UNIVERSITY of NEW HAMPSHIRE
COOPERATIVE EXTENSION

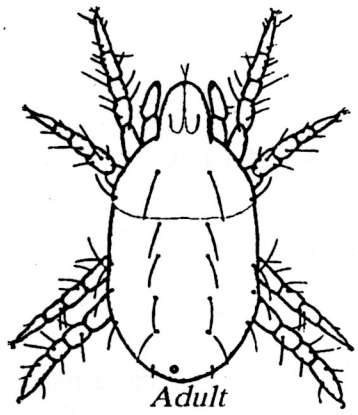
Spruce Spider Mite

Christmas Trees

Pest Fact Sheet 61

Introduction

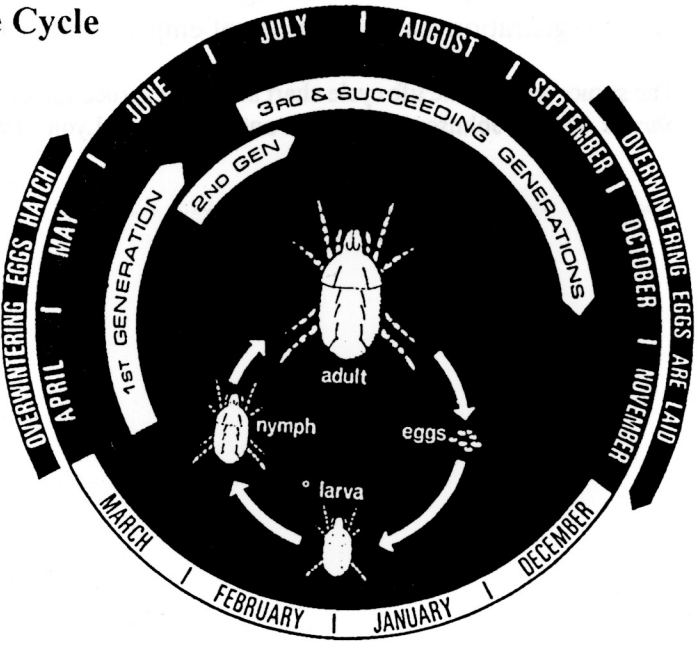
There are several species of spider mites that attack Christmas trees. The most destructive is the Spruce Spider Mite, *Oligonychus ununguis* (Jacobi). The spruce spider mite attacks all Christmas tree species with the most severe damage occurring on spruce and true firs.



Description of the Spruce Spider Mite

The spruce spider mite is extremely small (0.5mm) and ranges from dark green to dark brown in appearance. Due to its size, it is difficult to detect visually. To check for the presence of the spruce spider mite, tap a branch of a tree while holding a sheet of white paper underneath. The mites will appear on the paper and start to move around, making detection relatively relatively easy despite the small size. Check several branches of different trees since it is not uncommon for an infected tree to be located next to a non-infected tree. Feeding damage turns needles reddish brown or on some older needles damage appears as yellowish-red spots which give the needles a mottled appearance. Spruce spider mites are primarily a problem in years with extended periods of hot weather.

Life Cycle



This non-insect pest goes through four stages of development: egg, larva, nymph, and adult.

The spruce spider mite egg overwinters on shoots, under bud scales in needle axils or under webbing on stems and branches.

The larva which hatches between May and mid-June has only six legs until its first molt (nymph) when it has eight legs. The nymph feeds on tree sap and spins fine webbing between the conifer needles. Development takes place in 3-6 days.

The adults appear between June and early July with 3 or more generations at 2 1/2 - 3 week

intervals until cold weather arrives. All active stages feed on needles with a preference for older needles over younger ones. The spruce spider mite is dispersed by wind or it may be carried on infested nursery stock.

Control

It is best to use Horticultural oil in early spring. Summer use of Horticultural oils can cause phytotoxicity. Read labels carefully. Use foliar sprays after bud break. Spray the undersides of needles in late May to mid-June, and again in mid-July to early August. The following materials are recommended: Horticultural Oil (SunSpray), Safer's Soap (M-Pede), Mavrik, Lorsban, Ornamite.

Horticultural oils are most effective against the egg stage. Miticides usually only control the adults and nymphs, not eggs. When the eggs hatch, a second spray should be considered in 7-10 days after the first to control recently hatched nymphs. Thorough spray coverage is necessary. Apply only to plants and sites listed on the label. Most miticides used in agriculture are not labeled for Christmas trees.

Summary

1. Damaging stage:	All active stages
2. Part of Plant Attacked:	Needles
3. Overwintering Stage:	Egg
4. Number of Generations Per Year:	Several
5. Time of Year When Damage Done:	Late May-Early June; Mid July - Early August
6. Number of Applications Per Year	1-2 per generation, 7-10 days apart; depending on weather

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.

The spruce spider mite life cycle chart and adult spruce spider mite graphics were taken from *Insects That Feed On Trees And Shrubs*, 2nd ed. Johnson, Warren T. and Howard H. Lyon. 1988. Cornell University Press, Ithaca, NY.

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