

48. Plant Bugs

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Hosts

Plant bugs (*Lygus* spp.; *Taylorilygus apicalis*; family Miridae) feed on buds, flowers, and growing tips of plants. Seedlings of Douglas-fir, true fir, larch, pine, poplar, and spruce are commonly damaged by lygus bugs.

Distribution

Conifers are affected by plant bugs throughout the world. Nursery damage occurs in the Pacific Northwest (*L. hesperus*, *L. lineolaris*, and *L. elisus*), Canada, and North Central and Southern United States (*L. lineolaris*). *Taylorilygus apicalis* has a worldwide distribution and occurs on six continents.

Damage

Economic damage by plant bugs occurs mainly on 1-0 conifer seedlings, and feeding can severely affect the form of the seedling. When saliva is injected into the stem, it can cause needle twisting and forked seedlings (sometimes referred to as “multiple tops” or “bushy-tops”). If feeding occurs soon after germination, some seedlings will become stunted and these may end up as culls.

Diagnosis

Lygus and *Taylorilygus* are typically found feeding on weeds that produce white or yellow flowers (fig. 48.1). Monitoring the population can be done by close inspection of the flowers of daisy fleabane, cutleaf evening primrose, common groundsel, and many *Brassica* species. Use of traps (white or yellow sticky traps or clear plastic traps) also helps monitor plant bug population levels

(fig. 48.2), but some managers choose to monitor weed levels because traps require time and money.

Adult *L. hesperus* (fig. 48.3) are yellowish-green to brown and the males are 5.3 to 6.5 mm long with a “V” marking on their back. Nymphs are 1 to 6 mm long, wingless, and appear similar to pale-green aphids. Adult *Taylorilygus* (fig. 48.4) are generally green. Most damage to 1-0 conifer seedlings occurs between May and September. Look for stem lesions and distorted needles. Feeding causes deformed or



Figure 48.1—Example of a *Lygus lineolaris* on daisy fleabane. Photo by Ronald Smith, Auburn University, at <http://www.bugwood.org>.

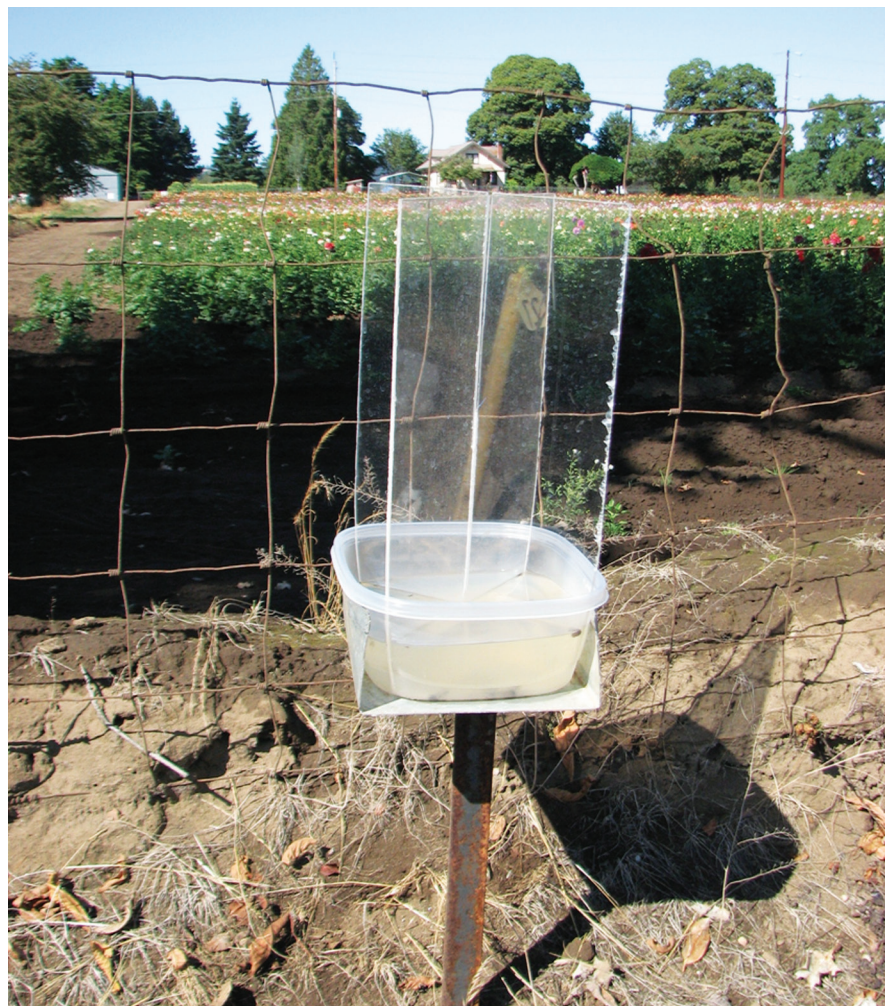


Figure 48.2—Clear Plexiglas trap with a catch pan containing soapy water. Photo by David B. South, Auburn University.

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Figure 48.3—Example of *Lygus hesperus*. Photo by Whitney Cranshaw, Colorado State University, at <http://www.bugwood.org>.



Figure 48.4—Example of *Taylorilygus apicalis*. Photo copyright 2006 Bill Claff.

aborted buds and multiple tops (fig. 48.5). When present, some feeding also occurs in transplants and 2-0 seedlings. In 1- to 2-year-old hybrid poplars, feeding produces a split lesion in the middle to upper stem. Lesions result in gall formation and stems often break just above the wound.

Biology

Adults overwinter in plant debris along field edges and in transplant beds. In early spring, adults feed and lay eggs in stems of agricultural crops or herbaceous weeds. Within a few weeks, eggs hatch into flightless nymphs that, like adults, feed on plant juices. Three to four generations are completed per year in the Northern United States and five generations can occur in the South. Adults are active fliers and readily move from one crop to another. Irrigated and fertilized nursery crops apparently attract adults when nearby host plants mature, senesce, or are harvested.

Control

Netting is sometimes used in greenhouses, and some managers use netting to cover containers grown outside on benches. Netting has also reduced injury to 1-0 Fraser fir in seedbeds.

To avoid attracting plant bugs to the nursery, some managers keep weeds mowed to reduce the population of preferred weed species. Unfortunately, plant bugs

can travel long distances and, therefore, additional control measures are needed. Some speculate that during dry periods, lygus bugs are attracted to succulent seedlings that have been irrigated and fertilized.

Injury to conifer seedlings from lygus bugs was rare in the decades when mineral spirits were applied for weed control. This situation might be due to the insecticidal properties of mineral spirits or because the volatile compounds produced an offensive odor. After managers ceased mineral spirit use, some began to notice an increase in the number of bushy-top seedlings. Because *Lygus* species have several generations per year, multiple insecticide applications may be necessary in outdoor nurseries (fig. 48.6). A few insecticides have proven effective in reducing the amount of damage to seedlings. In loblolly pine nurseries insecticide treatments commence as soon as *Lygus* adults are found feeding on weeds, which usually occurs in late April or early May.



Figure 48.5—Multiple shoots resulting from feeding of plant bugs. Photo by David B. South, Auburn University.



Figure 48.6—The use of insecticides (right bed) can increase the crop value of sand pine seedlings. Photo by Wayne N. Dixon, Florida Department of Agriculture and Consumer Services.

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