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## Growing Gooseberries and Currants

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A 2-year Glendale gooseberry bush, the most promising variety for Missouri.

Missouri is located at the southern edge of the gooseberry and currant belt, where conditions are less favorable for their production than to the north. Although perfectly hardy to the low temperatures of winter, these fruits are sensitive to heat and drouth; therefore, in making plantings, whether for market purposes or for home production, careful consideration should be given in planting and handling to minimize these effects.

The gooseberry is better adapted to Missouri conditions than the currant and is a worthwhile fruit to include in the home fruit garden. Also, small commercial plantings may be made for local

market trade where market demands justify. Dependability of the gooseberry has been enhanced by the comparatively recent introduction of the Pixwell variety by the North Dakota Agricultural Experiment Station.

The common garden currant has practically no commercial possibilities in this section and is recommended for home planting only when fairly moist conditions and partial protection from the hot summer sun can be provided. The common black currant is even less dependable.

### VARIETIES

**Gooseberries.**—The Downing and Houghton have been the two most extensively planted varieties of gooseberries in this section. The Downing produces larger fruit and is better liked for canning, but in tests at the Missouri Agricultural Experiment Station, the Houghton has been the more productive. Pixwell, however, promises to become the leading variety for this section. It has grown more rapidly, is more vigorous, has borne heavier crops than any other variety on the Station grounds and the fruit is of high quality.

Chautauqua, Industry, and other European varieties are not suitable for planting in this section.

**Currants.**—Red Lake, Red Cross, Wilder, and Perfection are among the more satisfactory varieties of the common garden currant. Varieties of the European black currant such as the Naples and Borkoop are very shy bearers.

### PLANTING STOCK

Only strong, well rooted plants should be set. No. 1 one-year nursery stock is generally preferred, although a first-grade two-year bush is better than a weak one-year plant. The younger plants cost less and generally grow more rapidly after setting.

Unless the plants are to be set within a few days after their arrival, nursery stock should be unpacked as soon as it is received and heeled in. Careful and prompt handling is necessary to prevent the roots from becoming dry. To heel 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.

### PROPAGATION

The low cost at which good grade plants may be purchased from commercial nurseries generally makes this the most satisfactory source of planting stock, but at times one may find it expedient or

desirable to produce plants at home. For this the following information is given.

Gooseberries are propagated by layers and cuttings. The Pigwell, Houghton and Glendale, as well as many other American varieties, will root readily from cuttings; a few, as the Downing, do not. With the latter, mound layerage is used. The common garden currant is propagated by means of hardwood cuttings.

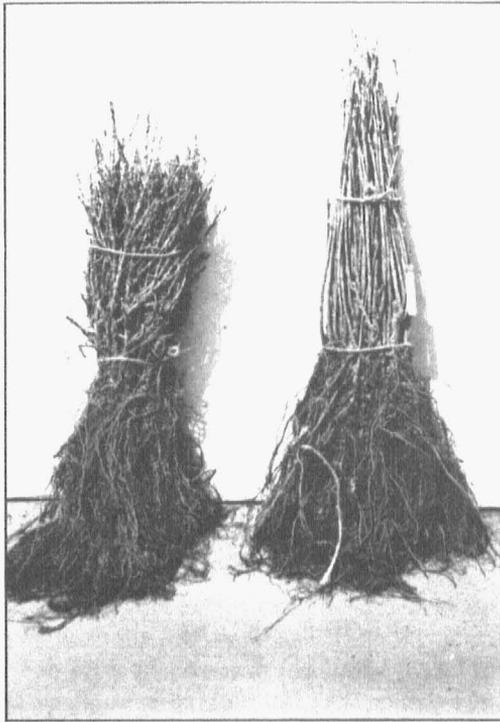


Fig. 2.—At left, a nursery bundle of No. 1 one-year gooseberry plants; at right, No. 1 one-year currant plants.

For mound layering the stock plants are cut back nearly to the ground before growth begins in the spring. By midsummer many vigorous new shoots will have been produced. These should then be mounded about half way to the tops, working the soil well down in among the shoots. The covered portions will throw out roots. The mound may be removed in the fall, the well rooted shoots cut off and stored for the winter or set at once fairly close together in a nursery row to be grown one or two years before transplanting to the permanent location. When set in the fall, ridging well up about the bushes is advisable to prevent heaving.

