants, working it well down in among the shoots with a spade. The bruising or cutting of the bark with the spade is not injurious, but may even prove beneficial by inducing the formation of roots. The covered portion of the shoots will throw out roots and by fall the stronger and better rooted ones may be cut from the parent plant and either stored for the winter or set at once in the nursery, where they are to be grown for one year, before setting in the field. Poorly rooted shoots should be left attached to the parent plant a second year.

Varieties of gooseberries like Houghton and Poorman, which root readily from cuttings, and nearly all varieties of currants are propagated by means of cuttings made from dormant wood. The cuttings may be made any time after the wood has matured in the fall and until growth begins in the spring. The common method is to make the cuttings

late in the fall and to set them at once in the nursery. When set in the fall, however, the cuttings need to be protected by covering with straw or soil.

For making cuttings, strong, healthy shoots of the past season's growth are selected. The cuttings are made about 8 inches long. The cut at the lower end is made near or through a bud, while the cut at the upper end is made a little above the uppermost bud. They should be set from 6 to 8 inches apart in rows separated far enough to permit the use of a horse-drawn cultivator between. They should be set so deep that only the upper two buds are above ground and the soil should be packed firmly about them as the trench is filled. At the end of one year many of the plants will have developed sufficiently for digging and setting in the field. Plants which have made a poor growth should be left in the nursery a second year.

### NURSERY STOCK

Standard varieties can usually be secured from nurserymen at a reasonable price and as a rule stock from this source is more satisfactory, if not cheaper, than plants produced at home. Only first grade plants should be bought. Low grade plants usually prove the most expensive in the long run. Reliable nurserymen only should be patronized.

Nursery stock as soon as it is received should be unpacked and if dry should be watered before heeling in. When heeling in, the bundles are opened and the plants laid in a trench one layer deep. The roots are then covered with loose, moist soil which is firmly packed about them.

### PREPARATION OF THE SOIL

Unless the soil is well supplied with organic matter, heavy applications of stable or barnyard manure should be made and thoroughly worked in. If manure is not available, green manure crops may be used to increase the organic content of the soil. The value of green manure crops or barnyard manure in fitting land for gooseberries and currants can hardly be overemphasized; and the best time for adding such humus-forming materials is before the plants are set. The plowing and general preparation of the soil is the same as for general farm crops.

### PLANTING

**Time.**—Plants may be set either in the fall or in the spring, but where plants can be obtained fall planting is preferable. Plants set in the fall become established in the soil and are ready to begin growth early the following spring. Also, there is no risk of injury to plants which have started growth as may occur with spring planting owing to unfavorable weather.

**Distances.**—Planting distances depend largely on the method of cultivation to be pursued. When planted in rows for cultivation in one direction only, the plants are usually set in rows 6 or 7 feet apart and from 4 to 5 feet apart in the rows. For cross cultivation the plants are set 5 by 5 or 6 by 6, depending upon the growth the plants will make.

**Preparing Plants.**—In preparing the plants for setting, dead and injured roots are removed and the longer ones cut back. To compensate for the removal of a portion of the root system, the tops of the plants should be cut back. Small plants should have the tops cut back to 6 or 8 inches, while larger plants should be cut back to 10 or 12 inches.

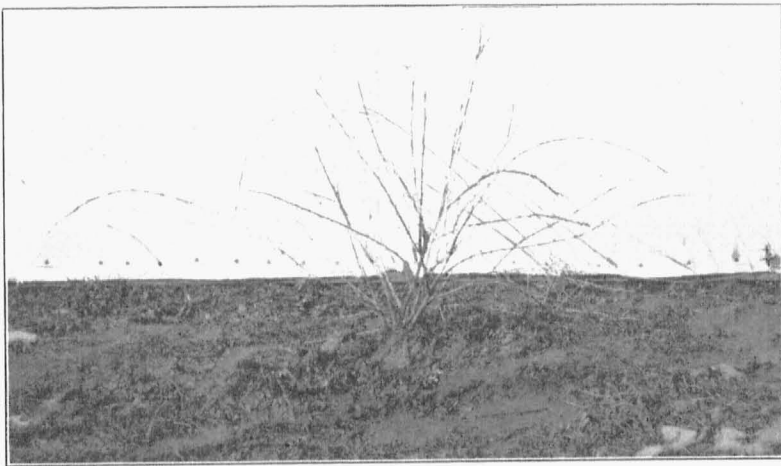


Fig. 2.—A good, thrifty gooseberry bush after one year's growth in the field.

