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THE BLUEBERRY MAGGOT

in the Maritime Provinces

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The blueberry maggot² is the most important insect pest of low-bush blueberry in the Maritime Provinces. It is common in most blueberry areas in Maine and the Maritimes, but has not been reported from Newfoundland or west of the Gaspé Peninsula in Quebec.

The larva, a small white maggot, develops in the berry and causes premature ripening and breakdown. This maggot is repulsive when seen in fresh, canned or frozen fruit, although it is not harmful to health. It also affects the export of blueberries to the United States or other countries where regulations prohibit the sale of infested fruit.

DESCRIPTION AND LIFE HISTORY

The blueberry maggot overwinters in a puparium in the soil. The flies (Figure 1) emerge from early July to late August. They are slightly smaller than a house fly and have black bands across the wings and white ones on the abdomen. The females begin to lay eggs about 10 days after they emerge and some of the last flies to emerge are still laying when the crop is being harvested in late August and September.

The egg (Figure 2,A) is laid under the skin of the fruit, usually one egg per berry. A few days later the maggot (Figure 2,B) hatches, and feeds in the fruit for about two weeks. It then drops to the ground and burrows into the soil, where it remains for the winter. Most of the flies emerge the next year but a few puparia (Figure 2,C) remain in the soil for two or more years.

The adults prefer sheltered places such as along rock walls, in hollows, and in very weedy parts of the field. As a result the infested fruit is often very unevenly distributed in a field.

¹This publication was compiled from reports and circulars published by the University of Maine Agricultural Experiment Station and the Canada Department of Agriculture, and includes observations made by C.W. Maxwell and others at the Blueberry Substation, Tower Hill, N.B.

²*Rhagoletis mendax* Curran.

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Figure 1. - Adult flies. Left, male. Right, female.

NATURAL CONTROL

The blueberry maggot has no important natural enemies. Burning the fields periodically may reduce infestations, but in most areas insecticides are necessary.

CHEMICAL CONTROL

The most effective treatment is the following dust:

Calcium arsenate	50 percent
Monohydrated copper sulphate	10 percent
Hydrated lime	40 percent

Make two applications, both at about 6 pounds per acre. Make the first application when the berries begin to turn blue, and the second one about two weeks later. Do not apply the dust during the three weeks just before picking. In fields where the maggot is a serious problem you may increase the rate to 8 pounds per acre. However, this may injure the foliage, particularly if you apply the dust during damp and cloudy weather.

Most growers use power equipment, but in small fields you may prefer to use a hand duster. If so, put the regulator in the 'slightly open' position. This will provide enough air blast for good coverage when you turn the handle at a moderate speed. If the vent is open too far, the dust may clog the delivery pipe. A duster with one delivery pipe is satisfactory.

Walk slowly across the area to be treated and direct the delivery pipe from side to side so that you cover a strip about 30 feet wide. It is helpful to mark off traverse lines, to avoid missing some areas or dusting them twice.

Use fresh dust in both powered and hand-operated dusters. Apply it at daybreak or at dusk, when the air is calm. Dew on the foliage helps to hold the dust but too much moisture reduces the effectiveness of an application. Do not dust while the plants are still very wet after a heavy rain.

TESTING FRUIT SAMPLES FOR THE MAGGOT

The following method is satisfactory for finding how abundant the maggot is. Obtain one or more samples (1 quart each) by raking a few berries here and there through the field. Place each sample in a cooking pot, add enough water to cover the berries, and cook them for three to five minutes. Stir them occasionally to make sure that they are all cooked.

Pour the sauce through a wire screen of $\frac{1}{4}$ -inch mesh into a black baking pan. The sauce and maggots will pass through while the berries and refuse will stay on the screen. Rinse the refuse with 2 or 3 quarts of water to loosen any maggots that have not passed through with the sauce. Tip the baking pan to allow most of the water to run off slowly; the maggots will settle to the bottom of the pan. You will probably have to add more water to the sauce and pour the water off a second time. You can easily count the white maggots against the black pan as a background.

Berries for sale should be free from maggots.



