

COMMON PESTS OF CHRISTMAS TREES IN VERMONT 2007



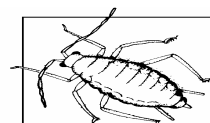
REPORTED BY THE

DEPARTMENT OF FORESTS, PARKS AND RECREATION

INTRODUCTION

Information in this report is based largely on observations made by Forest Resource Protection personnel, including some spot-checks of key plantations. This was again an excellent growing season for Christmas trees, similar to the past two years, and again many growers reported that their trees had few insect and disease problems.

INSECTS



Balsam Gall Midge populations are increasing, with light to moderate damage now common in many Christmas tree plantations. Damage remained heavy in a couple of Northeast Kingdom plantations that have been out of synchrony with other locations and there was heavy damage to scattered individual trees in several other northern plantations. Outbreaks are cyclical and about seven years apart. The last time heavy damage was observed was in 2001 so this insect is likely to be an increasing problem in 2008. Vermont is expected to regain its local use registration for Diazinon AG500 in 2008 so it, along with Lorsban, should be available for control of gall midge. Past trials have shown that Diazinon gave the best control for early spray timing (1 1/3 inch shoot length). Lorsban was equally effective for the later timing (2 inch shoot length). This is based on measuring terminal shoots in the upper third of tree crowns, concentrating on trees that had some galls in the previous year.

Balsam Shootboring Sawfly population levels were very low, this being an odd numbered year. Expect to see some increase in bud mining in 2008 but heavy damage is very unlikely.

Balsam Twig Aphid damage was mostly light but with some moderate damage, similar to what was seen in 2005 and 2006. It's surprising that damage has remained light for three years in a row. Expect populations to increase in 2008.

Balsam Woolly Adelgid populations have increased on wild balsam fir trunks due to recent mild winters. This insect was not observed on Christmas trees but has the potential to become a problem if populations continue to build.

Eastern Spruce Gall Adelgid damage to white spruce remains common, at mostly light to moderate levels.

Japanese Beetle adults damaged balsam and Fraser fir Christmas tree shoots in Essex by feeding on the bark. Damage was heavier on previous year shoots than on current shoots.

Sawyer Beetle adults were sometimes seen but damage was infrequent.

Spruce Spider Mite damage increased in some southern Vermont plantations but populations remained mostly low elsewhere.

White Pine Weevil damage to pine and spruce trees remained common throughout the state but damage remained mostly at light levels.



DISEASES

Armillaria Root Rot continues to be a problem associated with tree mortality in more and more plantations. This is particularly true for sites that are beyond their second rotation and plantations where trees are inter-planted near old stumps. Some Armillaria caused mortality was found on the majority of such plantations visited in northern Vermont this year. Fraser fir is much more susceptible to this root rot than balsam fir, while balsam-Fraser crosses appear to be intermediate in susceptibility. Growers who are now converting to Fraser fir by planting them between mature balsam Christmas trees may be inviting a greater risk of loss due to Armillaria in the future.

Brown Spot Needle Blight was widespread and often heavy on white, red and Scots pines again this year. Some heavy damage was seen on Scots pine Christmas trees in Waterbury. Infected needles turn brown from the tips back and develop small black fruiting bodies.

Cyclaneusma Needlecast of Scots pine remains very common but mostly at light levels.

Delphinella Shoot Blight is becoming increasingly common on balsam fir in widely scattered locations. Needle and lateral shoot mortality due to this fungus causes heavily infected trees to be unmarketable.

Diplodia (Sphaeropsis) Tip Blight was occasionally seen this year, at mostly light levels.

Fir-Fern Rust was widespread this year and was the heaviest seen in a long time. Although it was very noticeable on balsam fir nearly everywhere during the growing season, it was rarely heavy enough to impact marketability. Fruiting on the alternate fern hosts was observed on bracken fern as well as sensitive fern.

Lirula Needlecast continues to be increasingly common on balsam fir. Heavy damage to scattered individual trees was observed in several locations. Needles killed by this fungus maintain their orientation on the stems, with retention of dead two and three year needles. Mature trees that are crowded or partially shaded are most likely to be infected. Look for long narrow black fruiting bodies down the midrib of brown previous-year needles.

Lophodermium Needlecast remained common at mostly light levels.

Phytophthora Root Rot continues to be associated with the death of Fraser fir and occasionally balsam fir growing on poorly or somewhat poorly drained sites in more and more locations. It appears that once the organism gets established during wet years, it persists and becomes more of a problem in years with average precipitation.

Rhizosphaera Needle Blight of fir, caused by *Rhizosphaera pini*, was increasingly common in Christmas tree plantations, along with the other fir diseases. This was especially true for crowded or shaded trees. Damage was heavy on individual trees in widely scattered locations. Harvesting of crowded trees and low pruning in plantations where this was a problem in the past seems to have helped alleviate the damage.

Rhizosphaera Needlecast of white and blue spruce remains very common, with some heavy damage to blue spruce again this year.

Scleroderris Canker has not been found in any new towns since 1986.

Spruce Needle Rust was observed on individual blue spruce trees in a few scattered locations.

White Pine Blister Rust damage remains common throughout the state and continues to kill white pines at moderate levels in plantations that have had the problem in the past.

Winter Injury was observed but damage was minor.

Woodgate Gall Rust damage to Scots pine is decreasing, as growers remove heavily damaged trees.

Yellow Witches Broom Rust of balsam fir appeared to be more noticeable this year than in previous years. Removal of these brooms during shearing is recommended.

ANIMAL DAMAGE

Moose Damage is becoming an increasing problem in remote northern plantations, including one in Craftsbury.

The following pests were not observed on Christmas trees this year.

Insects: Cinara Aphids, Introduced Pine Sawfly, Pine Leaf Adelgid, Pine Needle Midge, Pales Weevil, Pine Root Collar Weevil, Pine Thrips and Yellow-Headed Spruce Sawfly.

Diseases: Sirococcus Shoot Blight, Rhabdocline Needlecast, Swiss Needlecast and White Pine Needle Blight.

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