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Spruce Spider Mite

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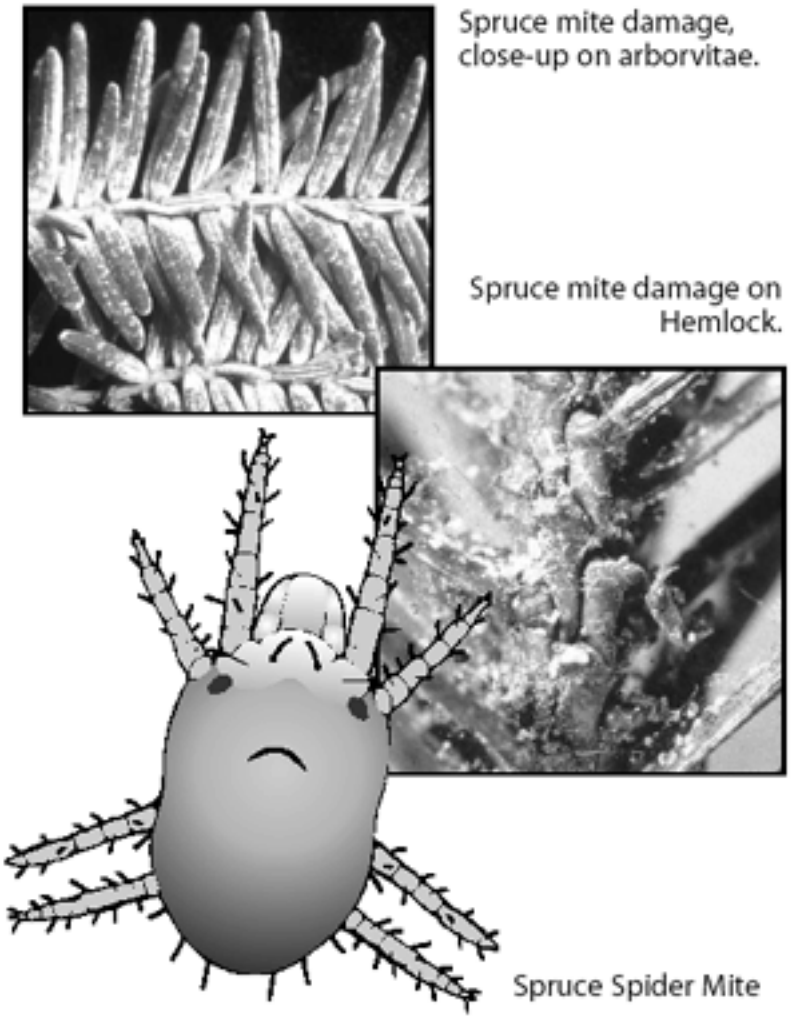
Distribution and Hosts*:* The spruce spider mite (Acari: Tetranychidae, *Oligonychus unuguis* (Jacobi)) lives in all areas of Virginia and is widely distributed throughout the temperate regions of the United States and Canada. It attacks spruce, arborvitae, juniper, hemlock, pine, Douglas fir, Fraser fir, and larch, among others.

Description of Damage: Mites suck on the older needles of trees, causing fine stippling that increases in intensity until the foliage lacks chlorophyll and has a bleached appearance. Severely infested foliage becomes yellowish or brownish and many needles drop. Damage is most severe in lower crowns of large trees. Seedlings and small trees often are killed, and in some cases, large trees are killed. The mites spin a webbing of fine silk around twigs and needles that becomes more abundant as the season progresses.

Damage is most severe during the spring and fall. Although mite populations build up most in cool weather, hot, dry weather predisposes trees to attack.



Identification: Mites are not insects. Adults have eight legs and are extremely small (0.58 mm long). Their bodies are dark green to almost black with a pale streak on the middle of the back. Females have a more oval abdomen than males. Eggs, yellow to reddish-brown in color, are spherical (0.2 mm in diameter) with a spike that anchors them to the webbing. Eggs hatch into six-legged larvae that turn from pink to green after feeding. Larvae grow into eight-legged nymphs (0.3 to 0.4 mm long) that resemble the adults.

Life History Five to eight generations

occur annually. Overwintering eggs are placed on the undersides of twigs and needles. Egg hatch occurs in mid-April and several generations of mites may occur before hot summer weather begins in late June. Mite activity begins again in late September and continues until winter weather starts in November. One generation may take as few as ten to 14 days. Mites can disperse on wind currents, by adults crawling from tree to tree, and on nursery stock.

Control

Backyard Plantings: Dormant oil applied in the late winter will kill the overwintering eggs and if applied before bud break will not discolor later developing foliage. Dormant oil may damage tender new growth. Dormant oil is also sold as horticultural oil and Superior oil. There are other versions as well, but all share petroleum oil as the active ingredient. In May when plant growth has started and mites become active, insecticidal soap will provide control.

Commercial Plantings: Maintaining healthy, vigorous plants is an important preventive measure for keeping mite populations low. Predacious mites, lady beetles, thrips, and true bugs aid in keeping populations low. Also, avoid growing susceptible plants near hot pavement. When high populations are predicted, spray with a miticide in the spring (early May) and/or early fall. Systemic insecticides are effective against mites and insects. Insecticidal soap is also registered for mites. Consult the most recent *Horticultural and Forest Crops Pest Management Guide*, Virginia Cooperative Extension publication 456-017, for specific compounds and formulations. Misuse of pesticides can be very costly if natural enemies of the mites are killed. This often results in dramatic increases in mite populations.

References

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