

# Community Wide Grasshopper Control

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Springtime, while grasshoppers are still nymphs, is the best time for communities or neighborhoods to work together to suppress grasshopper populations. Treating as wide an area as possible is the key to success. When grasshoppers become adults, they can travel great distances and may not remain in one area long enough for an insecticide to be effective.

## How to Identify Nymphs

Grasshoppers go through five nymph stages before becoming adults. Look closely at a few individuals to assess the size of their wing pads (see diagram below and table at right). Grasshoppers that are able to fly have already reached the adult stage. Mobility increases after the 4th instar, so insecticide treatments are not as effective on 5th instar or adult stages.

General Sizes of Grasshopper Stages	
1st instar	1/4 inch
2nd instar	3/8 inch
3rd instar	1/2 inch
4th instar	3/4 inch
5th instar	1 inch
Adult	1.5 inches

## Where To Treat

- Open Fields
- Hedgerows
- Boundaries between yard and open space
- Roadsides
- Drainage ditches
- Other weedy areas

## Treatment Options

### Bait + Insecticide:

- wheat bran + carbaryl or Nosema locustae (a natural grasshopper pathogen) that must be consumed
- spread evenly through the habitat, grasshoppers eat the bait as they are foraging for food
- easy to apply, but expensive

- selectively kills only grasshoppers and other foraging insects
- must be reapplied frequently and immediately following wetting events (rain, sprinkler irrigation)
- very effective option

#### Dust (carbaryl):

- easy to apply, but expensive
- does not readily adhere to foliage and must be reapplied frequently

#### Sprays (malathion, carbaryl, permethrin, bifenthrin):

- less expensive, but must have the equipment to apply
- adheres to plant material
- kills on contact, or when grasshoppers eat foliage

There are over 500 products registered in Utah for grasshopper control. Below are some popular examples.

Example Materials	
Baits	Carry's Bug Bait Deadline Bug Bait Lilly Miller Grasshopper Bait Sevin 5 Bait Eco Bran 2% *NOLO Bait Biological *Planet Natural Semaspore Bait
Dust	Sevin
Sprays	Sevin Malathion Permethrin: Basic Solutions, Bonide Eight, Gordons, Spectracide Bifenthrin: Allectus <sup>1</sup> , Brigade <sup>2</sup> , Sniper <sup>2</sup> , Talstar <sup>2</sup>

\*Biological insecticide that contains *Nosema locustae* must be applied at early nymph stages

<sup>1</sup>not for edible plants

<sup>2</sup>restricted use

## For More Help

Some county weed offices will provide sprayers to use for free, but the applicator must purchase the insecticide.

[USDA-APHIS](#) is responsible for control programs against grasshoppers on public lands. When grasshoppers occur at high numbers, owners may join together to receive state and federal aid in planning and conducting a Cooperative Rangeland Grasshopper Management Program.

## Damaging Species in Utah

### *Redlegged grasshopper (Melanoplus femurrubrum)*

Adults are 1-1½-inch long. This is the most widely distributed species, and prefers tall forbs, grasslands, meadows, crop borders, rangeland, and roadsides.

***Differential grasshopper (Melanoplus differentialis)***

Adults are 1¾-inch long and live in fields, open woods and along the edges of water, and feed on grasses, weeds, and crops.

***Two-striped grasshopper (Melanoplus bivittatus)***

Adults are 1¼- 2-inch long, and prefer tall, lush, herbaceous, vegetation, and reside in ditch banks, roadsides, and crop borders. This species can be a major pest in small grains, alfalfa, and corn. It is one of the first species to appear each season.

***Migratory grasshopper (Melanoplus sanguinipes)***

Adults are 1-inch long and prefer forbs, grasslands, and meadows. This grasshopper causes more crop damage than any other species of grasshopper on small grains, alfalfa, clover, vegetables, and ornamentals.

**Related Research**

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