33. Blueberry Flea Beetle

Latin name: *Altica sylvia* Malloch  
French name: L’altise de l’airelle

The blueberry flea beetle is a common pest of Québec blueberry fields. High populations can do enough harm to reduce the crop significantly. The damage is primarily caused by the larvae, which mainly feed on developing foliage in a growth year, but also attack the flowers. Typically, the damage occurs at the leaf margins (Figures 1a and 1b). Adults also feed on leaves and flowers and can do considerable damage when populations are especially high.

**DESCRIPTION**

The blueberry flea beetle produces one generation per year. It goes through four stages of development: egg, larva, pupa, adult beetle (Figure 2). It spends the winter in the egg stage, amid leaf litter on the ground. The eggs are oval, orange-yellow, and about 1 mm long. They hatch over a period of 2 to 3 weeks in spring.

The larvae develop over a period of 10 to 19 days, depending on temperature, passing through three stages. In the final stage they are about 6 mm long, dark brown or nearly black (Figure 3), with six legs under the body. When the larva is fully grown it burrows into the litter or the soil to a depth of up to 12 mm, where it transforms into a pupa. Orange-coloured and oval in shape, the pupa is 4 to 5 mm long. The adult emerges 15 to 28 days later, the average being 17 days. Coppery bronze in colour, it is about 5 mm long, with strong hind legs that are highly adapted for jumping (Figure 4). Adult populations in the blueberry field reach their peak in mid-season. The adults mate 10 to 14 days after emergence, and egg-laying begins a few days later. The eggs are deposited near the base of plants or in leaf litter on the ground. Most adults do not survive the winter.
PREVENTION

Pruning by burning, once in every three production cycles, can reduce populations in the field. To destroy flea beetle eggs in ground litter, fall or spring burning has to be very intense. Unfortunately, this type of burning carries the risk of destroying the soil’s organic matter layer and the beneficial organisms it contains.
MONTORING

Larval populations of flea beetles are monitored using a sweep net, particularly in crop years. The sweep net should be 30 cm wide at the mouth. Sampling is done by making a semi-circular sweep of the net over 180°, counting the number of insects collected after ten such sweeps to make one sample. The recommended procedure is to walk the field in a zigzag or W, moving 40 to 80 metres between each sampling. For every 5 ha of field under crop, at least seven samples of ten sweeps of the net should be taken.

Note that sampling must be done in fine weather, since few larvae will be caught when foliage is wet.

Though no exact threshold has been determined for taking action, research at the University of Maine indicates that you should consider doing so when 75 to 125 larvae are caught per 25 sweeps of the net.

Monitoring with the sweep net is more difficult in growth years, because the stems are still short when the larvae are active. If there is an infestation of flea beetles, damage to unemerged shoots will be apparent in parts of the field where regrowth is poor or nonexistent. Around the edges of such areas, excrement and chewed leaf margins may also be visible on emerged plants.

CONTROL

The insecticides available for controlling flea beetles are presented in Leaflet 19 of this series, *Pesticides Used in Wild Blueberry Production*. When an infestation gives cause for concern, it is best to call in an agricultural consultant, who will assess whether intervention with an insecticide is necessary.

Concerning biopesticides, in studies conducted in Maine and New Brunswick two products were shown to have good effectiveness: a bacteria-derived product called Spinosad, and the fungus *Beauveria bassiana*. Spinosad is registered for controlling flea beetle in wild blueberry fields, and can therefore be used in Québec. As for *Beauveria bassiana*, though it has interesting potential its use is currently prohibited in Québec because it is not registered. It could however be tested, and registration sought for it, by stakeholders in the wild blueberry industry.

COMPLEMENTARY LEAFLET

15. Integrated Pest Management in Wild Blueberry Production

TEXT ADAPTED FROM


OTHER REFERENCES USED


