



Lowbush Blueberry Fact Sheet

The Whitemarked Tussock Moth

Introduction

The whitemarked tussock moth is primarily a forest pest. However it is a general feeder that will eat almost any type of vegetation. Whitemarked tussock moths are usually present in very low numbers because they are kept in check by a number of parasites and a viral disease. Occasionally, populations build up to levels where they cause serious damage to forest stands. During these outbreaks, which usually last for two or three summers, they can also become a serious threat to blueberry fields.

Description

The male moth has a wingspan of 2.5 - 3.5 cm. The fore wing is gray brown in colour with a white spot on the outer third of the hind margin. The hind wing is gray brown (Fig. 1). The adult females are wingless (Fig. 2).

Eggs are laid in masses of 50 to 100. These eggs are protected by a coating of white foam (Fig.3).

The first instar caterpillars are greyish and very hairy, with short tufts of hairs at either end (Fig. 4). Later instars are black with cream coloured stripes along the length of the body. They have two tufts of black hairs at the head end and a single tuft of black hairs at the end of the abdomen. There is also a series of four upright tufts of yellowish hairs along the back, just behind the head, and two small tufts of red near the end of the abdomen. The head capsule is reddish in colour (Fig. 5).

The pupa is contained in a cocoon of loosely woven silk mixed with hairs.

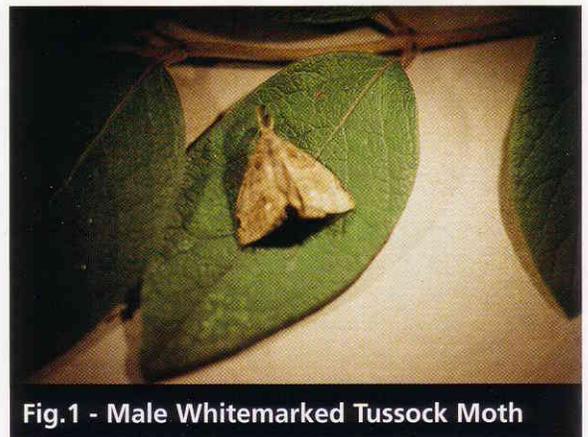


Fig.1 - Male Whitemarked Tussock Moth





Biology

The eggs are usually laid on or near the cocoon from which the female emerges. The winter is spent in the egg mass. The eggs hatch in late June to mid July.

First instar caterpillars feed on the upper surface of leaves. At this early stage, the caterpillars are easily dispersed by wind. They hang from long silk threads, and can be carried considerable distances by the wind. The caterpillars feed for about six weeks and grow to a length of about 38 mm. The caterpillar

pupates in a loosely spun cocoon, on the host plant or in cracks and crevices. The pupal stage lasts for about two weeks.

The adults emerge during mid August through September. Since the female is wingless, there is therefore no dispersal or extension of the infestation in the adult stage.



Damage

The larvae feed on the foliage of the blueberry plant, and can completely defoliate large portions of a field. The damage takes place at a critical time of development in both crop and sprout fields. Severe damage in either part of the rotation could affect growth the following year.

Outbreaks of tussock moths in blueberry fields occur very sporadically. The past history in Nova Scotia indicates that this occurs about every twenty years. Outbreaks usually last for two to three years.

Monitoring Techniques

It is essential to monitor both crop and sprout fields, to determine when the caterpillars begin to hatch, and to determine spray timing. Start to look for this insect during the first week of July. Initial samples should be taken along wooded mar-





gins of fields that are adjacent to wooded areas, using a standard 30 cm sweep net. It is suggested that three samples of twenty-five sweeps be taken per four hectares. The average number of caterpillars per twenty-five sweeps can then be determined.

During outbreak years it may also be worthwhile to check, in late September or October, for egg masses in fields and in wooded margins of fields. This will give an indication of the potential for caterpillars to be present the following year.



Fig.4 - Whitemarked Tussock Moth eggs and larva

Action Threshold

Thresholds have not been developed for whitemarked tussock moths. Since they are similar in size and appetite to the blueberry spanworms, the threshold for spanworms should be a good guideline. The threshold for sprout fields would be 7 larvae per 25 sweeps, and for crop fields 12 larvae per 25 sweeps. It is also important to consider the life stage of the caterpillars. Since the early instars can be blown about by the wind, it is advisable to delay spraying until larval dispersal is complete. It is also advisable to monitor the amount of feeding that is taking place. If the density of caterpillars is high and feeding damage is apparent, then immediate action may be necessary.

Control

The whitemarked tussock moth is usually kept under control by parasites and a viral disease. Even during outbreaks of whitemarked tussock moths, these natural controls will eventually cause the population to collapse. However, this may take several seasons to occur.

Chemical control should be applied when the number of caterpillars in sweep net samples reaches or exceeds the suggested thresholds listed above. If possible, it is advisable to delay application of the insecticide for a few days until the invasion of the field by windborne caterpillars is almost complete. This will avoid the need for more than one application. If the num-



Fig.5 - Whitemarked Tussock Moth





ber of caterpillars in the field is high, and defoliation is beginning to take place, then the insecticide application should be made without delay. Control products and rates of application for the control of the whitemarked tussock moth are listed in the Lowbush Blueberry Protection Guide - ACC 1011

Note

Tussock moth caterpillars are covered with easily dislodged hairs. These hairs can cause irritation and possible allergic reaction if they come in contact with the skin. Furthermore, when outbreaks are severe, the hairs may also become airborne, and cause problems if inhaled. Caution should therefore be taken when working in fields infested with tussock moths to protect exposed skin. It may also be necessary to wear a dust filter to avoid inhaling airborne hairs.

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