

CURRENT AND GOOSEBERRY PRODUCTION

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Introduction: *Ribes* is the genus name of currants, gooseberries, and crosses of the two.

Currants and gooseberries were once grown extensively on a commercial basis in the US. At the beginning of the century, the largest collection of currants and gooseberries in the country was in Geneva, NY, and the state ranked number one in red currant production in the 1930's. There are over 150 species of gooseberries in the world, and hundreds of currants and selected and hybridized cultivars. One British nurseryman told me in 1999 that he refers to a variety publication from earlier this century that lists over 1,500 varieties of gooseberries alone, and some researchers report that about 4,000 have been reported over the years (possibly a number are duplicates). Many cultivars have been lost, or are very rare, and there is an international effort to save as many of these as possible.

Even though currants and gooseberries are in the same family, they appear quite different. The crosses may look like either parent, some like currants and others like gooseberries. The variety in shapes, colors, texture, and flavor make *Ribes* a good candidate for development in gourmet and specialty markets. Fresh fruit can decorate plates, salads, and desserts. Cooked or processed fruit makes delicious sauces, pastry, wine, vinegar, and preserves. The juices have great flavor and health benefits that make them appropriate for popularizing as common breakfast or snack drinks. A comprehensive cookbook is currently available for *Ribes*, and recipes can be found in old cookbooks, cooking magazines.

Description: **Gooseberries** grow on a bush approximately 3 to 6 feet tall and about 3 to 4 feet wide. Most gooseberries have spines or thorns at each of the leaf nodes. The spines may be single, double, or triple, and they may be large, (10 to 15 mm) to small (1 to 5 mm). The habit of the plant may vary from low spreading to upright and tall. Berry color may vary from green to yellow/green, to yellow; or white, to pink, to red, to dark red or purple. The size of the berries varies from about 1.5 grams to more than 12 grams. The average is about 3 to 6 grams. The berries are usually borne in ones, twos, or threes, and hang under the branches. The taste ranges from very tart to very sweet. In the US, gooseberries ripen starting about mid-June and the latest are ripe about mid-August. The seasons may vary a week or more either way, depending on the weather and your location.

Gooseberries are generally classified as dessert berries, those that are used raw, and culinary, or 'cookers' that are used primarily for processing or cooking. There are some that fall into both categories depending on the stage of ripeness when picked. Generally the dessert berries are larger and used when completely ripe. The culinary berries are generally smaller, very tart and used before they are fully ripe. Some growers use some of the dessert type berries while still unripe as cookers and as a means of thinning and using the crop. The remaining berries become larger and are used as they ripen.

Some of the cultivars used as dessert berries in North America are:
Achilles, Captivator, Early Sulphur, Hoenings Earliest, Invicta, Hinnomaki Red, Hinnomaki Yellow, and Whinham's Industry.

Some of the culinary cultivars are:
Careless (dual use), Oregon Champion, Poorman, and Red Jacket, (Pixwell less recommended).

There are many other cultivars available in varying supplies that could be used in plantings for berries for sale at farmer's markets or roadside markets.

Currants grow on a bush that is generally larger than a gooseberry bush with thicker wood. There are no thorns or spines, and bushes can be spreading or upright. There are two major different types of currants, black currants (*R. nigrum*) and red currants (*R. rubrum*). The red currants also include the pink, white, and yellow currants, which are color phases of the red.

Almost all **black currants** are processed into juice or other products such as syrup, jam, jelly, tea, yogurt, pie fillings, candy, nutraceuticals, and wine. There has been an increase in consumption of black currant flavored beverages, and fresh consumption is growing, although demand remains relatively low because berries have a strong pungent flavor. The flavor is great for those who are accustomed to it, either fresh, or for cooking.

Some available black currant cultivars that may be used:
Black Currants: Ben Sarek, Ben Lomond, Ben Alder, Titania, (Ben Nevis, Consort....less recommended).