Sometimes it is more convenient to leave the bushes intact in broad deep mounds until spring. The stems are severed below the rooted region and the plants set in the nursery before growth begins.

A practical method of layering gooseberries to secure a few plants for home use is to bend branches to the ground and cover with soil but leaving the tips out. This is done in the fall or early spring. If the covered portions are kept moist, rooting will generally occur. Notching or cutting through the bark on the lower sides of the branches aids in inducing root formation. The stems may be severed and the new plants set the following spring.

Cuttings may be made any time after the wood has matured in the autumn until a few weeks before growth begins in the spring. Strong, healthy shoots of the past season's growth are selected and cut into about 8-inch lengths. Cuttings are more commonly made in the fall or winter, tied into bundles and buried in a well-drained place and covered enough to prevent freezing, or they may be packed in moist sand, soil or other material and stored in a cool cellar. As the buds start early, the cuttings should be lined out in the nursery row as soon as conditions will permit, setting them about 6 inches apart in the rows. They should be set deep enough 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.

### SOILS AND SITES

**Soils.**—Gooseberries and currants do best in deep; cool, fertile, and well drained soils. The heavier soils such as the silt or clay loams are preferable to those of a sandy nature. Poorly drained land or seepage areas are to be avoided, as neither of these fruits will succeed where the soil remains soggy for very long.

**Sites.**—Consideration should be given to the exposure in selecting a site for gooseberries and currants. Northern slopes which are cooler and more moist are to be preferred. Soil temperature seems to be an important factor in the culture of these fruits. About the home where only a few plants are to be set, the north or east side of a building, picket fence or other cool, partly shady or sheltered place may be selected. Planting under or near trees for shading, however, is to be avoided because of competition with the tree roots for moisture.

Although the varieties of gooseberries recommended for Missouri are not particularly subject to mildew, low damp places with poor air drainage which favor its development should be avoided. Currants are rarely attacked by mildew. Both gooseberries and currants bloom very early in the spring and should not be planted in low pockets where late frosts are of common occurrence. Low-lying areas, however, are often most favorable for the growth of the plants and might well be used where there is air drainage to lower levels or the area is not otherwise particularly subject to late spring frosts.

**Soil Preparation.**—Unless the soil is well supplied with organic matter, heavy applications of stable or barnyard manure should be made and thoroughly worked in. If these are not available, green manure crops should be used. The value of green manure crops or barnyard manure in preparing land for gooseberries and currants can hardly be overemphasized and the time to begin their use is before the plants are set. The liberal use of commercial fertilizers is recommended to promote good growth of the soil improving crops and is an excellent indirect means of fertilizing the fruit crops. As the organic matter decays, the nitrogen and various mineral foods become available to the fruit plants. The plowing and general preparation of the soil for setting is the same as for general farm crops.

## PLANTING

**Time.**—Plants may be set either in the fall or in the spring. It is not always possible, however to secure stock in time for autumn planting as early as necessary to allow the plants to become established before the advent of winter. Spring planting is more commonly practiced and is quite satisfactory provided it is done before the buds start. Both gooseberries and currants begin growth very early in the spring and delay until after leafing out is likely to seriously affect the growth of the plants. The dormant period can be extended somewhat by heeling in the plants on the shaded, cool, north side of a building.

**Distances.**—Planting distances depend largely on the method of cultivation but in some cases may need to be adjusted to the variety. The usual distance between rows is 6 to 8 feet. A distance of 4 to 5 feet between plants is sufficient under ordinary conditions, but in very fertile soils it should be increased to about 6 feet.

**Preparing Plants.**—In preparing the plants for setting, dead and injured roots are removed and long ones cut back to the

