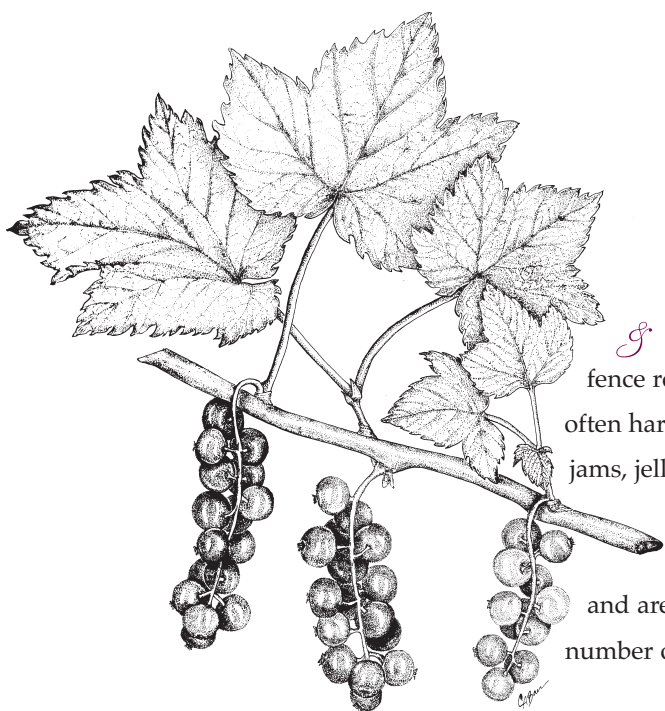


GROWING CURRANTS, GOOSEBERRIES, & ELDERBERRIES IN WISCONSIN



Ribes nigrum



Currants, gooseberries, & elderberries are native to Wisconsin woodlands, fence rows, and fields. Fruit of these lesser known crops are often harvested from the wild and are prized for making jams, jellies, pies, and juice. Elderberries are sometimes used in home winemaking. These crops are generally hardy enough to be grown in all areas of Wisconsin and are well adapted for home fruit plantings. A limited number of improved cultivars are available from nurseries.

SITE SELECTION AND PREPARATION

Gooseberries, currants, and elderberries prefer cool moist locations; they will not thrive in hot dry places. They can be grown in partially shaded areas but should have good air circulation around the plants to reduce leaf and fruit disease problems. Soils high in organic matter are ideal for these crops. Do not plant in poorly drained areas where water stands for more than a day.

If possible, obtain a soil test before planting. Procedures for soil sampling and submitting samples for testing are outlined in Extension publication *Sampling Lawn and Garden Soils for Soil Testing* (A2166), which is available through your county Extension office. Apply and incorporate any phosphorus or potassium recommended from the soil test the fall before planting.

Eliminate quackgrass and other troublesome perennial weeds by frequent cultivation or use of non-residual herbicides such as glyphosate the season before planting. Before using any herbicide, read the package label to make sure the crop you intend to treat is listed.

In the fall or early spring before planting, thoroughly mix additional organic matter with the soil. Well-rotted manure, compost, granulated peat, or other partially decomposed organic matter are beneficial.

SOURCES OF PLANTS

Because of limited demand, recommended gooseberry, currant, and elderberry cultivars may be difficult to obtain. One-year-old plants are best; older plants can be used but are often less vigorous and not as desirable. Check reliable mail-order nurseries for availability. For sources of these plants, see Extension publication *Home Fruit Cultivars for Northern Wisconsin* (A2488) or *Home Fruit Cultivars for Southern Wisconsin* (A2582).

If you wish to start your own plants from a nearby source, currants, gooseberries, and elderberries are easily propagated from cuttings or by layering. These procedures are discussed in Extension publication *Home Propagation Techniques* (NCR274). These plants do not come true from seed and must be vegetatively propagated.

