UNIVERSITY OF ILLINOIS EXTENSION
College of Agricultural, Consumer and Environmental Sciences

report on
PLANT
DISEASE

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DEPARTMENT OF CROP SCIENCES
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FAILURE OF FRUIT SET IN BLACKBERRIES

Blackberry plants that look normal and healthy may sometimes flower profusely but fail to set fruit. This failure may be complete, with no fruit set at all, but more often it may be partial, with the production of misshapen berries. The appearance of such berries may range from nearly normal to some with only a single drupelet. The condition may be the result of infection by a virus or fungus, insect damage, hereditary abnormalities, or a combination of these causes.

Figure 1. Blackberry fruit showing sign of sterility on plant with premature reddening.

Virus Infection

Failure to set fruit in blackberries is a symptom of one or more virus diseases that affect the entire plant. Diseased plants produce new canes that are more vigorous, with rounded and glossier leaflets than normal. The leaves also develop a brilliant, premature reddening in the fall (Figure 1). Although flowers appear to be normal, they only produce a few drupelets per receptacle (fruit). The production of fruit buds for the next season is also reduced. This disease does spread in a planting, but its means of transmission (other than by root suckers) is undetermined.

There are no chemicals to control virus-induced blackberry sterility. The following measures are suggested:

1. **Purchase** only **virus-free plants** from nursery producers who will certify that their plants were produced from fruitful stock. **Do not use root suckers** to propagate plants from fields or gardens where the sterility virus has previously been found.

2. Where possible, **destroy neglected plantings** and wild bramble patches within 500 feet (152.4 meters) of new plantings.

Fungus Infection

Anthracnose, a common fungus disease also affects fruit development. This disease is seldom severe on the fruit of erect blackberries, but is often serious on fruit of trailing blackberries. When immature drupelets are infected, ripening is prevented. Infected fruit is small, brown, dry, and woody. Drupelets that are attacked when they are more mature become brown and shrunken.

For further information, contact Mohammad Babadoost, Extension Specialist in Vegetable and Fruit Diseases, Department of Crop Sciences, University of Illinois at Urbana-Champaign (217-333-1523; email: babadoos@uiuc.edu).

Anthracnose and other less common fungi that may be injurious to the fruit are generally controlled by following a regular, pest control schedule and by removal of fruiting by pruning canes immediately after harvest (Figure 2). These canes die after fruiting and should be destroyed as soon after harvest as possible to minimize the spread of any diseases present to the new canes.

Figure 2. Erect blackberry, infected with sterility virus.

Insect Damage

Mites, thrips, tarnished plant bugs, and adult beetles of the raspberry fruit worm may sometimes cause fruit malformation. These insects feed on the flower buds, stamens, or pistils. Extensive damage from mites and insects is not common. Special sprays to control them are generally not warranted, particularly when the regular pest-control schedule is followed. Commercial growers should contact their nearest Extension office or the Dixon Springs Ag Center, RR 1, Box 251, Simpson, IL 62985, for the latest pest-control recommendations as given in the current Proceedings of the Illinois Small Fruit and Strawberry Schools.

Hereditary Abnormalities

Poor fruit set can also be the result of gene or chromosome combinations that do not permit effective self-pollination. Plants and flowers look normal, but the pollen produced does not fertilize the ovules. This process is necessary for normal fruit development. Commercially important cultivars are generally self-fruitful and usually are planted in large blocks without concern about this type of sterility.

Sometimes plantings in which a few or many plants produce little or no marketable fruit are simply mixtures of wild blackberries. Such plants should be removed and destroyed as soon as they are identified since they are usually more vigorous than the productive plants and tend to replace them.