**Setting.**—The plants should be set so deep that the lower branches will be covered with soil. This is necessary in order that the plants may be trained to the bush form.

If the soil has been well prepared, planting can be easily and quickly done. A hole is dug large enough to accommodate the roots without undue crowding; the roots are well spread, and the holes filled with a few shovelfuls of top soil. Care should be taken to pack the soil firmly about the roots of the plants as the holes are filled.

### CULTIVATION AND MULCHING

Cultivation should be frequent enough to keep down weeds and to keep the top of the soil loose and well pulverized. Thorough cultivation checks loss of moisture from the soil and puts it in better physical condition to catch and retain water.

Cultivation should be fairly deep the first year or two after the plants are set, but after the second year only shallow cultivation should be practiced. Both the gooseberry and currant are shallow-rooted and are likely to be injured by too deep cultivation.

When only a few plants are grown, they may be mulched with straw, hay, leaves or some similar material. Mulching takes the place of cultivation in conserving moisture and keeping down weeds; and, owing to the shallow rooting habit of the gooseberry and currant, it is an excellent practice, especially for small plantings. It should be remembered, however, that once a mulch is applied it must be maintained. The roots of mulched plants are nearer the surface than cultivated plants and consequently are likely to suffer from lack of moisture during dry weather if the mulch is allowed to disappear.

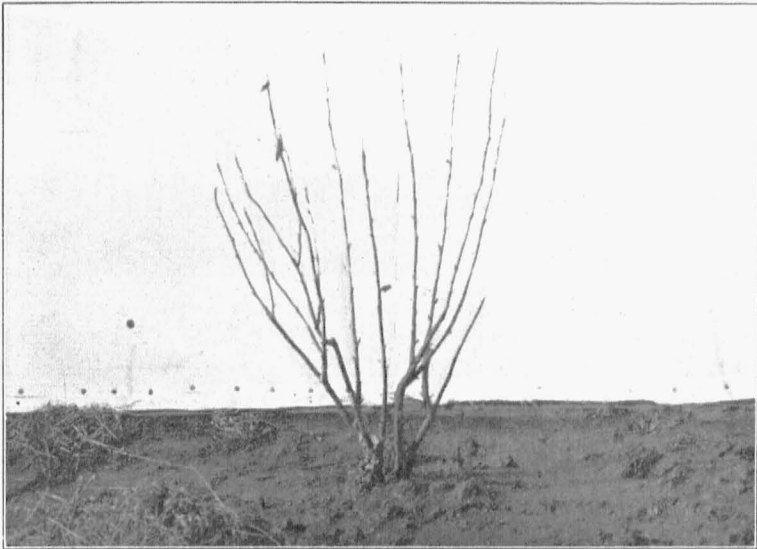


Fig. 3.—A good currant bush after one year's growth in the field.

### PRUNING

In commercial culture, gooseberries and currants are trained to the bush form. This is accomplished by setting the plants deep enough to allow the lower branches to be covered with soil.

Pruning after the first season's growth in the field consists in removing the weak and injured shoots and thinning the others to leave 4 to 6 strong, well developed new shoots. The second year 3 or 4 new shoots are left. The third year 3 or 4 new shoots are again left and the 3-year-

old branches thinned to 3 or 4 in number. After pruning at the end of the third season's growth there will be 3 to 4 three-year-old branches, 3 to 4 two-year-old branches and 3 to 4 one-year-old shoots. Future pruning consists in maintaining this proportion of branches of different ages by removing the older branches after they have produced their second crop of fruit, replacing them with an equal number of new shoots. This is highly important for the best results, since one-year-old branches and one-year-old spurs from wood 2 and 3 years of age are the most productive and produce the fruit of highest quality.



Fig. 4.—Bearing currant bushes, pruned, six years after planting.

### FERTILIZERS

Unfortunately, there is very little reliable information regarding the use of fertilizers on gooseberries and currants. The only fertilizer that at present can be generally recommended is stable or barnyard manure. Where available it should be applied at the rate of 12 to 15 tons to the acre, preferably during the fall or winter.