Currants are usually propagated from hardwood cuttings. In winter or early spring, take cuttings 6 to 8 inches long from the matured dormant growth of the previous season. Store cuttings in

moist peat moss or sand in a refrigerator or other location cold enough to prevent growth. Do not store in a home freezer.

In early spring, plant the cuttings 6 to 8 inches apart in rows with the top two or three buds above the soil. Press soil firmly around the cuttings and water lightly and frequently. Rooted cuttings often can be transplanted in the spring following one season's growth.

Gooseberries can also be propagated by cuttings but are well adapted to layering. To layer plants, bend down low-growing branches in early spring, pin the branches in place with a hooked wire or weight, and cover them with 2 to 3 inches of soil. Leave the base and tips of the branches exposed. Branches will usually root well in one season and can be cut from the plant and transplanted the following spring. Rooting of layered branches is generally enhanced by covering the soil with sawdust or granulated peat to retain moisture.

Elderberries are easily propagated by cuttings as described for currants. In early spring take 10- to 12-inch cuttings from live portions of the previous season's growth and plant them 10 to 12 inches apart in rows, leaving the top bud exposed. Firm soil around cuttings and water as needed to retain a moist, not soggy, medium for rooting. Cuttings can be transplanted to permanent locations early the following spring.

PLANTING AND SPACING

In Wisconsin, spring planting is preferred for gooseberries, currants, and elderberries. Set dormant plants as soon as they are received from the nursery, or transplant them directly from the propagation bed. Before planting, remove damaged or broken roots or stems and cut back the top portions to 8 to 10 inches, depending on the size of the root system. Plant with the lowest branch at or just below the soil line. Water thoroughly after planting to settle the soil around the roots, and water weekly thereafter if rainfall is inadequate.

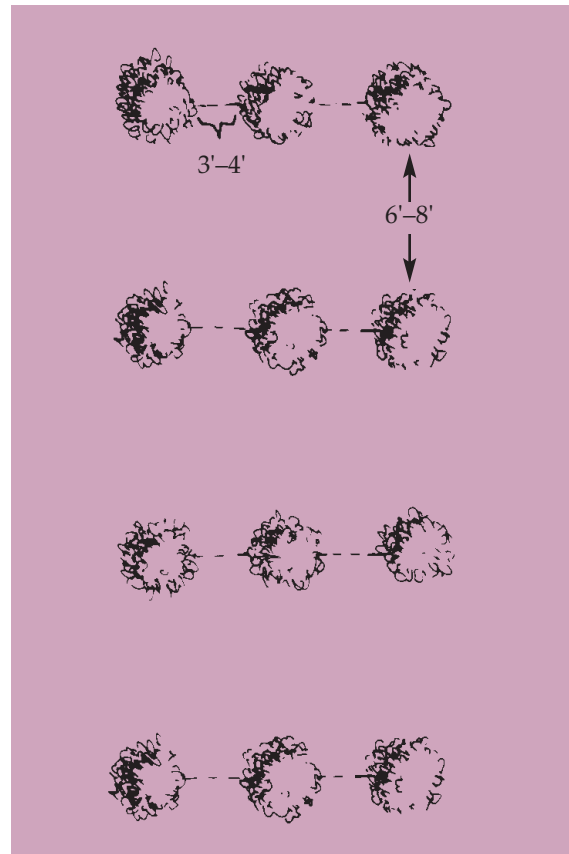


FIGURE 1. Plant spacing for currants and gooseberries

Space currants and gooseberries 3 to 4 feet apart in rows 6 to 8 feet apart. Elderberries should be spaced 7 to 8 feet apart in rows 10 to 12 feet apart to allow cultivation and air circulation in plantings.

POLLINATION

Currants and gooseberries are self-fruitful. Cross pollination with other cultivars is not essential. Elderberries are essentially self-unfruitful. Two or more cultivars should be planted near each other to provide for cross-pollination to ensure good fruit set.

