

# Biology and Pest Management of the Sunflower Beetle in North Dakota

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The sunflower beetle, *Zygogramma exclamationis* (Fabricius), is one of the major economic insect pests of sunflower in the northern plains. It is native to North America and has moved from feeding on wild sunflowers to become the major defoliating pest of cultivated sunflower. The insect belongs to the family Chrysomelidae (leaf-feeding beetles), the group which also includes the destructive Colorado potato beetle. The sunflower beetle is found throughout the Great Plains wherever sunflower is grown. Both the adult and larval stages consume leaf tissue, which can result in yield reduction of sunflower seed (Figure 1). Although the sunflower beetle is present each year, the severity of infestation varies. During years with heavy infestations, the sunflower beetle was ranked as the worst insect pest problem by most North Dakota sunflower producers, with approximately 60 percent of the sunflower acreage being treated to manage either the adult or larval stage.



**Figure 1. Sunflower plant damaged by sunflower beetle.** ([Click here](#) for larger, 42KB photo)

## Distribution

This insect has been reported from southern Canada to northern Texas, Arizona, New Mexico, and west to Utah. High populations often necessitate control measures in cultivated sunflower grown in North and South Dakota and Minnesota. Although present in the central and southern plains, the sunflower beetle has not been considered a serious pest of cultivated sunflower in these regions.

## Identification

**Adult:** The head of the adult is reddish-brown and the thorax (area between head and abdomen) is pale cream-colored with

a reddish-brown patch at the base (Figure 2). Each wing cover is cream-colored and has three dark stripes that extend its length. A shorter lateral stripe ends at the middle of the wing in a small dot that resembles an exclamation point. The beetle is 1/4 to 1/2 inch (6 to 12 mm) long and 3/32 to 3/16 inch (2 to 4 mm) wide.



**Figure 2. Sunflower beetle adult.**

[\(Click here](#) for larger, 16KB photo)

**Eggs:** Eggs are about 1/16 inch (1.5-2.0 mm) long, cigar-shaped and cream-yellow in color (Figure 3).



**Figure 3. Sunflower beetle egg.**

[\(Click here](#) for larger, 10KB photo)

**Larvae:** Sunflower beetle larvae are yellowish-green with a brown head capsule and humpbacked in appearance. Newly hatched larvae are about 1/16 inch (1.5-1.75 mm long), and will reach a length of about an inch (8-10 mm) when fully developed (Figure 4).



**Figure 4. Sunflower beetle larvae.**

[\(Click here](#) for larger, 24KB photo)

**Pupae:** Pupae are similar in size to the adult and yellow in color.

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