



Lowbush Blueberry Fact Sheet

The Blueberry Sawfly

Introduction

The Blueberry Sawfly, *Neopareophora litura* (Klug) and two species of *Pristophora*, occasionally cause severe defoliation in lowbush blueberry fields. The following information is intended to help the grower to recognize this insect, and to be able to control infestations.

Description

Sawflies are a type of wasp (Hymenoptera). They belong to a group of wasps which can generally be distinguished from other wasps by there being no constriction between the thorax and abdomen.

The adult blueberry sawfly is about 4.5 - 5.0 mm in length. The colour varies from yellowish brown with black markings to entirely black (Fig. 1). It is not likely that the grower will observe the adult stage.

The larvae are caterpillar-like. They are green in colour with a clear line down the back (Fig. 2). They are 9-11 mm in length. Sawfly larvae differ from caterpillars in that they have 'legs' on all but the first abdominal segment while most caterpillars have prolegs on the 3rd-6th abdominal segments and on the last abdominal segment. The sawfly head is also more distinct than most caterpillars.

The pupa is enclosed in rough silken cocoon. The cocoons are oval, and are light to dark brown in colour.

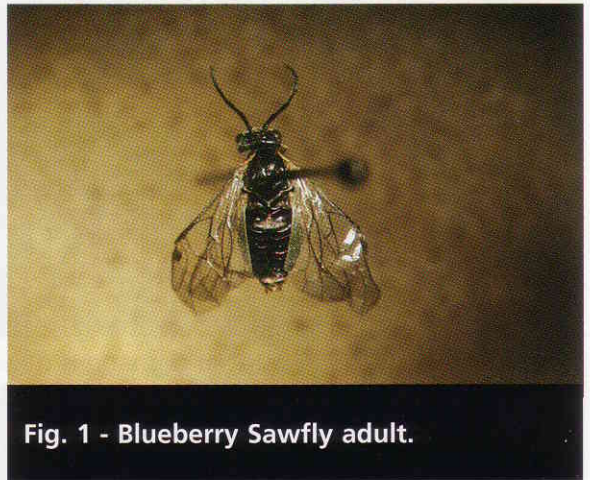


Fig. 1 - Blueberry Sawfly adult.





Biology

The winter is passed in the cocoon, as prepupal stage, in the upper 5-8 cm of soil. Pupation occurs early in the spring. The adults emerge from early to late May. The females are parthenogenic, that is, they can lay viable eggs without mating. There are very few males in the population. Egg laying takes place during the first 4 days after the adults emerge. Each female can lay about 30 eggs. Eggs are laid singly in the leafbuds of the blueberry plant.

The eggs hatch in 5 -11 days. First instar larvae feed within the leaf bud. On expanded leaves the larvae begin feeding on the edge of leaves and work toward the midrib. The larvae go through several molts during their 4 week feeding period. They then drop to the ground and burrow into the soil, where they spin a cocoon. There is only one generation per year.

There are two other species of sawflies that feed on blueberry. They belong to the genus *Pristophora*. They are similar in appearance to the species described above. The larvae can be distinguished by the white stripe on either side of the back. The biology of these species is also similar to that of the blueberry sawfly. These two species are less common in occurrence.

Damage

The larvae can do considerable damage to blueberry plants if they are present in large numbers (Fig.3). The greatest amount of damage is done by the older larvae. Most outbreaks occur in the crop year. Sawfly larvae are present at bloom time. In severe outbreaks they also feed on blossoms.

Monitoring Technique

Blueberry sawfly larvae can be monitored by sweeping the foliage with a 30 cm diameter insect sweep net. Crop fields should be sampled weekly during May to the end of June.

It is suggested at least three samples per field in fields of 5 hectares or less be taken. Each sample should consist of 25 sweeps. For larger fields an additional sample should be taken per 5 hectares.

Sampling should be done on warm sunny days.

Action Threshold

An action threshold has not been established for this insect. Based on research done at the University of Maine, it may range from 3-5 larvae per sweep. This would equal 75-125 per sample. If sample numbers are found in this range, the field should be checked for signs of defoliation and control measures taken if necessary.





Fig. 2 - Blueberry Sawfly larvae.



Fig. 3 - Damage caused by Blueberry Sawfly larvae.





Control

Several parasites of the blueberry sawfly have been noted. They are all Ichneumonid wasps. These wasps lay their eggs in the sawfly larva. They do not kill the larva until after it has formed the cocoon. These parasites help to keep the populations in check. They would not control an outbreak in time to reduce damage to the crop.

If populations reach the levels discussed under 'Threshold', an insecticide should be applied. Consideration should be made for the safety of pollinating insects when deciding to control this insect, as most outbreaks occur during the bloom period. Control products and rates of application are listed in the lowbush Blueberry Protection Guide - ACC 1011.

Note

Nova Scotia growers can purchase sweep nets through the Blueberry Producers Association of Nova Scotia. They may also participate in the annual blueberry insect survey. For details about this program contact: Lorne Crozier, Entomologist, Plant Industry Branch, N.S.D.A.M., P.O. Box 550, Truro, N.S. B2N 5E3 PHONE 893-6548

Prepared by:
Lorne Crozier,
Entomologist
January, 1995