SUGGESTED CULTIVARS

Since only a limited number of nurseries propagate currants, gooseberries, or elderberries, the cultivars suggested here are chosen on the basis of availability as well as their characteristics of good yield, fruit quality, and hardiness. Other unlisted cultivars may also perform satisfactorily in a home planting. The home fruit grower may find testing of other cultivars to be fun and interesting if time and space permits.

Currants

Wilder. Vigorous, red-fruited cultivar; moderately hardy and productive. Berries are somewhat larger than Red Lake. Ripens beginning in early July.

Red Lake. Vigorous, hardy, productive cultivar. Fruit is large, bright red when mature, and of good quality. Mild flavor. Ripens over a 3-week period beginning in early July.

White Imperial. An older cultivar. White, translucent fruit with pink blush is borne in loose clusters. Very rich, sweet flavor better than red currants. Winter hardy. Ripens mid-July.



Gooseberries

Hinonmaki Red.

A European gooseberry. Fruit is large, purplish red, and sweet. The canes are moderately vigorous, but are very spiny. For trial.

Poorman. Hardy and moderately productive. Red fruit is the largest of any American type. Somewhat less thorny than most cultivars.



Pixwell. Hardy and moderately productive. Medium-sized fruit is pink and mild flavored when mature.

Elderberries

Adams. Both Adams No. 1 and Adams No. 2 are suitable. Very large fruit compared to native plants. Plant is 8 feet tall, vigorous, with strong canes. Considered hardy. Ripens early August.

Johns. Exceptionally vigorous plant, growing 6 to 10 feet tall. Less productive than Adams, but fruit and fruit clusters are larger. Moderately hardy. Ripens 10 to 14 days after Adams.

Nova. An outstanding cultivar. Fruit is large and sweet. Plant is 6 feet tall, moderately hardy, and very productive. Use York as pollinizer. Ripens in August, before York. Originated in Nova Scotia.

York. More productive than Adams cultivars and as hardy. Largest berry of all cultivars; juicy, sweet, purplish black. Excellent 6-foot-tall ornamental with white flowers, black fruit, and showy fall foliage. Last to ripen in mid- to late August.



FERTILIZER

If the site was prepared properly and phosphorus and potassium were added based on the soil test, no additional phosphorus or potassium fertilizer should be required. Currants, gooseberries, and elderberries will benefit from applications of nitrogen. Young plants should receive 1 to 2 tablespoons of a high nitrogen fertilizer like ammonium sulfate, ammonium nitrate, or urea annually in the spring. Older plants should receive 3 to 4 tablespoons of high nitrogen fertilizer in the spring. Nitrogen can also be supplied by aged manures.

You can judge the need for fertilizer by looking at the bush. If the bush is very vigorous, producing a lot of new growth, reduce the nitrogen by half

or eliminate it altogether. If growth is moderate but the plants still appear thrifty, apply the recommended amount. If few new canes are produced and growth appears poor, increase nitrogen application by half. For more detailed fertilizer use suggestions, refer to Extension publication *Fertilizing Small Fruits in the Home Garden* (A2307).

PRUNING

Growth and fruiting habit of currants and gooseberries are similar. Thus, pruning practices are essentially the same for both.

Prune when plants are dormant—usually in early spring just before growth begins. Wherever possible while pruning currants and gooseberries, remove canes drooping on the soil or canes which shade the center of the plant. After the first season of growth, remove all but six to eight of the most vigorous shoots from currants and gooseberries. After the second season, retain four or five 1-year-old shoots and three or four 2-year-old canes. Following the third season, keep three or four canes each of 1-, 2-, and 3-year-old wood. When plants have finished the fourth season, remove all 4-year-old canes, and repeat the renewal process annually as described above for the third season.

With elderberries simply prune out weak or broken canes, leaving six to eight vigorous canes to a plant.

