

# Balsam Fir Needle Gallmaker

## *Christmas Trees*

Pest  
Fact Sheet **49**

### Introduction

The balsam fir needle gallmaker, *Paradiplosis tumifex* Gagne, causes damage to balsam fir Christmas trees in many areas of northern United States and southern Canada. The distribution of the balsam gall midge closely parallels the range of its hosts, Balsam Fir and Fraser Fir. Injury to these hosts results from the formation of galls near the base of infested needles and the loss of foliage. Up to 50-60% of the current foliage is commonly affected. These galled needles will then drop from the trees in the fall.

### Description of the Balsam Fir Needle Gallmaker

There are three immature stages which develop within the galled needle. All are somewhat elongate. The head is broad and the larva tapers posteriorly. At first the larvae are whitish but gradually become orange in color.

The adults are 3.7mm (1/8 inch) long. The female is orange colored and is often seen on the new shoots of balsam fir. Midges are weak fliers and are most commonly seen on calm, sunny days.

### Life Cycle

There is only one generation of the Balsam Fir Needle Gallmaker per year. The adult midges emerge in May over a period of 2 weeks. The males usually emerge first. Soon after mating the adult midge lays eggs beneath fir bud scales and on needles of newly opened buds. The larvae develop within the elongating needles and cause of the formation swellings. There can be as many as 5 larvae developing in one needle although two or three is more common. The larvae remain within the gall until September or early October. The third stage larvae then drop to the ground in October where they overwinter in the litter. Pupae require about 2 weeks to develop the following spring.

### Control

Diazinon AG500\* or Dursban (Lorsban) are the only registered chemicals for control of this insect. However, timing is critical since the pesticide should be applied shortly after most eggs have laid but before the larvae form the gall.

Research at UNH has shown that the most effective control is obtained when the new terminal buds in the upper third of the tree average 1 1/4 inches long, or in early to mid May. Populations of this pest are

cyclical and no sprays are necessary in years when the population collapses. However, begin treating when galls are observed.

\*Restricted use pesticide in New Hampshire.

### Summary

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|---|--|
| 1. Damaging Stage:                            | Larvae - Gallmakers  |
| 2. Part of Plant Attacked:                    | Newly formed needles   |
| 3. Overwintering Stage:                       | Fully developed larvae   |
| 4. Number Generation Per Year:                | One  |
| 5. Time of Year When Damaged:                 | May - June   |
| 6. Number of Pesticide Applications per Year: | One  |
| 7. Timing of Spray:                           | When new terminal buds in upper third of tree average 35mm long (1 1/4 inches); bud coverage is necessary. |

**Stop!** Read the label on every pesticide container each time before using the material. Pesticides must be applied only as directed on the label to be in compliance with the law. All pesticides listed in this publication are contingent upon continued registration. Contact the Division of Pesticide Control at (603) 271-3550 to check registration status. Dispose of empty containers safely, according to N.H. regulations.



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