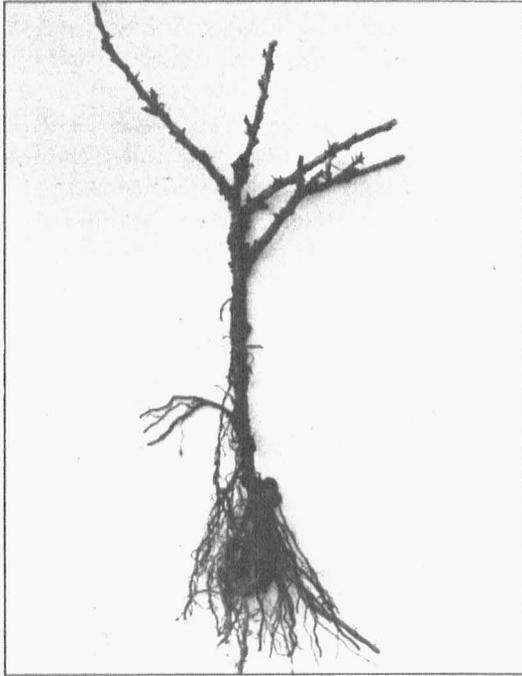


Fig. 3.—One-year No. 1 gooseberry plant after pruning for setting. Damaged roots should be cut back of the injured region and the longer roots shortened sufficiently to plant conveniently without crowding or bending.

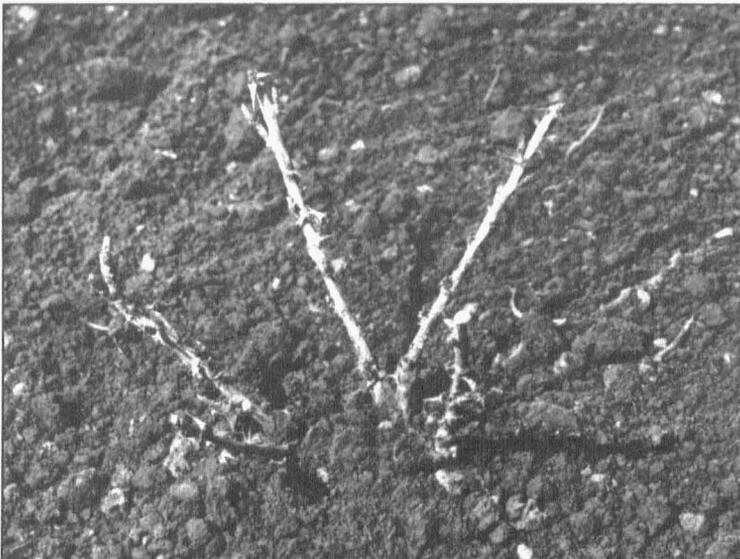


Fig. 4.—Gooseberries and currants should be set with the lower branches a little below soil level to develop a bush form rather than a single trunk. The soil should be well firmed about the roots as filling of the hole proceeds.

average length to facilitate planting. Ordinarily, little or no pruning back of the tops is done but with large plants some cutting back, especially of the longer branches, is advisable to prevent legginess and to partially compensate for the heavy root pruning in the process of digging the stock.

**Setting.**—The plants should be set deep enough that the lower branches will be covered with soil. This is necessary so that the plants may develop 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 or bending, the roots are well spread, and as the holes are filled the soil should be packed firmly about the roots. In fall planting a basin may be left about the bushes to catch water but with the beginning of winter this should be filled and even a low mound may be thrown up about the plants to help protect against heaving.

### CULTIVATION AND MULCHING

Cultivation should be done as often as is necessary to keep down weeds. Frequent stirring of the soil regardless of weeds is unnecessary. Dust mulches as such are of no particular value in conserving moisture.

Cultivation should be shallow. Deep working of the soil ordinarily is of no advantage and as both gooseberries and currants are shallow-rooted they are likely to be injured by deep cultivation especially after the first year.

Mulching with straw, grass or leaves is sometimes practiced. It aids in keeping the soil cool and when deep will keep down all but the larger weeds. Once applied, a mulch should be maintained. The chief disadvantage is that it serves as a harbor for mice which may seriously damage the plants. When a mulch is applied, a nitrogen fertilizer such as sulfate of ammonia or nitrate of soda, 200 to 300 pounds per acre, or for a small planting about  $\frac{1}{4}$  pound per plant, should be used with the mulch.

### PRUNING

Ordinarily, gooseberries and currants are trained to the bush form. This is accomplished by setting the plants deep enough that the lower branches will be covered with soil.

The two chief operations in pruning are (1) the thinning out of the one-year shoots and (2) the removal of the older bearing branches. This should be a regular yearly treatment.

