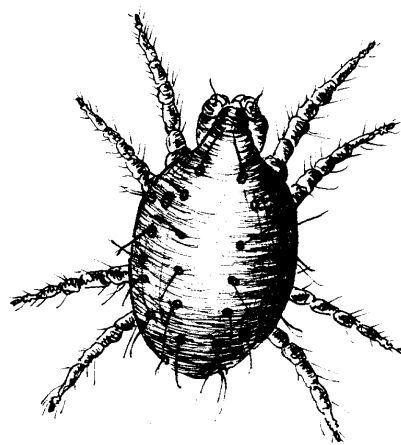


SPRUCE SPIDER MITE *Acari: Tetranychidae Oligonychus ununguis*

DESCRIPTION

The **adult** is dark green to black with eight orange legs. Adults are about 0.50 mm long and are best seen with a 15X hand lens. **Immatures** resemble adults but are smaller and tend to be reddish-orange and green. The **eggs** are slightly flattened, round and orange to red.



ECONOMIC IMPORTANCE

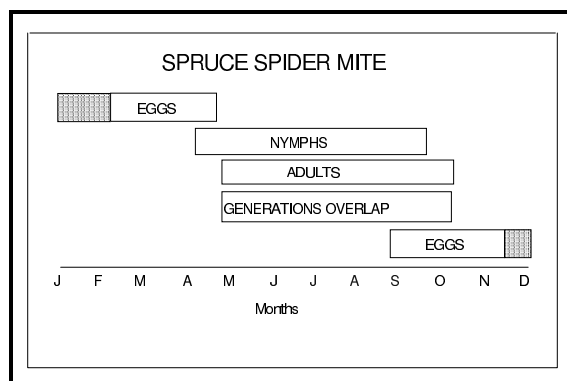
The spruce spider mite is a serious pest on conifers grown for Christmas trees. Large numbers of this mite cause stippled yellow or bronze foliage and possible premature needle drop. Damage is usually seen first at the bottom of trees in the lower whorls and becomes more noticeable higher in the crown as mites become more numerous. Heavily infested trees appear to have yellow stripes down the middle of their branches. Serious damage close to harvest may result in unmarketable or less valuable trees. In severe infestations, some trees may be killed.

DISTRIBUTION AND LIFE HISTORY

This mite is distributed in most areas in the northwest where Christmas trees are grown. The spruce spider mite overwinters as an egg. Eggs hatch in early April before bud break, and immature mites feed on needles from the previous season. Mites move to newly expanding needles as they become available. Adults are usually present in late April or early May. Females lay eggs that hatch into larvae, which begin feeding on needles. There are many overlapping generations during the summer months.

MANAGEMENT AND CONTROL

Naturally occurring predator mites may regulate populations of the spruce spider mite. Management practices (particularly nonselective insecticides or acaricides) or environmental conditions may disrupt predator populations allowing rapid mite build-up and damage. Populations of spruce spider mite and predators can be estimated by examining needles about halfway up the canopy and in the interior of the tree. If stippling is present, look closely for mites. Look for overwintering eggs in February and March. Examine 15 to 30 trees in various



locations throughout the field, especially trees along roads where dust may accumulate. No treatment threshold has been established for this pest, and the decision whether or not to spray should be based on the previous year's damage and the number of overwintering eggs found in February or March. If large numbers of eggs are found, a ground application of horticultural oil prior to egg hatch in early April will reduce the population. If insecticides or acaricides are necessary, choose the products carefully to avoid disrupting naturally occurring mite predators. Some insecticides may cause mite outbreaks by increasing their reproduction or by killing predator mites.