Red currants are used both fresh and processed. They grow in bunches similar to grapes called strigs and may have from 10 to 35 berries. Fruits are often made into juice which can be consumed as a beverage, or used for preserves or other products. Currant jelly is an ingredient in many recipes to produce a tart flavor or to glaze. Red currants are used in sauces for meats, poultry or fish as well as a dessert topping on ice cream, cake, puddings, and creams.

Some currant cultivars that may be used:
Red Currants: Red Lake, Jonkeer Van Tets, Redstart, Rovada, and Tatran.
White Currants: Primus, Blanka, White Imperial, Pink Champagne, and White Versailles.

There are **other hybrids** and species of *Ribes* that don't fit into the above classifications. One of these is Crandall. It is often grouped with black currants, but is actually another species, *R. odoratum*, and looks like a black currant, but has a milder flavor and is often eaten as fresh, raw fruit. It is quite large, and late for a black currant. Josta berries, and selections called ORUS are actually hybrids of gooseberry and black currant.

Deciding Whether to Grow *Ribes*: *Ribes* crops definitely have a place in a grower's diversification formula. Local consumption by gourmet enthusiasts, small scale processors, and ethnic markets should be one's first target. Know what your market is before planting. Remember that larger scale production is more risky. As an example, the production of red currants as of 2009 has grown so much that it is a challenge to sell them all during the season. However, CA storage could be considered as a way to extend season and increase prices.

One should be conscious of any regulations that restrict *Ribes* production in the local area. Consider proximity to white pines, and the information about white pine blister rust. Labor or proximity to a harvester is also a critical factor. **Considerations in Choosing a Variety:** As with other crops, no ideal varieties of *Ribes* crops have been developed. Certain varieties are better suited to certain geographical locations. Fruit quality on a given variety might be excellent, while lack of disease resistance or poor plant growth habit could be a flaw. When you consider varieties for commercial production, consider the following factors: availability of plant material, ease of propagation, plant patents, local laws, market audience final use of fruit, yield, ease of picking (length of strig), fruit color, size and quality, plant: thorns, growth habit/size, disease resistance.

Culture: Spacing - Planting rates for gooseberries and currants that are being used in pick-your-own operations should be about 3-4 feet in the row and in rows about 6-8 feet apart, depending on your training system and equipment. It is very important to know about the growth habit of your selected varieties and the space requirements of equipment, especially if you plan to mechanically harvest. Field spacing can be planned according to the defined parameters. For example, the black currant Ben Lomond would be planted a little closer in row, while Titania could be spaced wider, due to size differences of plants. Mechanically harvested plants are spaced closer in the row, at about 18", with alleys spaced wider so that equipment can pass. One grower in England advocates planting at 12" in-row spacing, insisting that a tight hedgerow is critical for success in mechanical harvesting.

Mechanical harvesting is also possible for gooseberries (and red currants). Gooseberries that are planted for processing are planted closer in row, and are 'stripped' of berries while still fairly green (un-ripe) and hard. Gooseberries picked for fresh market are often planted about 3.5 feet in the row unless trained to vertical cordons. Fresh market berries are generally hand-picked.

Both red currants and gooseberries are most efficiently trained to cordons if they are to be used for fresh fruit production. Please contact my office for a detailed article on this training system.

Soil and Water - *Ribes* are best grown in good soil with at least 3-5% organic matter content and a pH of about 6.5, (however they can tolerate lower readings). High nitrogen should be avoided as this produces too much vegetative growth and may predispose plants to more mildew problems. A British rule of thumb is to add 50 kg per hectare each of N and K (actual) for crops producing 10 metric tons per hectare. (A 10 m t/h crop will extract the following kg of actual nutrient per hectare: N 20, P 5, K 44, Ca 8, Mg 3, S 4.) *Ribes* need about 0.6-1 inch of water per week during the fruiting season. Drip irrigation and mulching with straw, chips, or plastic is beneficial.