All of the weaker one-year shoots arising from near the base of



Fig. 5.—A gooseberry bush before pruning. The plant is too thick but can be opened sufficiently by taking out the darker looking, larger old branches and the thinning out of the new shoots arising at or near the crown.

the plant should be removed and the stronger ones thinned to 3 to 5 or 6, depending upon the vigor of the plants, and so distributed as to maintain a well shaped bush.

Fruit is produced by the older branches. Best production is from branches 2 and 3 years of age. After a branch produces two crops, the quality of the fruit declines. Pruning is then essentially a wood renewal process in which all branches after their third year (2 crops) are removed, while an equal number of one-year shoots are left to replace them. A bearing bush will then, after pruning, consist of 3 to 5 one-year shoots, 3 to 5 two-year branches and 3 to 5 three-year branches. The first year or two after planting, more than the required number of new shoots may be left in order to build up the vigor of the plants but should be reduced after the second year's growth (before they bear) to prevent overproduction with its consequent weakening effect.

## MAINTENANCE OF SOIL FERTILITY

Gooseberries and currants need abundance of humus. When available, as much as 20 tons per acre of stable or barnyard manure, or 1 to 2 bushels per plant, can be applied profitably. Even the more fertile soils will generally be improved. Chicken manure may be used but in much smaller quantities.

In commercial plantings green manure or cover crops may be used to keep up the humus content when animal manures are lacking or insufficient in amount. A liberal application of fertilizer should be made to these crops to promote a vigorous growth.

Experiments indicate that nitrogen is the element most likely to give response with gooseberries and currants and unless the plants are making a vigorous growth the use of 150 or 200 pounds of sulfate of ammonia or nitrate of soda per acre is suggested to supplement the fertilizer applied to a non-leguminous cover crop. Without a cover crop the amount might well be increased 50 to 100 pounds per acre. To small plantings, apply at the rate of about  $\frac{1}{4}$  pound per bush.

## HARVESTING

Gooseberries are usually harvested before they are ripe when used for canning and making pies. For making jelly and preserves they may be picked from green to  $\frac{3}{4}$  ripe depending on the color and mildness of product desired. Market prices are usually too low to justify the making of more than one picking.

Currants to be used for making jelly should be picked before all the berries are ripe, but for preserving and for making jams and similar products they should not be picked until fully ripe. Full ripe berries may be used for jelly when pectin is added.

Quart baskets in carriers holding 4 to 8 baskets, similar to those used in picking strawberries, make desirable picking containers. The fruit should not be exposed to the sun longer than is necessary to fill the containers. For the retail trade the fruit is usually sold in quart baskets.

## INSECTS AND DISEASES

**San Jose Scale.**—Both the gooseberry and currant are attacked by San Jose scale. Currants are particularly susceptible and will soon be killed unless control measures are adopted. Heavily infested canes become ashy-gray in color, present a weak, sickly appearance and usually die the following winter. With light infestation, more or less circular grayish specks the size of a pin head or smaller will be found scattered over the surface of the bark. On gooseberries, the scale is less noticeable.

**Control.**—Spray with Government formula oil emulsion, 3 gals. in 100 (1 qt. to 8 gals. of water), or commercial spray oil preparations at the manufacturer's recommendation. Lime sulfur solution also is effective, 1 gal. of the concentrate to 7 gals. of water. The spray should be applied while the bushes are dormant. It 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 worm which while young is covered with black spots. When mature, they 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 come out in the spring. They frequently begin feeding first on the leaves in the interior of the bushes, which often are nearly defoliated before the presence of the worms is noticed.

**Control.**—As the currant worm is nearly always present, an early season spray should be made as a regular practice. Use lead arsenate 2 lbs. to 100 gallons applied as soon as the plants are well leaved out but before the fruit has set. Another spray might well be made 10 days to 2 weeks later, using one of the commercial pyrethrum or rotenone preparations at the manufacturer's recommendation. Should worms appear at any time, spray or dust with a commercial pyrethrum or derris (rotenone) preparation. Lead arsenate should never be used after the fruits begin to develop, because of the risk of a poisonous residue.

**Currant Aphid.**—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 or puffed appearance and often shows a reddish color.

**Control.**—The infrequency of attacks does not justify regular treatment. As soon as aphids are suspected a close examination should be made and if found, commercial nicotine sulfate  $\frac{3}{4}$  pint in 100 gallons (1 teaspoonful in 1 gal.) should be applied. Care is necessary to direct the spray onto the lower surfaces of the leaves where the insects are collected.

