



Hemlock rust mite

Nalepella tsugifoliae

Order Acari, Family Eriophyidae; leaf vagrant, gall, erineia, rust or eriophyid mites
Native pest

Host plants: Hemlock

Description: Adult eriophid mites are minute, yellowish-orange, spindle-shaped mites with four legs. They are difficult to see with a hand lens, a dissecting microscope maybe necessary.

Life history: Populations build up in spring and may disappear in summer heat. There are several generations a year.

Overwintering: Eggs on needles. Adults in bark cracks or buds.

Damage symptoms: Feeding on both upper and lower surfaces of needles, large populations of mites can cause hemlock foliage to turn from its usual dark green to yellow, before ultimately dropping. Most of the damage occurs during the spring. Large populations of this mite are frequently seen in nurseries that grow hemlocks with high rates of nitrogen fertilizer.

Monitoring: Look in spring for yellowish needles. A hand lens will be necessary to confirm the presence of mites. Spruce spider mites cause hemlock needles to turn bronze.

Cultural control: Do not overfertilize conifers where this mite is a problem.

Chemical control: Spray with horticultural oil. Action may not be necessary if there are natural enemies present or if populations of mites are low.

Biological control: Predatory phytoseiid mites can usually be found with these herbivorous mites. Other natural predators of mites include lacewings and lady beetles.

Plant mortality risk: Low

Biorational pesticides: abamectin, horticultural oil, insecticidal soap

Conventional pesticides: bifenthrin, carbaryl, dicofol, fenbutatin oxide, lambda-cyhalothrin



Yellow hemlock needles caused by hemlock rust mites. (138)
Photo: John Davidson



These eriophyid mites are called vagrant eriophyid mites, as they do not make galls, but instead wander around the leaf surface. Rust mite feeding causes russetting of needles. Hemlock rust mite first generation top of needle; second generation bottom of needle. (139)
Photo: John Davidson