

Crop Profile for Gooseberries in New York

Prepared: March 2, 2000

General Production Information

- **State Rank:** NA
- **% U.S. Production:** NA
- **Acres of Bearing Age:** ~3.5
- **Acres Harvested:** ~3.5
- **Cash Value:** ~\$70,000
- **Yearly Production Costs:** \$NA

Production Regions

Growing any species of gooseberries is prohibited in the following counties of New York: Clinton, Essex, Franklin, Fulton, Hamilton, Lewis, Saratoga, Warren, and Washington. Growing is also prohibited in designated townships of additional counties, as follows: in Herkimer County, the townships of Manheim, Norway, Ohio, Russia, Salisbury, and Webb; in Oneida County, the townships of Annsville, Ava, Boonville, Camden, Florence, Forestport Lee, Remsen, Steuben, Trenton, and Western; in St. Lawrence County, the townships of Brasher, Clare, Clifton, Colton, Edwards, Fine, Hopkinton, Lawrence, Norfolk, Parishville, Piercefield, Pierrepont, Pitcairn, Russell, and Stockholm; in Sullivan County, the townships of Cohecton, Tusten, Highland, Lumberland, Forestburg, and Mamakating, in Orange County, the town of Deerpark; and in Ulster County, the townships of Hurley, Kingston, Marbletown, Olive, Rochester, Rosendale, Saugerties, Shandaken, Ulster, Wawarsing, and Woodstock.

The federal government and many of the surrounding states have dropped their prohibition against growing gooseberries and currants because the real cause has been determined to be the black currant. There is some movement to have these regulations rescinded in New York.

Description: Gooseberries are deciduous shrubs, fast growing under optimum conditions to 3 feet tall and 6 feet wide. American types have weeping stems that will root wherever they touch the ground and can be invasive. Annual growth is in a single flush in the spring. The roots are superficial, fine and easily damaged by frequent cultivation.

The buds perk up early in the spring, dotting the stems with green when most other plants are still tawny. The leaves are alternate, single, deeply lobed, and glossy dark green (European types), or pale to gray-green and sometimes finely pubescent (American types). The stems are thin, becoming woody, with a large thorn at each axil. American gooseberry stems are densely bristly, with one or more additional

thorns at each axil. Leaf size and number are reduced under heat or light stress, and are easily burned by intense sunlight. Plants that have been subject to drought may make a new growth flush after deep irrigation. If the roots are lost, regrowth will wait until the following spring.

The flowers, green with pink flushed petals, open in early spring. They are borne laterally on one year old wood and on short spurs of older wood. The flowers are self fertile and pollinated by wind and insects, including bees. Each flower bud opens to yield from one to four flowers, depending on cultivar.

The fruit, borne singly or in pairs at the axils, is a berry with many minute seeds at the center. A gooseberry may be green, white (gray-green), yellow, or shades of red from pink to purple to almost black. Fruits of the European gooseberry may be very large, like a small plum, but are usually one inch long, less in width. American gooseberry fruits are smaller (to 1/2 inch), perfectly round, all becoming pink to wine-red at maturity. Skin color is most intense in full sunlight. Berries generally drop when overripe. The fruit has a flavor all its own.

Cultivars: American Gooseberry (Pixwell, Poorman) European Gooseberry (Careless, Early Sulphur, Hinnonmaki red, Hinnonmaki yellow, Whinham's Industry, Whitesmith).

Cultural Methods: Gooseberries prefer a cool climate and a rich, moist, but well-drained soil high in organic matter. Silt and clay loams are best; however, plants should do well on fertile sandy loams. Light, sandy soils that tend to become hot and dry during the summer, or land where water stands at any time during the year should be avoided. In general, neither crop thrives in hot, dry places. Because gooseberries blossom very early in the spring, they should not be planted on low lands or in pockets where late spring frost may injure the blossoms.

The fruit of the gooseberry often scalds badly in hot weather, especially when exposed to direct sun. Gooseberries thrive best when planted on a northern exposure, where they will be shaded part of the day. They also grow well on the north side of structures or in other partially shaded places. Gooseberries are subject to mildew. Therefore, they should be planted where the air circulation is good. On sloping ground, gooseberries should be planted high on the slope.

