

Crop Profile: Currants in New York

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II. Basic Commodity Information

State Rank: NA
% U.S. Production: NA
Acres of Bearing Age: ~9
Acres Harvested: ~9
Cash Value: ~\$180,000
Yearly Production Costs: \$NA

Production Regions: Growing any species of currants 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, Pitcaim, Russell, and Stockholm; in Sullivan County, the townships of Cochection, Tusten, Highland, Lumberland, Forestburg, and Mamakating, in Orange County, the town of Deerpark; and in Ulster County, the townships of Hurley, Kingston, Marletown, Olive, Rochester, Rosendale, Saugerties, Shandaken, Ulster, Wawarsing, and Woodstock.

Furthermore, growing black currants (pure *Ribes nigrum*) is prohibited throughout New York State. These regulations are designed to protect five-needled pines against white pine blister rust, a devastating disease that infects white pines, currants, and gooseberries; pines cannot become infected unless currants or gooseberries are present nearby. Hybrid rust-resistant black currants, however, can be grown where other *Ribes* species are permitted (e.g., Titania, Consort, Crusader).

The federal government and many of the surrounding states have dropped their prohibition against growing currants and gooseberries 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 There is some movement to have these regulations rescinded in New York.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: All forms of currant are deciduous shrubs, fast growing under optimum conditions. The plant is a multiple-stemmed clump, to 5 feet high and 5 feet wide, but is suitable for training as a standard. Annual growth is in a single flush in spring. The roots are superficial, fine and easily damaged by frequent cultivation.

The leaves are alternate, single, lobed and maple-like. Black currant leaves range from pale green to dark green, while those of the red currant are deep blue-green. Both are easily burned by intense sunlight. Leaf size and number is reduced under water stress.

Currant flowers are borne toward the bases of one-year old stems and on spurs on older stems. They appear in early spring with new growth. Each flower bud opens to a number of flowers (up to 20), joined together on a delicate, drooping 5 - 6 inch stem, called a strig. The strig length is reduced or flowering is suppressed by lack of winter chill. Individual flowers (green in the case of red currants and blush pink for black currants) are not showy, but joined together on the strig they give the bush a lacy texture. Pollination is by hoverflies and other insects. Black currant flowers also attract honeybees. Most currants have self-fertile flowers, but a few cultivars are partially self-sterile. Depending upon the cultivar, fruits ripen from 70 to 100 days after blossoming.

Fully set strigs will be a pendulous chain of small berries. The fruit is easier to pick if the strigs are long and have clear lengths at the bases for holding onto while harvesting. Black currants commonly ripen from the top down. Modern red currant varieties have been selected for their ability to ripen all the berries on a strig at once. Berries of red, white and pink currants are translucent; black currants are matte brown-purple. The berries contain 3-12 tiny seeds.

Cultivars: Red Currants (Jonkheer van Tets, Red Lake, Redstart), White Currants (Blanka, Primus, White Imperial, White Versailles), Pink Currants (Pink Champagne), Black Currants (Titania, Ben Alder, Ben Lomond, Consort).

Cultural Methods: Currants prefer a cool climate and a rich, moist, but well-drained soil high in organic matter. Silt and clay loams are best; however, plants can 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 is avoided. In general, neither crop thrives in hot, dry places. Because currants blossom very early in the spring, they are not planted on low lands or in pockets where late spring frost may injure the blossoms.

Annual pruning increases yields and keeps plants manageable. Currants are pruned so that most fruit are borne on spurs of two- or three-year old wood. A pruning program maintains a continuous supply of such wood. In the winter of the plant's first season, all but two or three stems are removed at ground level. The following winter all but two or three stems that grew the previous season, at which point the bush will have two or three each of one and two-year old stems. This is repeated each season. By the fourth season any stems more than three years old are cut away at their base. Long stems that have grown to scraggly are also shortened each winter.

Currant seeds germinate if stratified for three to four months at temperatures just above freezing. Seedlings are prolific and do not vary much from parent. Bushes grown from seed bear when two or three years old. Currants are easily propagated by hardwood cuttings of one-year old wood.

