



Entomological Notes

Department of Entomology

SPRUCE SPIDER MITE

Oligonychus ununguis (Jacobi)

INTRODUCTION

The spruce spider mite is considered one of the most destructive spider mites in the United States. It injures the foliage of spruce, arborvitae, juniper, hemlock, pine, Douglas-fir, and occasionally other conifers. Dwarf Alberta spruce, *Picea glauca* 'Conica', is one of this pest's preferred host plants.

DESCRIPTION

After hatching, the young, pale green mites called larvae resemble adults except they are smaller and have only three pairs of legs. As the mites mature, they shed their skins three times before becoming adults. Adults and nymphs have four pairs of legs and are dark green to nearly black with the body surface clothed with salmon pink-colored spines (Fig. 1). The adult's legs are also salmon pink.

LIFE HISTORY

This key pest overwinters as brown eggs tucked in and around bud scales and at the base of needles. These hatch in the spring, usually before new growth starts. A generation from egg to adult may require 15-20 days and generations frequently overlap so that all stages may be found on host plants during late spring and early summer. There are 7-10 generations produced each year.

DAMAGE

This species damages host plants by sucking plant fluid from needles as they feed. Infested trees at first have a speckled, yellowish appearance, and lack rich green color. After prolonged feeding, needles turn rusty colored and may drop prematurely. Mites usually attack older needles located in the lower and inner parts of the plant. Damage may spread as the season progresses. This species also produces silken webs on the needles.

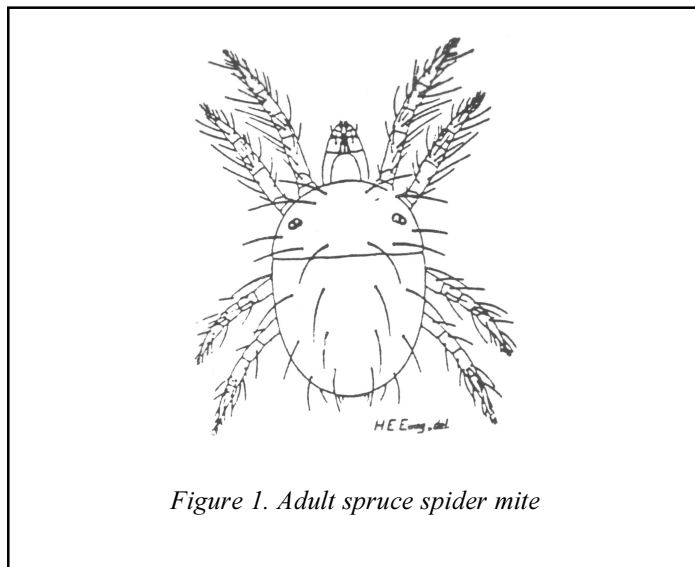


Figure 1. Adult spruce spider mite

MANAGEMENT

Monitoring

When plant foliage begins to show off-green, or stippled, color and spider mites are suspected, perform a foliage check. Take a piece of white paper, hold it under a branch suspected of having mites, and strike the branch hard against the paper. This should dislodge the mites, and even though they are only 0.5 mm long, you should be able to see the dark, oval spider mites against the white background. Examine three to four places around the plant. If you dislodge ten or more mites at each site, it would be advisable to apply a registered miticide according to label directions.

This species is sometimes referred to as a cool season pest. The best time to treat spruce spider mite infestations is in early to mid-May, and again in early September if needed. Repeated applications are sometimes needed to keep mite populations in check. Apply registered miticides only to plants specified on the label. Remember, mites may develop resistance to certain chemicals used against them, so it is necessary to switch to another class of miticide after every third application. Also, mite populations may increase following the use of certain insecticides. Therefore, it is a good idea to add a miticide when spraying mite-susceptible plants with insecticides.

WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

Gregory A. Hoover
Sr. Extension Associate
Dept. of Entomology
February 1999
Revised December 2003

EV-10

©The Pennsylvania State University 2003

This publication is available in alternative media on request.

Where tradenames are used, no discrimination is intended and no endorsement by The Pennsylvania State University or Pennsylvania Department of Agriculture is implied.

Entomological Notes are intended to serve as a quick reference guide and should not be used as a substitute for product label information. Although every attempt is made to produce Entomological Notes that are complete, timely, and accurate, the pesticide user bears the responsibility of consulting the pesticide label and adhering to those directions.

Issued in furtherance of Cooperative Extension Works, Acts of Congress May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and the Pennsylvania Legislature. T.R. Alter, Director of Cooperative Extension, The Pennsylvania State University.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Bouke Building, University Park, PA 16802-5901, Tel 814-865-4700/V, 814-863-1150/TTY.