

Beet armyworm

(Order: Lepidoptera, Family: Noctuidae *Spodoptera exigua* (Hubner))

Description:

Adult: Moths are medium sized with a wingspan of 25-30 mm. The forewings are a mottled gray and brown with irregular banding and a light colored bean-shaped spot near the center. The hind wings are a more uniform white or dirty white with a dark line near the margin.

Immature stages: Eggs are laid in clusters of 50-150, greenish to white and are covered with a layer of whitish scales that give the egg mass a fuzzy or cottony appearance. Larvae are pale green to yellow during the first two instars. Larger larvae vary in appearance. Large larvae tend to be green to dark green dorsally and may have a series of dashes that give the appearance of longitudinal lines on the back. Large larvae generally have a dark line along the side of the body with a light line below the dark line. The underside of large larvae are generally pink or yellow.



Beet armyworm adult.

Biology:

Life cycle: Egg clusters are usually deposited on the underside of leaves. Females normally deposit 300-600 eggs during their lifetime. Eggs hatch in 2-3 days during warm weather. Early instar larvae are gregarious, feeding as a group and skeletonizing leaves. Larvae are primarily foliage feeders during the first two instars which require about 4 days. Third instar larvae disperse and will attack fruit but can complete development on foliage in the absence of fruit. Normally, larvae develop through 5 instars in 9-10 days. Larvae reach a maximum size of about 22.5 mm. Pupation occurs in the soil and the pupal stage generally lasts 6-7 days. Total generation time is about three weeks.



Late instar beet armyworm on tomato.

Seasonal distribution: Beet armyworm generally does not overwinter in Georgia but can migrate readily from Florida. While the potential for significant infestations is more likely in the fall, this pest can be a problem in the spring production season as well. This pest has generally been considered a secondary pest, with significant infestations usually occurring only after repeated use of broad spectrum insecticides which decimate its parasites and have little impact on the beet armyworm because of resistance to most older insecticide chemistries. However, in recent years this pest has frequently established in fields prior to heavy insecticide use.

Damage to Crop: The first two instar larvae are gregarious and feed in groups on foliage. The clumped skeletonizing of foliage is known as a beet armyworm 'hit' in many crops. Third and later instar larvae disperse and may continue feeding on foliage but will readily bore into fruit.

Management: Beet armyworm moths can be monitored with pheromone traps, but adult abundance does not always correlate with subsequent larval problems. Scouting for beet armyworms generally involves inspection of foliage for egg masses, larvae, and 'hits.' Egg masses can be difficult to locate because of their clumped nature. In fruiting vegetables, insecticide applications based on the detection of 'hits' generally provides ample protection as the early instars do not attack fruit and 'hits' can be detected prior to fruit loss. The lowest level of beet armyworm that can be tolerated without significant yield loss is an average of 1 larvae per 20 plants. Beet armyworm should be managed to keep the larval population from exceeding this level in the field.



Armyworm damage to young pepper plant