**EXAMPLE RESEARCH** AND **EXTENSION** 

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## Problem: Two-spotted Spider Mites - Tetranychus urticae



**Hosts:** Too numerous to mention. However, most conifers not usually bothered.

**Description:** Though at first the spherical eggs of this mite are colorless and transparent, they become opaque as they age and become a greenish-yellow color as they near hatching. Both nymphal stages resemble the adult with the female being more oval than the male. Body color varies from yellow to pale green but is never reddish like the morphologically identical *Tetranychus cinnabarinus*. There is usually a dark spot on each side of the dorsal midline; hence the name.

Adult females overwinter and may turn an orange color in late fall. As the weather warms in the spring, the female will begin laying eggs. Parthenogenesis (reproduction without fertilization) is common. Newly hatched eggs give rise to the larvae which in turn give rise to two stages of nymphs. The adult follows the second nymphal stage. This whole process will normally take from 10 to 14 days during the summer with individual females living an average of two months. There can be 10 to 12 generations per year.

If mites are suspected, hold a sheet of white paper beneath a branch and tap the branch. Mites will be dislodged and can be seen as tiny specks on the paper that move about.

Mites primarily feed on lower leaf surfaces. Using their piercing mouthparts to stab epidermal cells, they withdraw the cellular contents which cause the cells to collapse.

Chlorotic spots occur where damaged adjacent cells coalesce. A stippling appears on upper leaf surfaces. Severely damaged leaves may die.

**Recommendations:** Spider mites tend to be a yearly problem in Kansas. A strong spray of water can dislodge mites and provide a measure of control. Plants should be sprayed twice a week under the hot, dry conditions these mites prefer. Spray all surfaces of leaves for best control. See the second reference below for water spray devices.

Horticultural oils and insecticidal soaps can also be an effective control of moderate infestations. Both types of products help suppress all three life stages: eggs, immatures and adults and they are kind to mite predators. However, only those mites, immatures and eggs actually hit with the spray will be affected. Therefore, it is vital to hit the underside of the leaves. A couple of additional follow-up treatments applied three to four days after the initial treatment may be required to clean up mites escaping initial treatments, or mites that emerged from eggs present at the time of the initial treatments.

## **References:**

1. <u>Spider Mites on Tomatoes</u>, Kansas State University, K-State Research & Extension Publication

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