A gooseberry bush is usually grown on a permanent short leg of about six inches, from which the bush is continually renewed with new shoots arising at or near ground level. Allow stems to grow for 4-5 years, then selectively remove oldest stems to make room for new shoots. Snap off any branches that form along or below the six-inch leg. Thorns make harvest tedious, so pruning is done to open up the bush and make picking easier.

The ease with which gooseberries propagate from cuttings depends on the cultivar. Generally, American cultivars are easier to root than are European cultivars. Seeds require moist stratification, just above freezing, for three to four months. The plants begin to bear fruit in five years from seed and two years from cuttings.

Commodity Destination(s):

Fresh Market 75%

Processing 25%

Insect Pests

Currant Borer

Biology: The adult of this pest is a clear-winged, blue-backed moth with yellow markings.

Symptoms: Eggs are laid in leaf axils. The larva of this moth attacks the canes in mid- to late June, boring in and tunneling up and down as the cane develops. The resulting damage greatly weakens the cane so that it is capable of only sickly growth or it may break off altogether.

Resistant Cultivars: None

Cultural Management: Infested canes are removed and destroyed before June 1. Using recommended pruning practices and removing canes that are too old helps reduce pest infestation.

Chemical Control: None

Currant Stem Girdler

Biology: The sawflies emerge from the middle to the last of May in New York; both sexes have shining black bodies and light brownish-yellow legs. In the male nearly all of the abdomen is of a brownish-yellow color, while in the female the front half of the abdomen is reddish-orange, and the rest is black. The female is about 1/2 inch in length, the male somewhat smaller. The former is provided with a stout, sharp saw-toothed ovipositor, which when exerted extends at a right angle beneath the abdomen. By means of this ovipositor the female punctures a cane a few inches from the tip and inserts the elongate oval, yellowish-white egg into the pith. After the egg is deposited the female walks up the shoot from one half inch to an inch and deftly girdles the cane with her ovipositor. Sometimes the girdling is so complete that the tip falls at once, but usually a portion remains uncut and the tip may remain attached

for some time, especially if the shoot is a large one. This killing of the tip of the cane seems to be necessary for the development of the egg and grub. The eggs hatch in about eleven days. The grubs feed almost entirely on the pith, which they tunnel out to a distance of not over six inches, leaving the burrow packed full of excrement behind them. The borer becomes full-grown about the first of September and cleans out the lower end of its burrow for the distance of about three fourths inch and then eats a passageway out to the outer bark, which soon dies and shrinks over this point. It then surrounds itself with a silken cocoon within which it remains as a grub all winter. The change to a pupa takes place in the spring, and the adult insect emerges a few days later.

Symptoms: The pest eats, or girdles, the tips of new shoots, which eventually die and fall off.

Resistant Cultivars: None

Cultural Management: The girdling habit of the adult insect which causes the young shoot to wilt, die, and drop off in May makes it easy to determine whether the pest is present or not. Since the egg is embedded in the shoot less than an inch below where the girdling is done, and as the grubs rarely tunnel down more than six inches, if the injured shoots are cut off at least eight inches below the girdle and burned, the insect will be effectively controlled. If the work is performed in May or June soon after the girdling is done, only two or three inches of the tips need be cut off. The cutting and burning of about eight inches of the tips of the injured shoots at any time of the year, even in winter, will prove an effective remedy for this pest.

Chemical Control: None

Gooseberry Fruitworm

Biology: Gooseberries are subject to the attacks of a greenish caterpillar with a brownish head $\frac{3}{4}$ inch in length when full-grown, which feeds within the fruit and causes it to color prematurely and either dry up or fall to the ground and decay. While ordinarily not a serious pest, it has been known to destroy almost the entire crop in certain places.