Old neglected currant, gooseberry, and elderberry plants can be renovated by removing old canes and thinning out newer shoot growth to initiate the sequence described for new plantings. Mature gooseberry and currant plants should have eight to ten bearing canes and four to six new shoots to replace the oldest canes removed each year. Six to eight mature canes to a plant are generally adequate for elderberries.

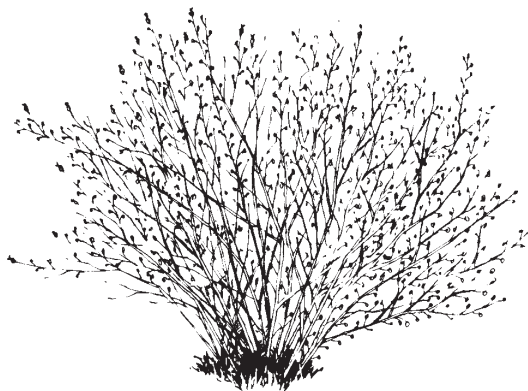
WEED MANAGEMENT

Currants, gooseberries, and elderberries do not compete well with weeds. Weed management begins by controlling perennial weeds before planting the bushes. After planting, frequent shallow cultivation will keep weeds out of the planting. Grasses are particularly competitive and must be controlled.

Mulches will aid in suppressing weeds as well as retaining soil moisture. Suitable mulches include shredded bark, bark chips, wood chips, sawdust, compost, straw, or lawn clippings. Apply mulches 3 to 4 inches deep around the plants. Time of application is not critical, but check the

FIGURE 2. Pruning currants and gooseberries

Before



After



mulch depth annually and replenish the mulch as needed. Don't get mulches too deep or you'll create a habitat for rodents.

Grass can be planted in the aisles between the rows. A grass walkway will let you harvest fruit following rains. Cultivate along the grass edges to keep the grass from invading the bushes.

INSECT PESTS OF CURRANTS AND GOOSEBERRIES

Under most conditions insects are not perennially serious pests of currants and gooseberries. However, certain insects occasionally will become abundant enough to cause serious damage if left unmanaged.

Currant aphid

This insect overwinters in the egg stage on plant stems. Eggs hatch in early spring, and the insects feed by sucking out the plant juices, which results in stunted and distorted new growth. As leaves continue to develop they will be crinkled, with down-turned edges. Areas between veins on the upper leaf surface may be reddened. As the aphids feed, they excrete excess sugar and water

in small droplets called honeydew. Ants may feed on the honeydew, and a black fungus—sooty mold—often grows on it. The aphids themselves are small (up to about 2 mm) and green, and usually are found in colonies. Other aphid species also occasionally feed on currants and gooseberries.

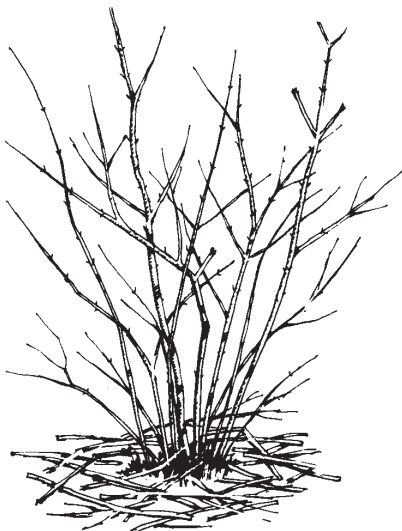
Aphids are often kept under good natural control by predators such as lady beetles and lacewings, small parasitic wasps, and even some insect diseases. In some areas or during certain years, these natural controls may not be adequate, and you may choose to use a chemical spray. Dormant sprays are effective, as is malathion or rotenone applied when the aphids are first seen. Insecticidal soap is also effective, but spray coverage must be thorough.

