SLUGS

Soybean Pests

Overview

With the shift to no-till cropping systems, soybeans are often being planted into heavy crop residues. These heavy residues trap moisture at the soil surface and this provides an ideal environment for slugs. Slugs are not insects but gastropods. They are actually snails without shells. There are numerous species, but one of the more common is the gray garden slug, *Deroceras reticulatum*.

Slugs feed on decaying organic matter and plant foliage. Slugs are active at night and on cloudy days. During the day, they often hide under soil clods and crop residue or in unsealed seed furrows. They leave a slimy, silver-colored trail wherever they go.

If eggs hatch at crop emergence, slugs can cut off soybean hypocotyls, resulting in severe stand losses. Slugs are capable of feeding on leaf tissue throughout the growing season, slowing early growth. This leaf feeding is often only cosmetic and if the crop can send out new leaves, it can often “outgrow” slug infestations.

Scouting

Identification
Slugs are soft-bodied, legless, slimy, white, gray, or black. Some species measure up to 4 inches in length but 1/2 to 1-1/2 inches is more common (Figure 1).

Figure 1. Gray garden slug. Image courtesy of IPM Images.org: Cheryl Moorehead, Bugwood.org

Damage

Slugs usually feed on the lower part of the plant, eating partly or completely through the hypocotyl and cotyledons. Unifoliate leaves may be damaged before unrolling, making them appear distorted and tattered. Stand losses by slugs occur when fields are generally too wet, and not ideal for planting, thus resulting in seed furrows that do not properly close during planting operations. In this situation, slugs are able to feed day or night on the seedlings, often destroying the growing point(s).

Sampling Method

If slug damage is suspected or seen, check 20 plants in each of 5 areas of the field. Record the number of plants showing damage and/or dying.

Slug counts can be taken day or night. To check for the presence of slugs during the day, look at 5 linear feet of row in each of 5 areas of the field. Check on each side of the row until 5 feet of row has been covered. Turnover and inspect clods and pieces of plant residue in each sampling area for slugs. Slugs in the soil can be difficult to find since they contract their bodies into small spheres resembling little balls of goo. Record the number of slugs found in each sampling area.

Night sampling can be accomplished by counting slugs on plants or the soil surface. Use a flashlight to illuminate the sampling area. Keep a record of all samples taken and note if taken during the night or day.

Other sampling methods include shingle trapping and residue sampling. To see a video on these two methods click here.

Management

There are currently no economic thresholds based on slug numbers or feeding damage. The primary management strategy for slugs is to employ a tillage practice that removes crop residue or incorporates it into the soil.

Management Considerations
In fields with a history of slug damage, preventive practices to reduce risk of damage include:

- Zone tillage or row sweepers at planting may reduce slug damage by encouraging soybean growth and the drying of the soil.
- Delay planting until soils warm up for rapid germination and emergence.
- Current insecticide seed treatments have no effect on slug populations as slugs are not insects, but mollusks. Additionally, their slimy body mucus prevents the absorption of over the top insecticide sprays.
- Poorly sealed seed furrows can result in severe slug damage and crop stand losses since it allows slugs to feed continuously, day or night.
- There are baits (iron phosphate) that can be applied in a band following planting. Slugs need to ingest this material, so it should be applied close to the row. These baits are often cost prohibitive.
- Metaldehyde is a molluscide that can give satisfactory control of slugs. Metaldehyde destroys the slime-producing cells of slugs and causes their death.
- Slug severity usually tapers off quickly if periods of dry weather develop.
- Tile drainage on very heavy or poorly drained soils will help reduce excessive

moisture, the preferred environment of slugs.
- Removing corn stalks for bedding also removes the heavy residue cover that helps keep soils moist, which is critical to a slug's lifecycle.
- Where replanting is necessary, the field or area should be tilled first to disrupt the slugs' environment.

If chemical control is necessary, contact your state Extension office for recommended products and rates. Always read and follow label directions.

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