### HARVESTING AND PACKING

Gooseberries are usually harvested while green to be used for canning and for the making of preserves. Market prices are usually too low to justify the making of more than one picking. Consequently, the usual method is to pick the bushes clean when most of the berries have reached full size.

Currants to be used for making jelly should be picked before all the berries on the clusters are ripe; but for preserving, for making jam and similar products they should not be picked until fully ripe. Except Crandall, where the berries are picked separately as soon as they have



reached the desired degree of ripeness, currants are harvested by removing the entire cluster and not by pulling the berries from it.

Quart baskets in carriers holding 6 or 8 baskets, similar to those used for picking strawberries make desirable picking containers. The fruit should not be exposed to the direct sunlight longer than is necessary to fill the carriers.

For the general market, gooseberries and currants are packed in quart boxes, 24 quarts to the crate. The lapped-cornered baskets which have the corners covered are more desirable than the open cornered baskets used for strawberries. The baskets should be filled a little above the tops to allow for settling in handling.

To comply with the Net Weight Amendment to the Food and Drugs Act, the shipper, when shipping to another state, must stamp plainly on the outside of the package the contents and number of open packages contained, in terms of the largest unit contained. For example, the 24-quart crate would be marked, "Contents 24 dry quarts," or "This crate contains 24 dry quarts." Further, the standardization of the berry box makes it illegal to ship from state to state berry boxes which do not contain in cubical contents one pint, one-half pint, one quart or multiples of one quart, all dry measure.

### INSECTS AND DISEASES

**San Jose Scale.**—Both the gooseberry and the currant are subject to the attack of San Jose scale. In fact the currant is one of the favorite food plants of this insect, and currant bushes are often seriously injured from its attack. The bark of infested bushes will be found covered with the small ashy-gray scales, circular in outline and about the size of a small pin head. Heavily infected canes present a weak and sickly appearance and usually die the following winter.

**Control.**—Bushes infested by San Jose scale should be thoroughly sprayed with dormant strength lime-sulphur solution. This spray is made by diluting the commercial concentrated lime-sulphur solution at the rate of 1 gallon of the concentrate to 7 gallons of water. The spray may be applied any time while the bushes are dormant, but is most effective just before growth begins in the spring.

**Imported Currant Worm.**—The larva of the imported currant worm is a small, greenish yellow caterpillar which while young is covered with small black spots. When mature, the caterpillars are about three-quarters of an inch long. They attack both gooseberries and currants. There are two or more broods a year, the larvae of the first brood appearing shortly after the leaves appear in the spring. They frequently begin

feeding first on the leaves in the interior of the bushes, which are often nearly defoliated before the presence of the "worms" is noticed.

*Control.*—The currant worm is easily controlled by spraying with arsenate of lead, 1 pound of the powder to 50 gallons of spray, as soon as the caterpillars appear. Destruction of the first brood "worms" greatly lessens the danger of injury from later broods. If a spray is required just before harvest, white hellebore at the rate of 3 pounds to 50 gallons of spray should be used in the place of the arsenate of lead. Hellebore quickly loses its poisonous properties and only fresh material in an air-tight container should be used. When used as a spray it is non-poisonous to man and the higher animals.

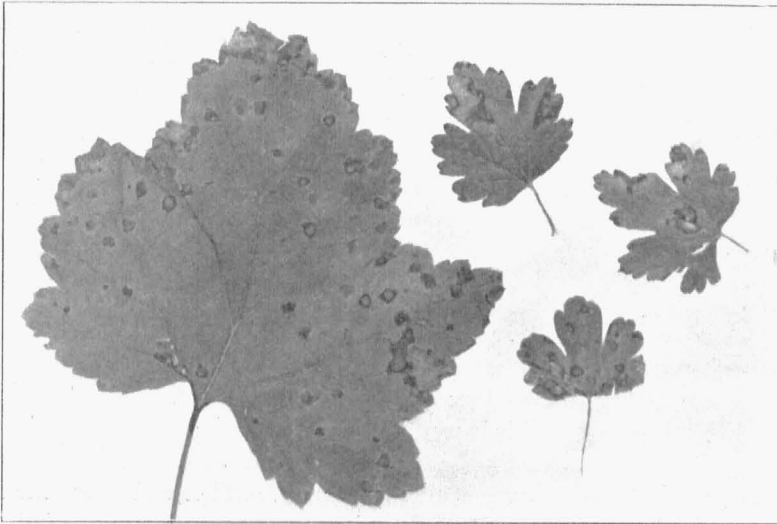


Fig. 5.—Leaf spot on gooseberry and currant.