Currant borer

The damaging stage of this insect is a pale, yellow, worm-like larva, which tunnels through the pith of the cane. A member of the family called clear-winged moths, the wasp-like adult lays its eggs on the canes in early June. After hatching, the worm enters the cane and feeds all season. It overwinters in the larval stage in the cane,

FIGURE 3. Pruning elderberries

Before



After



emerging as the adult moth the following spring. Feeding damage will kill the cane, and the first symptom is yellowing foliage on individual canes in late spring. Red currants are most frequently attacked.

Cut out and destroy infested canes as early as possible.

Imported currant worm

This is the most serious insect pest of currants and gooseberries, with the latter being the favored host. Foliage is consumed by several small, spotted, caterpillar-like larvae. The adults are sawflies about the size of a house fly. There are two generations per year, with damage occurring in spring and again in late summer.

Malathion and rotenone will control this insect. Start looking for damage shortly after the leaves have fully expanded. Usually the second generation is less severe than the first and does not require treatment.

Currant stem girdler

These adult sawflies make numerous punctures in canes during egg laying in spring. The damage causes new shoots to droop and wilt in late spring. Further damage occurs as the larvae tunnel through the canes. This insect also attacks poplar and willow trees, and damage is usually more severe near stands of these trees.

The best control is the removal and destruction of infested canes at the first sign of wilting.

Fourlined plant bug

This insect is yellowish green with four dark stripes on the back. It is quite active, and it runs and flies readily. It feeds by sucking plant juices from leaves and young stem growth. Damage to young leaves results in deformed and brown foliage. Older leaves will be spotted with many tiny light spots. This insect feeds on numerous

wild hosts and damage is seen most frequently when such plants are allowed to grow near currants and gooseberries.

In areas where plant bugs have been a problem, they can be controlled by an early-season application of malathion.

Gooseberry fruitworm

The larval stage of this insect is a greenish worm with darker stripes along the sides. The worms feed by hollowing out the insides of fruit of both currants and gooseberries, with each worm consuming several berries. The adult is a moth.

Malathion or rotenone will control this insect. Make two applications 10 days apart, starting at early fruit development.

Currant fruit fly

Infested fruit drops early and has dark spots surrounded by a red area. Small white maggots will be found in such fruit. Late-maturing varieties are preferred by this insect.

Removal and burial or destruction of dropped fruit will keep populations from building. The insecticide program for gooseberry fruitworm will also control fruit flies.

San Jose scale

These insects are small, grayish disk-shaped specks about 2 mm across with a raised spot in the center. They are most frequently found on the canes. For most of its life, the scale insect is incapable of movement, and merely sits and sucks out the plant juices. Heavily infested plants will have canes encrusted with scales. In such cases, single canes or even entire plants will be killed.

Dormant sprays of lime sulfur or superior oil will control San Jose scale.

INSECT PESTS OF ELDERBERRIES

Because elderberry is a native plant, there are several native insects and mites that feed on it. Although most of these are checked by natural controls, occasionally some plant damage can occur. Pyrellin, a combination of rotenone and pyrethrins, is registered for controlling several of the following elderberry insects.

Aphids

Certain species of aphids are occasionally found feeding on elderberry. Although feeding may cause stunted and distorted leaves, usually only a few branch tips are involved. If aphids become numerous, wash them from the plants with a strong spray of water, prune out and destroy the infested terminals, or spray with Pyrellin.

Cecropia moth

The larval stage of this insect is a large caterpillar that can remove much foliage during feeding. They are most abundant near wooded areas. Control by hand removal and destruction.

Elder shoot borer

The larval stage of this insect is a worm that bores in the stems and shoots. The adult moth lays eggs in July and August in canes at least 1 year old. Eggs hatch the following April or May. The larvae feed first within the unfolding leaf whorls, then bore into new lateral shoots. When partially grown, they migrate to the ground shoots, entering these at the bases and feeding upwards into the shoots. When the larvae are fully grown in mid-June, they leave the ground shoots and tunnel into dead canes to pupate, leaving small piles of frass (sawdust) on the ground at the base of the old wood.

