



Protecting Field And Forage Crops From Tarnished Plant Bug

The tarnished plant bug (TPB — also called Lygus bug) is by far the most abundant of the plant bugs in Michigan. It feeds on a long list of crops and weeds and damages dry beans, legume hays (alfalfa, clovers and trefoil) and sugarbeets among Michigan's field and forage crops. The TPB weakens the plants by sucking their sap.

Heavy infestations of the bugs can stunt the crop and delay its development. The TPB injects a toxic saliva into the plant as it sucks the juices. The saliva works almost like a growth regulator. Curled, yellowed leaves and sharply angled stems and midribs are signs of its damage.

TPB feeding on flowers and small pods of dry beans and birdsfoot trefoil causes the flowers and pods to fall. It is this "blasting" of flowers and pods that makes the TPB an especially serious pest in these crops. Its feeding on larger pods of dry beans often causes a hard, black

spot (a sting or dimple blemish) on the seeds.

The TPB is most consistently a pest in our northern counties, where it threatens birdsfoot trefoil seed fields nearly every season. Its numbers vary from season to season, and it is occasionally serious in dry beans and, more rarely, in sugarbeets in the southern counties.

Tarnished plant bugs overwinter as adults under leaf litter or other trash on the soil surface. The adults are active bugs and run or fly readily when disturbed. They are winged, oval and about ¼ inch long, with long antennae (feelers) (Fig. 1). They vary in color from gray to nearly black but usually have a reddish metallic sheen that gives them their common name of tarnished plant bug. They usually have a yellow V-shaped mark in the center of their backs. The adults become active early in the spring and move into fields of succulent, early-season crops such as alfalfa and other forage legumes.

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The females insert their eggs into the stems and midribs of the plants. The nymphs (young) that emerge from the eggs resemble the adults except that the nymphs are greenish and lack wings. The nymphs are very small when first hatched. When fully grown, they are about ¼ inch long and usually have conspicuous black spots on their backs. They run rapidly but, without wings, they do not fly. The nymphs become winged adults in about three to five weeks.

A few tarnished plant bugs are always found in crops other than forages early in the season, but the infestations in dry beans and sugarbeets usually start to increase as adults move into these crops from the forage crops around mid-July. There are three overlapping generations of TPB per season, and all stages of the pest can be found in the field until the crop matures or cold weather forces them into overwintering sites.

Control of the Tarnished Plant Bug

The damage caused by the TPB is often not apparent for a week or more after the bugs have started to feed on the plants. The flowers and pods that are

Insecticides Recommended For Tarnished Plant Bug Control

Insecticide	Amount per acre	Limits ^a
DRY BEANS		
trichlorfon (Dylox, Proxol)	1-1/4 lb 80% WP	PHI 14 days.
carbaryl (Savit, Sevin)	1 qt 4 lb/gal F 1-1/4 lb 80% WP 2 lb 50% WP	PHI 0 days.
dimethoate (Cygon, DeFend)	1 pt 4 lb/gal EC	PHI 0 days. Do not feed vines.
methomyl (Lannate, Nudrin)	1/2 lb 90% WP 1 qt 1.8 lb/gal EC ^b	PHI 3 days vines, 7 days hay, 25 days beans.
Orthene	1 lb 75% WP	PHI 14 days. Do not feed vines.
Guthion	1 lb 50% WP 1 qt 2 lb/gal EC ^b	PHI 30 days. Do not feed vines. Maximum 4 applications per season.
Dibrom	1 pt 8 lb/gal EC	PHI 1 day. Do not feed vines.
malathion	1 qt 5 lb/gal EC	PHI 1 day.
ethion	1 pt 8 lb/gal EC 1 qt 4 lb/gal EC	PHI 4 days. Do not feed vines.
SUGARBEETS		
trichlorfon (Dylox, Proxol) ^c	1-1/4 lb 80% WP 1 qt 4 lb/gal EC	PHI 14 days.
carbaryl (Savit, Sevin) ^c	3 pt 4 lb/gal EC 1-7/8 lb 80% WP 3 lb 50% WP	PHI 14 days.
Lorsban ^c	1 qt 4 lb/gal EC	PHI 30 days. Maximum 1 gal per acre per season.
parathion	1 pt 4 lb/gal EC ^b 1/2 pt 8 lb/gal EC ^b	PHI 15 days.
methyl parathion	3/4 pt 4 lb/gal EC ^b	PHI 20 days beets, 60 days tops.
malathion	1 qt 5 lb/gal EC	PHI 7 days.