The grayish moths have an expanse of nearly an inch; the forewings are crossed by darker lines, and there is a row of small blackish dots near the outer margin. The female deposits her eggs on the fruit. The young larva enters the partly grown berry and feeds on the pulp, casting out the excrement through the opening in the skin of the fruit by which it entered. It will sometimes enter several berries in succession, and often webs together several berries with a silken thread. When full-grown, it descends to the ground and transforms to a pupa within a brownish oval cocoon beneath dead leaves or other trash. The winter is passed as a pupa, and the moths emerge the next spring soon after the fruit has set.

The caterpillars are very active, and when alarmed will wriggle out of the berry and hang suspended by a

silken thread only to return to the fruit when the danger is passed.

Symptoms: This pest causes premature coloring and separation of the fruit. The adult moth lays eggs on the fruit, and the larvae enter the developing berries and feed on the pulp. Several berries and portions of the stem may be tied together by silken webbing.

Resistant Cultivars: None

Cultural Management: Hand picking the infested berries provides some control.

Chemical Control: None. Use of malathion for other pests (i.e. Japanese beetles) will help control fruitworms.

Imported Currant Worm

Biology: The full-grown larva is 3 inches long; it is green with yellowish ends, has a black head, and is covered with black spots.

Symptoms: Shortly after the leaves are out in the spring the adults deposit eggs on the undersides of leaves along the major veins. A week to ten days later, tiny larvae emerge and begin eating holes in leaves. The worms feed in colonies and later singly, voraciously stripping the plants of foliage. A second brood occurs in early summer, and a partial third brood may appear depending on the weather.

Resistant Cultivars: None

Cultural Management: Removing leaves containing eggs can help to control pest.

Chemical Control: None

San Jose Scale

Biology: The mature female scale is about the size of a pinhead and circular in shape, with a nipple-like prominence in the center.

Symptoms: Infested plants are yellowish and unhealthy looking, and many of the canes eventually die. Seriously infested plants appear grayish, as if coated with ash.

Resistant Cultivars: None

Cultural Management: Infested canes are pruned out and destroyed before new growth begins in the spring.

Chemical Control: Dormant oil spray (4 gal in 10 gal water) applied before the buds swell and burst in the spring. Apply when dormant.

Insecticides on Gooseberries:

Amount of Product per Sprayed Acre		
Insecticide	Formulation	lbs active ingredient
malathion (Malathion)	5 EC (qt)	
Apply for Japanese beetle, chafers, and mites. PHI: 3 days REI: 12 hours		
methoxychlor (Methoxychlor)	50WP (2-3 lbs/A)	1-1.5 lbs
PHI: 14 days REI: 12 hours		
pyrethrin (Pyrenone)	0.5 EC (2-12 oz)	0.125-0.75 lbs
Apply as leaf buds are opening for currant aphid. PHI: 0 days REI: 12 hours		

Diseases

Leaf Spot (Anthracnose)

Disease Cycle: The fungus overwinters in the inconspicuous cane lesions or infected fallen leaves. Spores produced from these sites are distributed the following spring by air currents and splashing rain, and infect young canes and leaves while they remain wet. Additional spores are produced from these

new infection sites, and are distributed by splashing rains throughout the summer, spreading the disease. Only young, growing tissues are susceptible to infection.

Symptoms: Brown spots appear on leaves; at a later stage, leaves turn yellow.

Resistant Cultivars: None

Cultural Management: Destroy affected leaves and apply mulch after leaf drop.

Chemical Control: Copper hydroxide applied before bloom, after petal fall and after harvest. Sulfur 80WP (2 lb/A) applied just before bloom. Sulfur may cause injury in some cultivars.

Powdery Mildew

Disease Cycle: The black overwintering structures, called cleistothecia, form on canes and twigs. Ascospores are released around bloom. Conidia can be produced within 10 days and contribute to multiple infections during the growing season.

Symptoms: Initially, white powdery patches appear on the leaves and shoots in the early spring. As time passes, these patches turn rusty brown. Newly formed fruit also become infected, showing the same powdery growth. Infected berries become cracked and may shatter.

Resistant Cultivars: Susceptibility to this disease is highly variable, depending on the variety planted; European varieties are generally much more susceptible than American varieties.

Cultural Management: Prune and dispose of infected branch and shoot tips in early spring. Trellising to improve air circulation.

