

The Blueberry Case Beetle

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Introduction

The Blueberry Case Beetle, *Neochlamisus cribripennis* (LeConte) can cause considerable damage to lowbush blueberry fields. Both the adult and larval stages feed on the blueberry plant. The following information should help the grower to recognize the various stages of this insect, and to assess and control infestations.

Description

Adult blueberry case beetles are small, cylindrical beetles, 2.7 to 3.3 mm in length. They are metallic coppery-red in colour. On close examination, the thorax and elytra appear quite bumpy.

The egg is orange in colour. It is enclosed in a brown or blackish bell-shaped case, which is attached to a leaf or stem by a short stalk.

Adult laying egg



Click picture to enlarge

The larvae are white in colour with a brown head. They are normally concealed in a bell-shaped case of excrement, which is black in colour. It is similar in appearance to the burnt head on a match. When active, the head and legs of the larva protrude from the case, which is carried in an upright position. When disturbed the larva withdraws into the case.

Case beetle larva



Click picture to enlarge

The pupa is enclosed in the last larval case, and is attached to leaves or stems.

Biology

The adult beetle usually passes the winter under the litter layer of the blueberry field. Adults emerge in May. Mating takes place shortly after emergence and egg laying begins in mid-June. The eggs hatch in about 10 days. The larvae feed mostly on the leaves of blueberries. They go through three instars and pupate in late July and early August. The pupal stage lasts for 4 to 5 weeks. The adults emerge from the pupa and are active until late October or early November. A few larvae and pupae may be found in October. The adult beetles feed on the leaves, but also feed on the bark of the blueberry shoot.

Damage

Both the larvae and adults feed on the foliage of blueberry. If present in large numbers they can cause defoliation of the plants. The adults habit of feeding on the bark of blueberry stems causes the most serious damage.

Stems which are girdled or severely debarked will allow the stem to dry out and be winter killed. Damage by this insect is therefore most serious in sprout fields, or second crop fields. In large outbreaks a major portion of the crop can be lost. This damage is not serious in a field in the crop year of a two year rotation, since the plants will be pruned anyway.

Case beetle damage



Click picture to enlarge

Monitoring Technique

Blueberry case beetles can be monitored by sweeping the foliage with a 30 cm diameter insect sweep net. Crop fields should be sampled weekly during June to mid-July. Sprout fields should be sampled weekly throughout July. It is most important to sample sprout fields, since the most severe damage results from adult activity in the fall of the sprout year. 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. Care should be taken to walk toward the sun while sweeping, so your shadow does not fall across the plants that you are sweeping.

Action Threshold

Action thresholds have not been established for this insect. It is suggested that when a level of 15 to 20 larvae per sample is reached, control measures may be necessary.

Control

The blueberry case beetle is parasitized by several species of parasitic wasps. These help to keep populations in check during most years. If the population of case beetles increases greatly, it is necessary to apply an insecticide treatment to control this insect. The larval stage is the most easily controlled stage. 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 (BPANS). They may also participate in the annual blueberry insect survey.*

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