To control, prune out infested shoots or canes. Eliminate dead canes to discourage pupation. Remove old canes with holes or with piles of frass at their bases. Destroy all prunings.

DISEASES OF CURRANTS AND GOOSEBERRIES

The most common diseases of currants and gooseberries are caused by fungi. Symptoms of fungal diseases include leaf spots, stem cankers, and shoot dieback. Signs of the fungal pathogens, such as fruiting bodies, are often visible when infected plants are viewed with a hand lens. The other major group of pathogens that attack currants and gooseberries are viruses. Typical symptoms of virus diseases include yellowish to pale green mosaic patterns on leaves, and malformed or stunted shoots, leaves, and flowers. Viruses do not form fruiting bodies. Fungal diseases are managed by pruning to enhance drying of foliage, and removal of prunings and plant debris to reduce primary inoculum. Virus-infected plants cannot be cured. However, virus-free plants can be obtained from reputable nurseries. Wild plants in the genus *Ribes* harbor many of the same fungi and viruses that infect cultivated varieties and may be reservoirs for pathogens.

Powdery mildew

Powdery mildew is a common fungal disease that is generally more serious on gooseberry than on currant. The fungus overwinters in pruned or broken twigs. In the spring spores are released and infect leaves and shoots. Signs of the fungus—white patches on the surface of leaves, shoots, and berries—first appear in May or June on lower parts of the bush. The patches enlarge, merge, and develop white, powdery masses of spores which can start new infections. Eventually the fungus turns reddish-brown and small, spherical, black spore-containing bodies develop. Severe infection will cause stunting and dieback of shoots. Infected berries are off-color and rough.

Powdery mildew infections are favored by humid conditions. Spacing bushes to enhance air movement and rapid drying should reduce disease. Removing prunings and other plant debris in the fall will reduce the amount of fungal inoculum available the following spring. Sulfur-containing fungicides are effective against pow-

dery mildew but can damage plants, especially if used in hot weather. Repeated applications of sulfur may also harm beneficial microbes, insects, and earthworms.

Anthracnose

Anthracnose is a common leaf spot disease of both currant and gooseberry. The anthracnose fungus overwinters in leaf and twig debris. One type of spore (ascospore) is ejected from debris and carried by air currents to newly emerging tissue. A second type of spore (conidium) is splashed by rain to new tissue. Because fungal spores come from the ground, the first infections of the year are often on lower parts of the bush. Early season infections produce spores that cause additional infections. Thus, leaf spots occur throughout the season. Spots are dark brown or black and are scattered over either leaf surface. Spots enlarge (up to about $\frac{1}{8}$ inch), become somewhat angular in shape, and sometimes have a purplish border. Spore masses appear as glistening, gray, slimy droplets under wet, humid conditions. In some cases, leaves turn yellow with green zones surrounding the spots. Leaf yellowing is more common on gooseberry than on currant.

Spores of the anthracnose pathogen can germinate at temperatures between 35° and 82°F, although 40° to 60°F is optimal for ascospores while 55° to 70°F is optimal for conidia. Spores do not germinate at temperatures above 85°F, so new infections do not occur during very hot weather. Moisture is required for infection.

To reduce primary infections, remove prunings and plant debris in the fall or in the spring before plant growth resumes. Copper-containing fungicides, such as Bordeaux mixture, are effective against anthracnose. Lime sulfur is also effective and will simultaneously control powdery mildew.

Leaf spot

Leaf spot is sometimes called Septoria leaf spot, named for the fungal pathogen. The fungus overwinters on leaves on the ground. Ascospores are discharged in the spring (usually late May) and infect leaves. Leaf spots appear by mid-June as

small, dark spots that resemble anthracnose infections. However, as the spots enlarge, the centers turn light tan, and the borders turn brown. Small black spore-containing bodies appear scattered over the spots. Anthracnose spots do not have these black, pinpoint-sized fruiting bodies. Under wet conditions, spores are released from the bodies and are splashed to leaves where further infection may occur. Severely infected leaves turn yellow and drop. Leaf drop is more common with currant than gooseberry.