**Currant Borer.**—Occasionally, the currant borer or other borers tunnel out the canes of currants and sometimes gooseberries. Infested canes or new shoots make a slow and feeble growth and usually die before the end of the season.

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

**Leaf Spots.**—Gooseberries and currants are subject to several diseases that cause spotting of the leaves and which usually lead

to premature defoliation. The same measures are used to check the various diseases of this nature.

Control.—Apply 4-6-100 bordeaux (1) when the first leaves are  $\frac{1}{2}$  to 1 inch long, (2) again soon after blooming and (3) repeat about 2 weeks later. If these fail to check the diseases thoroughly, make a fourth application soon after the fruit is harvested.

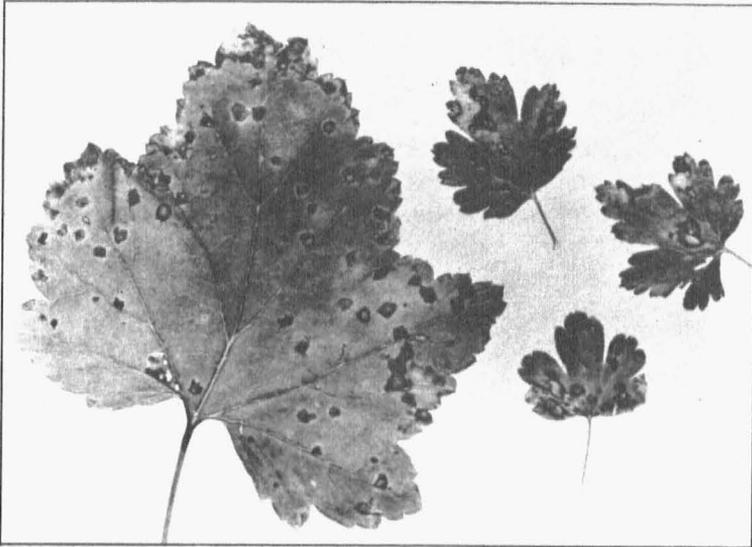


Fig. 6.—Leaf spot on currant (left) and gooseberry (right). The control of leaf spots is one of the most important purposes of spraying these fruits.

Bordeaux Mixture.—For 4-6-100, use 4 pounds copper sulfate (bluestone), 6 pounds fresh hydrated lime with 100 gallons of water. A convenient method at home is to make up one or more gallons of stock copper sulfate solution by dissolving 1 lb. of copper sulfate in each gallon of water used and to prepare a separate stock mixture of hydrated lime by mixing  $1\frac{1}{2}$  lbs. of the hydrated lime in each gallon of water used. These may be kept through the season in stoppered bottles or jugs. To prepare 3 gallons of bordeaux, for example, from these stock preparations pour  $2\frac{3}{4}$  gals. of water into a container (wood, glass or stoneware, not iron or tin), add 1 pt. lime stock mixture and while stirring vigorously, add 1 pt. of stock copper sulphate solution and apply within the next few hours. Bordeaux deteriorates on standing.

**Powdery Mildew.**—Powdery mildew is of no importance on currants and, with the varieties of gooseberries recommended for this section, is rarely of any consequence, although occasionally in wet seasons a white powdery growth appears but later changes to a somewhat rusty brown color.

**Control.**—Lime sulfur for the control of both mildew and the leaf spots is recommended in the place of bordeaux for use on gooseberries where mildew is a problem. Use it at the rate of  $1\frac{1}{2}$  gals. in 100, or 6 lbs. of dry lime sulfur to 100 gals. of water (1 pt. to 8 gals. or  $\frac{1}{2}$  lb. dry lime sulfur to 8 gals. of water for small quantities). Apply the spray (1) when the first leaves are about  $\frac{1}{2}$  inch long, (2) just after blooming, (3) about 2 weeks later.

**White Pine Blister Rust.**—Gooseberries and currants are important in the spread of the white pine blister rust, a destructive disease of the white pine. For this reason there have been established state and federal regulations on shipping and planting of these fruits in states or regions where the white pine is of economic importance. There are no restrictions in Missouri but purchasers of stock may at times be requested to give information as to the locality where the plants are to be set.