^a PHI (pre-harvest interval) is the minimum time allowed between application and harvest or other uses of the crop.

^b This formulation is a restricted-use pesticide that may be purchased and used only by a certified pesticide applicator.

^c This insecticide is not registered for plant bugs but is effective in their control and can be applied in sugarbeets.

Insecticides Recommended For Tarnished Plant Bug Control

Insecticide	Amount per acre	Limits ^a
LEGUME HAYS		
trichlorfon (Dylox, Proxol)	1-1/4 lb 80% WP 1 qt 4 lb/gal EC	PHI 0 days. Maximum 3 applications per cutting. Trichlorfon applied in the evening is especially recommended where bees may be exposed.
carbaryl (Savit, Sevin)	1 qt 4 lb/gal F 1-1/4 lb 80% WP	PHI 0 days. Do not apply to small plants if they are wet or rain is expected within 48 hours.
dimethoate (Cygon, DeFend)	1 pt 4 lb/gal EC 1-1/2 pt 2.67 lb/gal EC	PHI 0 days. Maximum 1 application per cutting.
Guthion	1 lb 50% WP 1 qt 2 lb/gal EC ^b	PHI 16 days. Maximum 1 application per cutting.
methomyl (Lannate, Nudrin)	1 lb 90% WP 2 qt 1.8 lb/gal EC ^b	PHI 7 days.
Lorsban	1 pt 4 lb/gal EC	PHI 14 days. Maximum 1 application per cutting and 4 applications per season.
Supracide	1 qt 2 lb/gal EC ^b	PHI 10 days. Maximum 1 stubble and 1 foliar application per cutting.
Furadan	1 qt 4 lb/gal EC	PHI 28 days. Maximum 1 application per cutting and 2 applications per season.
Phosdrin	1 pt 4 lb/gal EC ^b 6 fl oz 10.3 lb/gal EC ^b	PHI 1 day.
diazinon	1 lb 50% WP 1 pt 4 lb/gal EC	PHI 0 days grazing, 7 days hay.
malathion	1 qt 5 lb/gal EC	PHI 0 days. Malathion applied in the evening is especially recommended where bees may be exposed.

^a PHI (pre-harvested interval) is the minimum time allowed between application and harvest or other uses of the crop.

^b This formulation is a restricted-use pesticide that may be purchased and used only by a certified pesticide applicator.

dropped from dry beans and birdsfoot trefoil are, of course, simply never seen. Fields of forage crops should be checked for TPB regularly throughout the season. Sugarbeets should be checked especially carefully in late July and August. Dry beans and trefoil should be checked very carefully for the bugs starting at first flowers and continuing through the small pod stage. Do not delay in applying an insecticide in these crops if the bugs are abundant, because more flowers and pods will be lost each day these crops are left unprotected.

You can check the field by simply looking for the bugs in several areas of the field. You can use an insect sweep net to check for the bugs, especially in forage crops. Purchase an insect sweep net from a biological supply house or make one at home as explained in Extension bulletin E-906, "Construction and Use of an Insect Sweep Net."

Spray with an insecticide if you find one or more bugs, adults or nymphs, per plant. Ten gallons of mixed spray per acre with ground equipment will give effective control of these active bugs. The insecticides currently recommended for control of the bugs are given in the table.

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