

Preventing Strawberry Seedy-End



Tarnish Plant Bug Scouting and Control in Strawberries



Plant bugs are widely distributed in North America and have one of the widest host plant ranges of any insect pest. The Tarnished Plant Bug (TPB), similar to the Lygus bug, feeds on most field, forage, fruit, vegetable and ornamental crops and a wide variety of weeds and many other plants. It is the most important insect pest of strawberries and can be the primary cause of seedy-end berries (see photo above).

Figure 1: Tarnish Plant Bug Nymph

Biology

The Tarnish Plant Bug (TPB) overwinters as an adult. In early spring, Tarnish plant bugs feed on early emerging weeds and crops, including strawberries. Eggs are laid in plant tissues and when they hatch, the nymphs begin feeding. The nymphs are present and develop through May and June and become adults in late June to early July (see figure 1). These adults repeat the life cycle. Both nymphs and adults are found on host plants through the remainder of the summer until fall, when only adults will be present. In the prairies there are two generations per year with a third generation during longer summers. Adults are five to seven millimetres in length and two and a half millimetres in width. They vary in colour from black to dull brown to pale green. There is a characteristic triangular marking in the middle of their back. The nymphs are pale green in colour, resembling aphids but are much more active. Older instars reach a length of about five millimetres and are darker green, with five spots on their back.

Symptoms & Damage

Feeding by the tarnish plant bug has two effects. Feeding on flower blossoms and developing fruit causes apical seediness in strawberries and crumbly berry in raspberries. Feeding also reduces plant vigour by removal of plant nutrients. Most damage occurs after petal fall. Control is typically at bloom. Damage caused by cool weather during berry formation, poor pollination and some nutrient deficiencies are commonly mistaken for feeding damage by tarnish plant bug.

Monitoring

Early monitoring of fields is important if damage is to be minimized. It is easily done using a standard insect sweep net, being sure to sample throughout the field on a regular basis, starting at the bud stage. Growers often sample by tapping the blossom clusters of strawberry plants into shallow trays. This works fine for the nymphs (the most injurious stage). However, the adults fly quickly when disturbed and are often unseen.

Because the adults can fly long distances, an outbreak may occur suddenly. Regular sampling and sweeping is needed to detect such infestations.

Scouting Techniques

The most consistent method of scouting is sampling a number of blossoms across the field. Blossoms are tapped into a white tray or pan and the number of nymphs recorded. This does not record the number of adults, as they will readily fly away when disturbed. A sweep net may be more useful for sampling adult populations. Particular attention should be given if a nearby hay field has been cut recently. Alfalfa hay is a preferred host for TPB and once cut, the adults will move out in search of new host plants for feeding and laying eggs.

Control of Tarnish Plant Bug and Protection of Pollinators

Since the most effective time to control and prevent damage to the flower is when strawberries are at bloom stage, it is important to take all precautions to protect the pollinators that are visiting the plants at this time. Apply insecticide when honey bees and other pollinators are least active, early in the morning or at dusk. Remember that these pollinators are required for fruit set to occur and increase berry yields.

Strawberry Tarnish Plant Bug Management Chart

Trade Name	Insecticide Group	Bee Toxicity*	Trade Name	Insecticide Group	Bee Toxicity*
Up-Cyde 2.5EC	3A	Very	Rimon 10EC	15	Moderately
Decis 100EC	3A	Very	Beleaf 50SG	29	Moderately
Poleci 2.5EC	3A	Very	Silencer	3A	Very
Labamba	3A	Very	Matador 120EC**	3A	Very

*Source PMRA Environmental Assessment Division. Refer to label for toxicity of insecticide to bees.

**Matador continues to be registered for use on strawberries but will not be sold by the distribution company in western Canada in 2023.

The information in the above table is general information only and is current to April 2023.

Always read pesticide label for usage and rates.

References

[Province of Manitoba | Agriculture-Strawberry Production](#)

[Province of Manitoba | Agriculture-Commercial Strawberry Production on the Prairies-guides & publications](#)

Contact Us

This factsheet was developed by Anthony Mintenko, Manitoba Agriculture Fruit Crop Specialist

For more information, contact the department:

Online www.manitoba.ca/agriculture

Email crops@gov.mb.ca

Phone 1-844-769-6224