

IPM Fact Sheet Series

UMass Extension Fruit Team
Fact Sheet #AI-011

Apple – Tarnished plant bug (*Lygus lineolaris*)

Overview (from NETFMG)

TPB feeding up to tight cluster usually results in aborted fruit. Buds fed on from Tight Cluster through Bloom may be scarred. As apple develops, damage appears as deep, sunken areas, conical in shape, with associated light corky russetting. Damage is often confined to fruit calyx.

ID/Life Cycle:

Adult tarnished plant bug (TPB) is medium-sized, long, oval, slightly flattened, with long legs and antennae. In terms of color, adults are brown-yellow with a white or yellow 'Y' on the triangular area between the wings (scutellum). Adults from the overwintering generation tend to be much darker than the summer generation. Nymphs are green in color with black spots, appearing similar to aphids but moving much faster.



Figure 1 Tarnished plant bug adult (left) and nymph (right). **Photo credit:** Lisa Ames, University of Georgia; Scott Bauer, USDA Agricultural Research Service, Bugwood.org.

TPB overwinters as an adult under debris, bark and among leaves of clover, alfalfa and mullein. Eggs take 10 days to hatch. It takes 3-4 weeks for the nymph (immature) to develop to the adult stage. There are two or three generations per year.

Damage:

TPB feeds on buds and flower parts in the spring. Buds or flowers that have been injured will abort or fail to develop normally. Early feeding on the fruit results in depressions that deepen as the fruit grows. Egg-laying punctures are deeper and are most often found on the calyx end. Feeding and oviposition on the fruit



Figure 2 Tarnished plant bug damage to apple. **Photo credit:** Peter Jentsch, Cornell Univ. Hudson Valley Lab.

by TPB adults appear as deep, sunken areas, conical in shape, and is most noticeable at harvest.

Management Strategies

Monitoring: The key time for TPB monitoring is silver tip to bloom using coated 6x8" white rectangle traps set out at one per 3-5 acres, near the block periphery. Place a minimum of 5 traps/block. Traps should be stapled to stakes or hung vertically on low branches no higher than knee height. Each week, the number of TPB captured should be recorded, and specimens need to be removed from the trap.

The action threshold during tight cluster for apples ranges from a cumulative average of 3 TPB/trap of 5/trap depending on quality standards. The action threshold during late pink ranges from a cumulative average of 5/trap to 8/trap. Examine 10 terminals per block for bleeding buds. Action threshold is 2-3 sap-bleeding sites per 10-terminal sample. TPB activity is highly dependent on temperature, so that 2 or 3 days of warm (50-60 degrees), sunny weather triggers increased foraging and feeding behavior

Cultural/Biological

- Eliminate wild or unmanaged trees in the vicinity of the orchard to reduce the pest population.
- Reduce or eliminate broadleaf weeds, especially chickweeds, dandelion and clovers, from orchard sod.
- Do not mow from bloom through petal fall to prevent the flying of adults into trees.
- Avoid the placement of orchards adjacent to alfalfa hay or strawberry fields (alternative hosts).
- Preserve natural enemies, including other true bugs, ladybird beetles, spiders, and parasitic wasps. Many growers in Massachusetts and other New England states do not need to control TPB, as numbers are usually low in IPM orchards.

Chemical

- Refer to the [New England Tree Fruit Management Guide](#) for specific materials and rates recommended for managing San Jose Scale.
- Apply recommended insecticides for early season control of adult TPB if trap captures exceed threshold.
- If needed, apply follow-up sprays as needed through fruit-set – but only based on trap captures or presence of sap-bleeding sites.
- DO NOT APPLY INSECTICIDES DURING BLOOM.
- Rotate insecticides from different IRAC groups to reduce the chance of resistance development in the pest.

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Visit our website: <http://ag.umass.edu/fruit>

Additional information available on the MYIPM app: <https://apps.bugwood.org/apps/myipmseries/>

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