



Poplar Bud Gall Mite

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Description

The poplar bud gall mite belongs to the eriophyid mite family. These mites are microscopic and about one-fourth the size of a spider mite. Adults are about 0.2 mm in length, reddish in color, and spindle-shaped.

Like other eriophyid or gall mites, this species is most easily recognized by its host plants and characteristic damage. Hosts of the poplar bud gall mite include various species of poplars, cottonwoods, and aspens. This species is characterized by woody cauliflower-like galls that develop from leaf buds, an effect caused by the mites.

The common name of this species is sometimes written as poplar budgall mite. In addition, the mite is referred to by at least three different scientific names. The most commonly used is probably *Eriophyes parapopuli*. Other names include *Aceria parapopuli* and *Cosetacus parapopuli*.

Biology and Habits

Poplar bud gall mites spend most of their lives inside their protective galls. They reproduce rapidly with a generation developing in as little as two weeks, giving rise to as many as eight generations per year.

Most references concur that poplar bud gall mites overwinter inside galls on the tree, although at least once source states they may overwinter under bud scales. Perhaps both occur. Mites are active inside the galls from about April to October. From about May through August, some mites migrate to new leaf buds and form new galls. Mites may remain active inside a gall for up to four seasons, and abandoned galls may persist for another season before falling off.

Mites do not have wings, but the small size of eriophyid mites allows them to infest other trees by drifting on wind currents. Another mechanism of spread could be by "hitchhiking" on birds and insects.

Damage

The poplar bud gall mite affects many species of poplars, cottonwoods, and aspens. Certain hybrid crosses are especially susceptible to this pest while other crosses and single-species trees show resistance to heavy infestations and have minimal incidence of the pest.

Poplar bud gall mite prevents leaf buds from developing into normal leaves and stems. Instead, the buds develop into woody galls 3 to 4 cm (1.2 to 1.6 inches) in diameter. The galls have a cauliflower-like appearance and are dark green early in the season, turning to a brick-red or blackish-brown color by late summer. Older galls become hard, have ridged and furrowed surfaces, and turn a tan or grayish color.

Galls are attached to one-year-old twigs. Lower branches are usually more heavily infested. Affected branches may be stunted, crooked, or have sparse foliage. Several years of repeated attack may cause the ends of the branches to die back beyond the galls. Leaf loss caused by gall formation may cause stress in the tree, making it more prone to other problems (such as drought and frost injury or attacks by wood borers such as the poplar borer). Besides the above effects, aesthetic damage is another consideration since heavy infestations are quite unsightly.

Control

Pruning is the most often recommended control method for the poplar bud gall mite. Galls or the affected twigs or branches should be pruned in early spring when the tree is dormant and the mites are still overwintering in the galls. Care should be taken to remove all galls, since a single gall contains many mites and is capable of reinfesting the tree. Galls that are removed should be buried, burned, or otherwise disposed of. Pruning is practical for a few small trees, but may not be for large trees or if many trees are involved.

Although some sources claim that poplar bud gall mite cannot be controlled with a chemical, most do recommend the use of insecticide treatments for heavy infestations. Treatments should be applied immediately after bud break, usually about mid-March or later. Insecticides recommended for this pest include dormant oil and carbaryl (Sevin). Carbaryl is highly toxic to bees and should not be applied when they are active.

The best way to avoid problems with poplar bud gall mite is the use of resistant varieties (and avoidance of susceptible varieties). Poplar varieties with resistance to poplar bud gall mite include CanAm, Dunlop, Griffin, Manitou, Walker, and Wheeler. Susceptible varieties include Brooks No. 5, Northwest, and Saskatchewan. Susceptibility to other factors (such as drought or winter injury and diseases) varies among the varieties resistant to poplar bud gall mite. Such factors should also be considered when selecting a variety. Regardless of the variety, adequate moisture and fertilization will minimize stress in the tree. This helps the tree tolerate mite infestations and reduces the likelihood of other related problems.

Precautionary Statement

All pesticides have both benefits and risks. Benefits can be maximized and risks minimized by reading and following the labeling. Pay close attention to the directions for use and the precautionary statements. The information on pesticide labels contains both instructions and

limitations. Pesticide labels are legal documents, and it is a violation of both federal and state laws to use a pesticide inconsistent with its labeling. The pesticide applicator is legally responsible for proper use. Always read and follow the label.

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