Minor diseases

White pine blister rust. Plants in the genus *Ribes*, including currant and gooseberry, are hosts for part of the life cycle of the white pine blister rust fungus. Black currant is more susceptible than red currant. The disease is usually not serious on currant and gooseberry but is devastating to white pine, the alternate host. Symptoms on currant and gooseberry appear in the spring as small, yellow spots on the undersides of leaves. Spores are shed from the spots and incite new infections. During late summer and fall, a different type of spore is formed and is carried up to a few hundred feet to white pine trees. The following spring, spores are released from white pines and can be carried up to 350 miles to *Ribes* plants. Separating currant and gooseberry from white pine by at least 1,000 feet can reduce infections but is often not practical.

Cane blight. Cane blight is caused by a fungus, and in severe cases can cause entire shoots or bushes to wilt and die. Symptoms are most evident just before fruit ripens. The wood and pith of affected canes are dark. Later in the season on current year's growth, or on 2-year-old infections, black wartlike bodies form in parallel rows along the length of the shoot. Removal of infected canes will minimize further infections.

Botrytis. Infections by the ubiquitous fungus *Botrytis cinerea* cause a dark-colored dieback of shoot tips and gray mold rot of berries. Infection and disease development are favored by wet, humid weather, especially in low areas with poor air circulation.

Cluster cup rust. Cluster cup rust produces striking symptoms on wild *Ribes* species or in neglected home plantings where sedge, the alternate host, is found. Damage is generally minor. The reddish rust is most common on leaf blades and petioles. The leaf is thickened where the cluster cup later appears.

DISEASES OF ELDERBERRIES

Tomato ringspot virus

Tomato ringspot virus infects a wide range of plants, including elderberry. The virus is spread by nematodes in the genus *Xiphinema* and by pollen transfer. Symptoms are not distinct, but infected plants are weakened, have reduced productivity, and may die. Soils should be tested for the presence of *Xiphinema* nematodes before establishing a planting of elderberry.

Fungal cankers

Stem cankers are caused by any of a number of different fungi that commonly attack woody plants. If a canker girdles a stem, the tissue above the canker will usually die. Conditions that stress plants, such as winter injury, drought, and flooding, may predispose plants to infection. Infected shoots should be removed from a planting to prevent further infection.

Other diseases

Powdery mildew fungi attack elderberry, as do numerous leaf-spotting fungi. These diseases seldom warrant special attention other than removing as much plant debris as possible in the fall to prevent the pathogens from overwintering. Root rots may occur in poorly drained soil. Verticillium wilt affects a wide range of plants including elderberry. Plants should not be established in sites where tomatoes or related plants were grown during the past 5 years.

RELATED PUBLICATIONS

Fertilizing Small Fruits in the Home Garden (A2307)

Home Fruit Cultivars for Northern Wisconsin (A2488)

Home Fruit Cultivars for Southern Wisconsin (A2582)

NURSERIES

This list of nurseries is provided as a convenience for our readers. It is not an endorsement by Extension, nor is it exhaustive. The plant materials listed in this bulletin may be available from other equally suitable nurseries.

Bear Creek Nursery

P. O. Box 411
Northport, WA 99157
(509) 732-6219

McKay Nursery

P.O. Box 185
Waterloo, WI 53594
(920) 478-2121

Indiana Berry & Plant Co.

5218 W 500S
Huntingburg, IN 47542
(800) 295-2226

Miller Nurseries

5060 West Lake Road
Canandaigua, NY 14424
(716) 396-2647

St. Lawrence Nurseries

325 State Highway 345
Potsdam, NY 13676
(315) 265-6739

J.W. Jung Seed

335 South High Street
Randolph, WI 53957
(800) 247-5864



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RP-07-01-(R12/98)-3M-300