Commodity Destination(s):

Fresh Market..... 50%

Processing..... 50%

III. Pest Information: Insects

1. Currant Aphid

Biology: This pest overwinters in the egg stage on bark or new canes. The small yellowish aphids begin to appear when leaf buds open in the spring.

Symptoms: The aphid is most common on red currant plants. The leaves of infested plants are cupped, galled, distorted, and discolored; the upper leaf surfaces are most seriously affected. Honeydew excreted by the aphids covers the foliage and fruit with a sticky coating.

Resistant Cultivars: None

Cultural Management: None

Control: An application of malathion is recommended as the leaf buds are opening. Malathion 57EC (1.6 pt) or Pyrethrin 0.5EC (2-12 oz). Safer soap and Stylet oil are also used for control.

2. Currant Borer

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

Symptoms: Eggs are laid in leafaxils. 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.

Biological Control: pheromone disruption

Chemical Control: None

3. 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

4. Gooseberry Fruitworm

Biology: Currants are subject to the attacks of a greenish caterpillar with a brownish head 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 controfruitworms.

5. 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: Chemical sprays are applied as soon as worms appear. Malathion 57EC- 1.6 pt/A

6. 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 Currants:

| Insecticide | Amount of Product per Sprayed Acre | |
|--|------------------------------------|-----------------------|
| | Formulation | lbs active ingredient |
| malathion (Malathion) | 57 EC (1.6 pt) | 1 lb |
| Apply as leaf buds are opening for currant aphid. Apply as soon as worms appear for imported currant worm control. For other pests as berries are turning red. | | |
| PHI: 3 days REI: 12 hours | | |
| methoxychlor (Methoxychlor) | 50WP (2-3 lbs/A) | 1-1.5 lbs |
| PHI: 14 days REI: 12 hours | | |

| Amount of Product per Sprayed Acre | | |
|---|--------------------|------------------------------|
| Insecticide | Formulation | lbs active ingredient |
| 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 | | |

IV. Pest Information: Diseases

1. Leaf Spot

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 (2b/A) applied just before bloom. Sulfur may cause injury in some cultivars.

2. 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. JMSStylet Oil (3-6 qt/100 gal water) or wettable sulfur 80WP (6-15 lb/A).

Fungicides on Currants:

| Amount of Product per Sprayed Acre | | |
|--|--------------------------|------------------------------|
| Fungicide | Formulation | lbs active ingredient |
| copper hydroxide (Kocide) | 61 DF (10lb/A) | 3.51 lbs |
| | 2.4 L | |
| | 4.5 L | |
| | 77 WP (10 lb/A) | |
| | Champ 4.6 F (6 2/3 pt/A) | |
| Apply copper hydroxide before bloom, after petal fall and after harvest for leaf spot control. | | |
| PHI: NA REI: 48 hours | | |

| Insecticide | Amount of Product per Sprayed Acre | |
|---|---|------------------------------|
| | Formulation | lbs active ingredient |
| mineral oil (JMS) | Stylect oil (3-6 qt/100 gal water) | 2.9-5.8 qts |
| <p>Apply prebloom, postbloom and then 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 REI: 4 hours</p> | | |
| sulfur (Thiolux) | 80WP (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 REI: 24 hours</p> | | |

V. Pest Information: 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 Currants:

| Herbicide | Amount of Product per Sprayed Acre | |
|---|---|------------------------------|
| | Formulation | lbs active ingredient |
| oryzalin (Surflan) | 75 WSP (2.5-5.0 lb) A.S. (2-6 qt) | 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 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 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: 24 hours REI: 24 hours</p> | | |

VI. Pest Information: Vertebrates

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.

Deer Control: Deer populations are at an all time high, and they can devastate berry plantings. Multiple strategies are required to discourage deer from feeding on berry plantings. Habitat modifications, reductions in animal numbers, and evaluation of fencing alternatives are some of the methods applied.

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