**Currant Aphis.**—This is a small greenish plant louse frequently found on the under sides of the leaves of the red currant. The upper surface of infested leaves presents a swollen and blistered appearance and often shows a decided reddish color.

*Control.*—Currant aphis can be controlled by spraying with 40% nicotine sulphate diluted at the rate of  $\frac{3}{4}$  pint to 100 gallons of spray. For small quantities it is used at the rate of 1 teaspoonful for each gallon of spray desired. It is necessary that the insects be wet with this spray to kill them. Consequently spraying, to be most effective, should be done before the leaves become badly curled.

**Imported Currant Borer.**—The larva of the imported currant borer is a yellowish grub about  $\frac{1}{2}$  inch long which tunnels out the canes of

currants and sometimes gooseberries. Infested canes make a slow and feeble growth and usually die before the end of the season.

*Control.*—The only control is to cut out and burn the infested canes as soon as they are detected.

**Anthracnose.**—Anthracnose is a disease common to both gooseberries and currants, though the currant is usually the more severely affected. The disease appears in the form of numerous small brownish spots on the upper surfaces of the leaves. Affected leaves later turn yellow and drop prematurely.

*Control.*—This disease can be largely held in check by a dormant spray of lime-sulphur, 1-7, followed by summer sprays of lime-sulphur  $1\frac{1}{4}$  in 50. See spraying schedule, page 12.

**Leaf Spot.**—The leaf-spot fungus attacks both the currant and gooseberry. The appearance of this disease on the leaves is similar to that of anthracnose. When conditions are favorable to its development, the disease may cause a premature defoliation of the plants.

*Control.*—The same spraying program as outlined for the control of anthracnose is effective against the leaf-spot fungus. See page 12.

**Powdery Mildew.**—Powdery mildew is primarily a disease of the gooseberry, though it sometimes attacks the currant. Under favorable conditions, especially in wet seasons, it is difficult to control and may do considerable damage. The disease appears on the under sides of the leaves first as a whitish mold-like growth, later turning to a rusty brown. The fruit is also subject to attack, affected berries being covered with the powdery-like growth of the fungus.

*Control.*—For the control of powdery mildew a dormant spray of lime-sulphur 1-7 should be made. This should be followed by three or four summer applications of lime-sulphur,  $1\frac{1}{4}$  in 50, beginning as soon as the buds start opening, and repeating at intervals of 10 to 14 days.

### SPRAYING SCHEDULE

**Dormant Spray.**—Apply winter strength lime-sulphur solution (1 gallon of the commercial concentrate to 7 gallons of water) before growth begins in the spring, for scale. Since this spray also aids in the control of fungous diseases it is well to apply a dormant spray to gooseberries and currants every year. To be most effective as a fungicide, it should be applied just as the buds swell in the spring.

**First Summer Spray.**—Apply just as the first leaves appear in the spring, using lime-sulphur  $1\frac{1}{4}$  gallons of the commercial concentrate to  $48\frac{3}{4}$  gallons of water, for anthracnose, leaf spot and downy mildew.

**Second Summer Spray.**—This spray should be applied 10 to 14 days after the first summer spray, using lime-sulphur diluted as above

plus 1 pound of dry arsenate of lead to each 50 gallons of the spray. This is for the control of fungous diseases and the imported currant worm.

**Late Summer Sprays.**—One or two additional summer sprays applied at intervals of 10 to 14 days should be made, using lime-sulphur as recommended above for fungous diseases and white hellebore 3 pounds to each 50 gallons of spray for leaf eating insects.

**Special Spray for Aphis.**—If aphis appear, spray with nicotine sulphate  $\frac{3}{4}$  pint to 100 gallons of water or, in small quantities, 1 teaspoonful to 1 gallon of water. From  $\frac{1}{2}$  to 1 ounce of soap should be dissolved and added to each gallon of the spray mixture unless the nicotine sulphate is combined with one of the regular summer sprays. The soap should then be omitted. Apply the spray when the aphis are first noticed, taking pains to thoroughly wet the insects with the spray.