e-GRO Alert

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Tarnished plant bug

Such bugs and goblins in my life!

- William Shakespeare

Tarnished plant bug adult on Osteospermum flower.

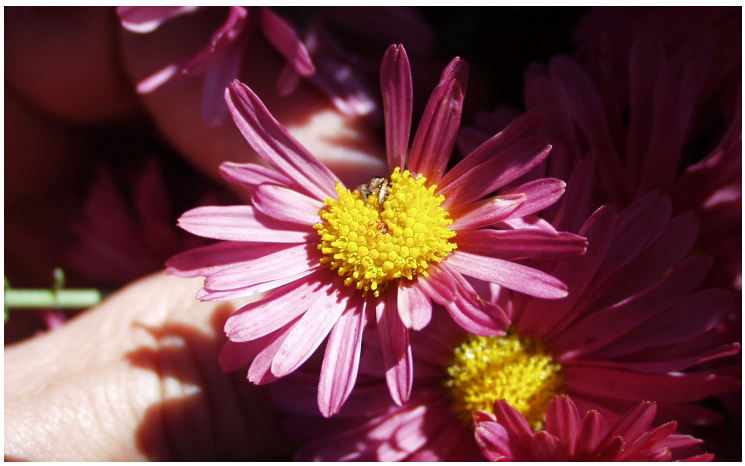
Among the more frustrating pests for flower growers, tarnished plant bug often arrives suddenly and undetected, until the unpleasant surprise when the damage shows several days later. Attacks on flower buds result in lopsided blooms or ones that completely fail to open. Feeding on stems and unexpanded leaves (as in basil) can cause splitting or small holes. It's a pest for many other crops too, with a very wide host range that includes more than half of all US crop plants. On asparagus stems die back or ferns will be distorted, tomato fruits develop small black sunken areas, snap beans flowers are aborted or pods develop brown spots, celery and lettuce develop small rusty or dark lesions on stems or veins. Feeding causes dimpling or 'catfacing' symptoms on apples, peaches, brambles, and strawberries. In alfalfa, damage to terminals, flowers and pods results in stunting, dead buds, flower drop and shriveled seeds. In conifer seedling nurseries it can cause a kind of bushy stunted growth and split stems. Tarnished plant bug is an occasional indoor (greenhouse) pest though more often troublesome in outdoor production.

Tarnished plant bug (*Lygus lineolaris*) is a native insect established throughout the Continental US. In the western US it is joined by two other *Lygus* pest species, part of the 'Lygus bug' complex, including western tarnished plant bug (*L. hesperus*) and pale legume bug (*L. elisus*). *L. lineolaris* adults are nearly ¼" long and vary in color from dark brown or grayish to yellow or pale green with dark markings. The between the wings in the center of the back is a small triangular plate (scutellum) with a pale wedge-shaped mark. The immature stages (nymphs) are pale to medium green and resemble aphids but lack the backwards-facing 'tailpipe'-like structures (cornicles) and unlike aphids move rapidly when disturbed. The adults overwinter in crop debris, under leaf litter or bark, in rock piles, or weedy areas, emerging in spring to feed on developing growth. During the growing season they live around 30 -40 (males) to 40 -60 (females) days. Eggs are laid into plant tissue, hatching in around 7 – 14 days depending upon temperature. The small, green nymphs pass through five stages, lasting around 15 (86°F) to 30 (68°F) days. There are two to perhaps five generations a year according to climate zone.

Several aspects make tarnished plant bug challenging to manage. The adults are highly mobile and migrate into production areas especially as hedgerow areas dry down, adjacent fields are mowed or crops reach maturity in summer. Their populations tend to be clumped, not evenly dispersed, making early detection and monitoring more difficult. Crops tend to be susceptible over a long period of time. In our experience populations vary considerably from year to year and we lack good tools for predicting infestation levels. Treating preventively and during bloom is undesirable to protect pollinators, and for economic, worker exposure and handling reasons.

Tarnished plant bug nymph.

Tarnished plant bug damage to peony buds.



Tarnished plant bug damage to chrysanthemum.

Tarnished plant bug injury to African violet flowers.

Tarnished plant bug adult on anemone.

Sweep nets are sometimes used or sampling in field crops and some vegetables (like snap beans) and may be useful in some flower production areas. They can be purchased or check the Penn State reference below for directions on making your own. They might also be used in adjacent non-crop areas to detect populations lurking nearby to provide a kind of early warning. In orchards white sticky panels placed around 1.5' high are also used to trap and detect adults. Tarnished plant bug has many biological controls, including a parasitoid imported from Europe that has reduced levels in New Jersey 75%. These don't always provide adequate control, however. Cultural management can help considerably, by growing cut flowers away from host crops, like alfalfa and cotton, where high populations can build, and by keeping fields clear of weeds (especially, pigweed, lambsquarters and those with composite-type flowers) that are alternate and attractive hosts. Avoid mowing weedy hedgerows that drives insects out and into production areas during susceptible periods. Rowcover or exclusion netting can protect plants from tarnished plant bug and other pests; the additional complications and expense might be offset by improvements in quality, reduced need for other insecticides, and durability (multi-year use) of some netting materials.

Insecticides may be helpful particularly during periods when plants are particularly attractive and vulnerable starting around early bud stage, limiting treatment up to budbreak to reduce impact on non-target insects. Insecticide options include several pyrethroids (bifenthrin, cyhalothrin, cyfluthrin, fluvalinate, permethrin) and pyrethrins, malathion, flonicamid (Aria), insecticidal soap, Ancora, azadirachtin (nymphs), carbaryl, *Beauveria bassiana*, Grandevo, Venerate, acephate, and acetamiprid. Verify labeling, uses and state registration before using any product and consult with your regional specialists on products and options best for your particular situation.

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Tarnished plant bug damage to dahlia.

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