Pruning and Training - The best fruit is borne on 2 and 3 year old wood, and wood should be pruned out after 4 years. Many training systems have been developed over the years, and continue to be developed. One alternative for black currant is to prune plants to the ground every other year, and to harvest alternate years. The crop is essentially grown as a "field crop" with as little as 15 hours of labor per year per acre. The Dutch have developed a mechanical pruning system that removes 1/3 of the bush per year on rotation. Systems will vary by use of fruit, harvest method, and other factors.

Pest Control - The lack of registered chemicals has been a problem from time to time for *Ribes* producers. (Check with your local extension office for the latest recommendations.)

1. Mildew tends to be the major disease problem, but trials are showing that it can be controlled by stylet oil. Gooseberry fruits are blemished and deformed by the disease. Shoot tips are deformed. The disease was once the limiting factor preventing success with European cultivars in North America.
2. Leaf spot has been a serious a problem on all *Ribes* crops. Leaf yellowing and premature defoliation weakens the plant and affects yield. Copper sprays and weed control help to control the disease.
3. White pine blister rust has been the cause of *Ribes* restrictions in the Northeast which are being reconsidered for modification. Immune cultivars are advisable especially near white pine stands. Gooseberry and red currant are resistant to the disease.
4. The British are controlling cane borers with pheromone mating disruption. They are sometimes a problem in the Northeast.
5. Aphids sometimes cause a red deformation on red currant leaves.
6. Reversion virus is common in black currant in Europe, but not found in the US. It can reduce the useful life of a black currant planting to as few as eight years. Quarantine has kept the disease out so far. The disease is spread by big bud mites.
7. Currant Cane Blight, a fungus disease that was a problem in the past (when ribes were previously cultivated in large acreage), has become a problem again. It is caused by *Botryosphaeria ribis*, and causes branches to yellow, wilt, and die.
8. Imported currant worm, is a green larva that can defoliate a plant in a matter of days. They are easily controlled with insecticide, but control measures must be taken quickly, because they can defoliate a plant in a couple of days.

Recommendations for pest control can be found in the *Cornell Small Fruit Crop Pest Management Recommendations* or other local extension publications.

Harvest/Postharvest: As with all berries, harvest and post harvest care of fruit can extend the shelf life of fruit. Some varieties hang longer on the plant than others. Generally speaking, red and black currants will sweeten as they hang, and fresh eating quality improves. Most people have a tendency to pick these fruits on the green side. Gooseberries will ripen off the plant. They ripen slowly in cold storage. Gooseberries lose their distinct veination as they ripen and become overripe. They develop a stronger, mustier flavor, lose acid, and can become mealy. Gooseberries and red currants can be kept a number of months (up to seven) with palletized CA storage.

Hand Harvesting: At harvest, one should avoid pricking gooseberries on thorns, and leave the blossom and stem end of the berry intact. Avoid bruising fruit. Red currants are left on strings, and should be picked carefully to avoid smashing berries closest to the plant. Cultivars with long strings, not heavily clustered are easier to hand pick. Black currants would follow the same generalizations as the red currants. Often harvest of black currants is best started as the first ripe berries in the top of the plant are beginning to fall off. In all *Ribes*, free moisture should be avoided, and berries should be shaded in the field and chilled as rapidly as possible. Fruit of all three types can be held at 36-40 F for two to three weeks. I have held fruit at 33F for as long as six weeks. CA storage methods are being developed for these fruits.

Machine Harvest: Proper adjustment of shakers is critical so that a thorough job of harvesting is done and the bushes are not badly beaten. Some machines are gentle enough to harvest gooseberry and black currant fruit suitable for fresh market. Red currants are more desirable intact on strigs for fresh market, and this is not possible with machine.

Useful Resource:

Currants, Gooseberries, And Jostaberries: A Guide For Growers, Marketers, And Researchers In North America by Danny L., Ph.D. Barney and Kim E. Hummer