

# Insects

## Nantucket Pine Tip Moth

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The Nantucket pine tip moth, *Rhyacionia frustrana* (Comstock), is a pest of pines in the Eastern, Central and Southern states. Host trees attacked include Scotch, Austrian, Virginia, red, loblolly and shortleaf pines. Longleaf, slash and eastern white pines are rarely attacked.

During recent years, the Nantucket pine tip moth has become an increasingly destructive and abundant pest because of the increase in acreage of pine plantations and seed orchards. Larvae of this moth kill and deform shoots of infested trees. This damage results in a reduction in height, forking or crooking of main stems and, occasionally, death of the tree. This insect commonly infests trees less than 15 feet in height, with the most severe damage occurring in young plantations.



*Larva feeding at base of needles*

*David J. Moorhead,*  
*The University of Georgia,*  
[www.forestryimages.org](http://www.forestryimages.org)



*pupa*

*Clemson University - USDA*  
*Cooperative Extension Slide Series,*  
[www.forestryimages.org](http://www.forestryimages.org)



*damage in pine tip*

*William M. Ciesla, Forest Health*  
*Management International, www.*  
[forestryimages.org](http://forestryimages.org)

### Description and Biology

Nantucket pine tip moths overwinter in the injured buds or shoots of infested pines. As temperatures warm in the spring, adult moths begin to emerge (usually starting in early April). After a few days, females lay eggs on the shoots. First generation eggs





*adult*  
James A. Richmond, USDA Forest Service,  
[www.forestryimages.org](http://www.forestryimages.org)



*adult*  
Clemson University - USDA Cooperative Extension Slide Series,  
[www.forestryimages.org](http://www.forestryimages.org)

begin to hatch 25-30 days after the moths emerge. After hatching, larvae feed on new, expanding shoots under small, tent-like webs. Larvae are brown to orange and are up to 3/8 inch long. Larval feeding continues in the shoots and buds. After consuming the bud, they bore down the center of the stem. Damaged portions of the tree turn brown. In three to four weeks, larvae construct a webbed cell in the shoot where they pupate and overwinter. Three generations occur each year in Tennessee.

### Detection and Control

Examine trees of all ages, especially in nurseries, during the first five years after planting. Check trees closely from April through August for any damage. Damage is seen as dead or dying new shoots with expanded needles. If the Nantucket pine tip moth larvae are present, treat the entire plantation. During April through August, thoroughly spray the shoot tips with one of the insecticides listed in the table. Pheromone traps are available to aid growers in monitoring adult populations. This allows for better timing of insecticide applications. If pheromone traps are used to detect moth flights, insecticide sprays should be applied 14 days after peak adult emergence for first-generation moths in early spring. In the warmer months, spray 5-10 days after peak emergence for both the second and third generations.

Another method to time sprays is to monitor adult emergence from pupal cases in the terminals.

Mark terminals containing live pupae with flagging tape. When the first empty pupal cases are found in these marked terminals, the emerged moths should be laying eggs within a predictable range of days. The expected first egg hatch should be 25-30 days after the first adult emergence for generation one, 10-20 days after the first adult emergence for generation two and 5-10 days after the first adult emergence for generation three. Frequent checks of the pupal cases for adult emergence need to be made to accurately monitor the first adult emergence.

Infestations in the home landscape are often light and scattered. Homeowners should prune and destroy injured shoots.

### References

- Ellis, H.C. 1992. Insect Pests of Christmas Trees. Cooperative Extension Service, The University of Georgia College of Agricultural and Environmental Sciences. B-1076.
- Yates, H.O., N.A. Overgaard & T.W. Koerber. 1981. Nantucket Pine Tip Moth. USDA Forest Service, Forest Insect and Disease Leaflet 70.

Insecticide	Amt/Gal of Spray	Amt/100 Gal of Spray
Orthene 9.4% EC Turf, Tree & Ornamental Spray 75% SP	3 Tbsp 1 Tbsp	4½ qt 1 lb
Confirm 2F	----	8 fl oz/acre
Mimic 2 LV	----	8 fl oz/acre
Astro 3.2 lb/gal EC	----	4-8 fl oz
Scimitar 0.88 lb/gal CS Scimitar 0.88 lb/gal GC	0.4-1.3 oz/25 gal 0.4-1.3 oz/25 gal	1.5-5 fl oz 1.5-5 fl oz Scimitar CS for use in residential and commercial landscaped areas, not on Christmas trees for sale.
Dimethoate 2.67 lb/gal EC	4 tsp	4 pt
Dimilin 25W	---	4 oz/A
Dylox 80% SP	---	20 oz
Di-Syston 15% G	Use 2½ oz per inch of trunk diameter. Spread evenly and incorporate into the soil and water heavily so that no pesticide remains on the soil surface.	

### Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

### Disclaimer Statement

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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SP290U 06-0267

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