

BUSHEL *and* BERRY®

— Growing Cane Berries —

This is a document intended to provide Bushel and Berry® growers information and resources to help with general aspects of growing Bushel and Berry®.

MOST IMPORTANT FACTORS TO CANE BERRY NURSERY NUTRITION & DISEASE MANAGEMENT

1. Webbing and yellow-spotty leaf damage: Spider mites
2. Weak growth and pale leaves, poor rooting: Typically due to phytophthora root rot

I. ARTHROPOD PESTS

a. Spider mites

Several species of spider mites are a common pest of cane berries, though pest pressure varies regionally. Spider mites are typically present at low populations, but can build very quickly, particularly in hot and dry conditions. Management: Much of mite management involves encouraging predator mite populations that keep the spider mites below economically damaging levels. This typically involves careful use of insecticides so as not to kill the predators and “flare” the pest mites. Inoculative releases of effective predators such as *Amblyseius* (*Neoseiulus*) *fallacis* early in the growth cycle can have great benefits. Predators may need to be re-released throughout the growing cycle if predator populations get out of balance through practices such as the use of insecticides, or through shearing of the plants.

Misting leaves will also slow spider mite population growth, though this can lead to disease issues. When mites flare beyond the capabilities of being corrected by predators, or before shipping, acaricides may be used to correct populations. For homeowners, many home remedies are available to control populations effectively on a small scale.

b. Foliar feeding insects

A number of foliar feeding insects can be sporadic pests of cane berries in short-cycle nursery productions. If damage is noticed, carefully inspect leaves and compare with images and descriptions.

2. FOLIAR DISEASES

Several foliar diseases can occur in cane berries nursery stock, including leaf rusts and cane blights, but in yearly nursery production the primary pathogen to be aware of is simply botrytis.

3. VIRUS DISEASES

A number of virus diseases can occur on cane berries. Liners will arrive from virus indexed plants, and virus diseases should not be a large concern in the nursery. Cane berry viruses would enter a nursery system from neighboring rubus from a vector such as an aphid or leafhopper, or from nematodes from roots that grow into a mineral soil. In some growing regions it can be very difficult to keep plants clean.

Management: To minimize issues with these pathogens, pest management should include an awareness of possible vectors and their control, and minimizing contact of roots with soil. If pollen-borne viruses are in the area, care should be taken to either keep plants from flowering or to maintain appropriate isolation distances from fruiting or native rubus.

4. ROOT DISEASES

Cane berries are very sensitive to phytophthora root rot. Liners will arrive healthy, to prevent problems from this disease developing, minimize possibilities of introducing the pathogen, or generation conditions that favor the development of this disease. For best results, use these general guidelines: 1) Only pot with new, well-drained media mixed on a slab. 2) Never re-use pots without sterilizing with steam. 3) Ensure that water does not stand in the area where the plants are grown. Surface water often contains some natural level of phytophthora, so when at all possible it is preferable to water using well water, or treated surface water. However, even when the pathogen is present in the water, issues generally do not develop if the growing conditions do not favor disease development (drainage).

Management: A fungicide program is generally not needed if appropriate methods are utilized, but if conditions favor the development of disease or if problems have existed historically, effective fungicides, such as Fosphite® and Ridomil® may be effective in preventing disease development.