Figure 2. — Immature stages. A, egg. B, full-grown maggots, side and top views. C, puparium.



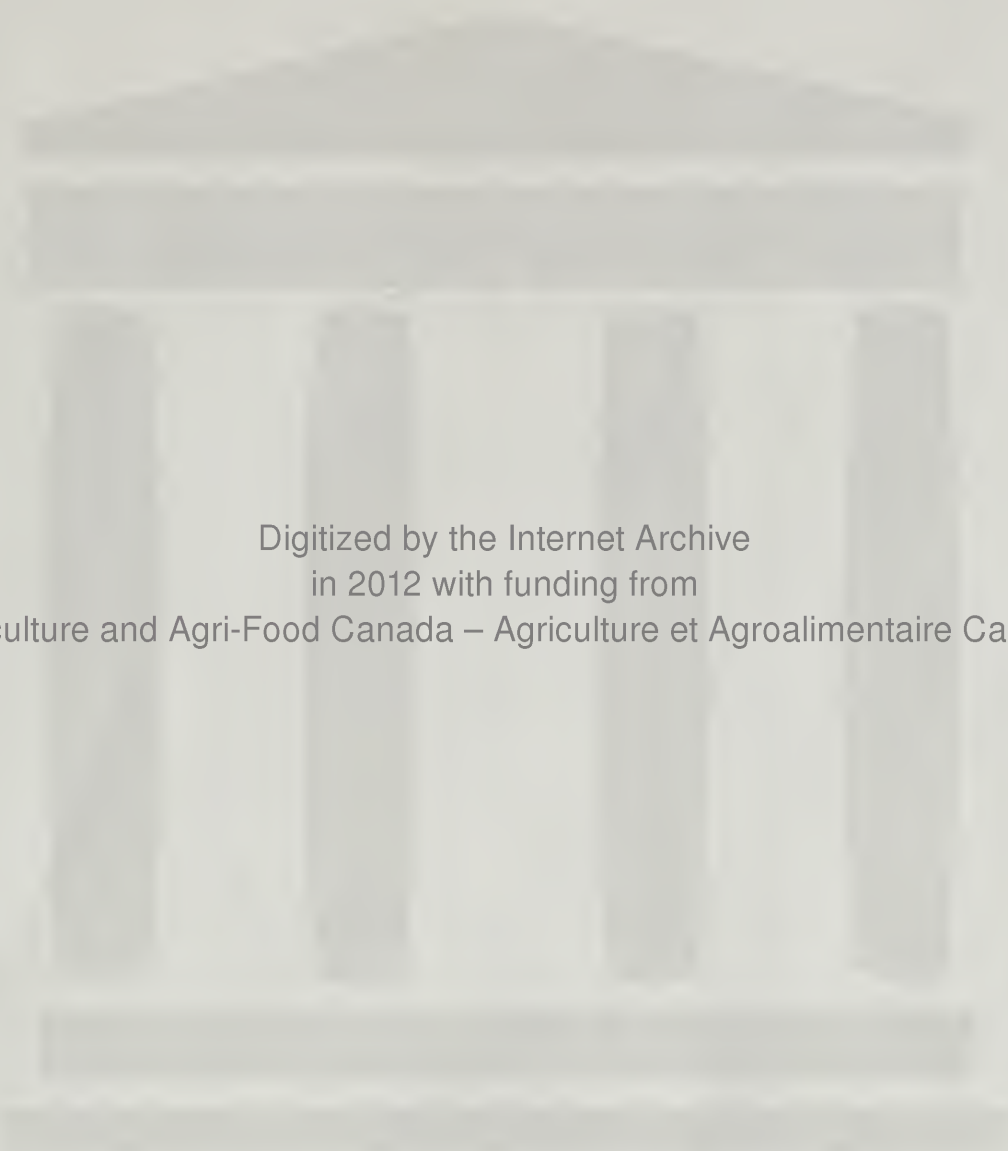
INQUIRIES

For more information, consult your agricultural representative or provincial entomologist, or write to the Research Station, Canada Department of Agriculture, Box 280, Fredericton, N.B.

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