

# Armyworms: What you need to know



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Posted Sep. 26, 2018

Over the last several weeks, we have had numerous reports of armyworm outbreaks. Armyworms have caused significant damage or stand loss in early-planted small grains and bermudagrass.

The key to keeping these pests below the economic threshold is scouting at least every other day for worms, when they are small and easier to control, as well as identifying what species is causing the damage. If left untreated, armyworms can destroy a newly established winter pasture in a very short time.

## **FIND AND TREAT EARLY**

It is critical to identify and, if necessary, treat armyworms by their fourth larval stage.

As indicated in the following table, armyworms will consume approximately 75 to 80 percent of their total dry matter intake during the final two larval stages. Additionally, once they become greater than ½-inch long, they become more difficult to control with insecticides.

<b>Instar</b>	<b>Length in Inches</b>	<b>Duration of Larval Stage in Days*</b>	<b>Cumulative Age in Days*</b>	<b>% of DM Consumed by Instar</b>
1	1/15	3.3	3.3	2%
2	1/7	1.7	5	5%
3	1/4	1.5	6.5	7%
4	2/5	1.5	8	11%
5	2/3	2	10	23%
6	1 1/3	3.7	13.7	52%

\*Fall armyworm laboratory reared at 77 degrees (Pitre and Hogg 1983)

At lower temperatures, down to 32, it could take up to 30 days to complete larval stages.

## **WHERE TO LOOK**

Scout along field borders as well as uniformly across the field. Armyworms will often move into fields from weeds along the field edges and fencerows. Treatment can sometimes be limited to the field margins, saving considerable chemical cost.

Damage will start as feeding on the epidermal layers of the leaves, causing a windowpane effect, and progress to chewing through entire leaves. Look on the plants for actively feeding caterpillars, but also look underneath dirt clods and litter for caterpillars that are hiding to escape daytime

temperatures. They are usually easier to find in the early morning hours or at dusk. You can also watch for birds foraging in a concentrated area of a field and scout that area to see if they are feeding on armyworms.



Windowpane feeding damage

## IDENTIFY THE SPECIES

In addition to scouting for armyworm numbers, it is important to identify the species of armyworms. The most common damaging species is the fall armyworm, *Spodoptera frugiperda*, but the beet armyworm, *Spodoptera exigua*, can also cause significant damage.

- **Fall armyworm larvae** are green, brown or black and have a very distinctive white line between the eyes that form an inverted “Y” on the head capsule.
- **Beet armyworm larvae** are light to dark green with dark and light stripes running the length of the body and a less distinctive inverted “Y” on the head capsule. There is usually a very distinctive dark spot on the second segment behind the head and above these lines.

Identification is important because there may be differences in control strategies depending on the species present. Continue scouting every few days until a killing frost occurs.

Approximately 1/4" in length

Fall Armyworm



Beet Armyworm



Fall Armyworm (left) Beet Armyworm (right)



Beet Armyworm



Fall Armyworm

## **CHEMICAL TREATMENT OPTIONS**

The economic threshold for control varies depending on the cost of chemical treatment and the value of the crop, but in general one to two worms per row foot in small grains and two to four worms per square foot in bermudagrass is a good starting place.

There are a wide variety of insecticide options for control of armyworms. Which to choose depends on the crop grown, the armyworm species present, their size or growth stage, proximity to sensitive crops or neighborhoods, etc.

Some of the products available include:

- Diflubenzuron (Dimilin)
- Chlorantraniliprole (Prevathon)

- Spinosad (Tracer)
- Malathion (many trade names)
- Carbaryl (Sevin, many trade names)
- Chlorpyrifos (many trade names)
- Methomyl (Lannate)
- Pyrethroids such as zeta-cypermethrin (Mustang Maxx)
- Gamma-cyhalothrin (Proaxis)
- Lambda-cyhalothrin (Warrior)
- Beta-cyfluthrin (Baythroid)

Always refer to the specific insecticide label to ensure it is labeled for your crop and in your state, for the correct rate to control the species present and for any grazing, harvest or retreatment restrictions. Remember, the label is the law.

#### ADDITIONAL RESOURCES:

- [www.noble.org/videos/fall-armyworms](http://www.noble.org/videos/fall-armyworms)
- [agrilife.org/agnewsandviews/2018/08/23/armyworms/armyworm-fact-sheet-2018](http://agrilife.org/agnewsandviews/2018/08/23/armyworms/armyworm-fact-sheet-2018)