Chemical Control: Sprays are most necessary during humid or wet weather in the spring. JMS Stylet Oil (3-6 qt/100 gal water) or wettable sulfur 80WP (6-15 lb/A). Some gooseberry varieties are "sulfur shy" and will be damaged by these sprays, especially during warm weather.

Fungicides on Gooseberries:

Amount of Product per Sprayed Acre		
Fungicide	Formulation	lbs active ingredient

copper hydroxide (Kocide)	61DF (10lb/A) 2.4L 4.5L 77 WP (10lb/A) Champ 4.6F (6 2/3 pt/A)	3.51 lbs
<p>Apply copper hydroxide before bloom, after petal fall and after harvest for leaf spot control.</p> <p>PHI: NA</p> <p>REI: 48 hours</p>		
mineral oil (JMS)	Stylect oil (3-6 qt/100 gal water)	2.9-5.8 qts
<p>Apply when the first signs of powdery mildew are apparent and repeat as necessary. The oil kills the disease on contact, so high water volumes and thorough coverage of the leaves and developing fruit are essential for good control.</p> <p>PHI: 0 days</p> <p>REI: 48 hours</p>		
sulfur (Thiolux)	80 WP (2-15 lb/A)	1.6-12 lbs
<p>Apply sulfur just before bloom for leaf spot control. Apply after first signs of powdery mildew appear. Sulfur causes injury on some cultivars.</p> <p>PHI: NA</p> <p>REI: 24 hours</p>		

Weeds

A 4-inch layer of bark or sawdust mulch, or a combination of the two, greatly aids in weed control. Cultivation should be minimized because the root system is very shallow in currants and gooseberries. Grasses can be planted between rows to minimize weeds within the planting. Mulches and herbicides are generally applied in a 4 ft. band under the row.

Herbicides on Gooseberries:

	Amount of Product per Sprayed Acre	
Herbicide	Formulation	lbs active ingredient
oryzalin (Surflan)	75 WSP (2.5-5.0 lb)	2-4 lbs
<p>Apply to both bearing and nonbearing plants before weed emergence. Rain or irrigation is needed within 21 days after application.</p> <p>PHI: NA</p> <p>REI: 12 hours</p>		
glyphosate (Roundup)	4L (1 qt)	1-4 lbs
<p>Preplant or wiper applications only. Do not contact foliage.</p> <p>PHI: 30 days</p> <p>REI: 12 hours</p>		
pelargonic acid (Scythe)	3-5% soln. for annuals 5-7% soln. for perennials 7-10% for maximum burndown	2.25-20 gal
<p>Apply before new canes emerge in spring or after canes become woody. Do not contact desirable foliage.</p> <p>PHI: NA</p> <p>REI: 24 hours</p>		

Vertebrate Pests

Bird Control: Damage to fruit by birds is a serious problem in many areas of New York. Visual scare devices such as whirlers, streamers, reflectors, and plastic hawk and owl models are used in combination with sound devices such as exploders, alarms, or recorded devices. For sound devices to be effective, their location and the frequency of sounds are changed daily. They also are in place before the fruit ripens. Some towns have passed ordinances regulating the use of sound devices. The most effective

sound devices are those with species-specific bird distress calls programmed into the device.

Several types of netting, such as plastic, nylon, cotton, and polyethylene, are marketed for protecting fruits. A light-weight acrylic netting that can be draped directly over plants is available. It does not require support and it does not interfere with sunlight, pollination, or growth. Most netting is expensive, and can be reused for many years.

Methyl anthranilate formulations for bird repellency are labelled for use but have not proven to be effective.

Rodent Control: Various rodents can damage a small-fruit planting, especially as they feed under bark in the winter. Closely mowing the area around the planting and between the aisles in early November will reduce the habitat for voles and mice. The habitat (woodlots) of predators that feed on rodents (hawks, owls, foxes) should be protected around the area. A number of poisonous baits are labeled for use in agricultural areas. To be most effective, baits should be placed in feeding stations that exclude large animals and are replenished throughout the winter.

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