# **Prevathon**® Insect Control

Powered by Rynaxypyr® active

## Count on FMC for effective solutions to control grasshoppers.

Grasshoppers can be one of the most destructive insect pests of crops and rangeland in the United States. Grasshoppers are a threat every year, but can be very destructive in outbreak years. The voracious feeding habits of grasshoppers are legendary. In proportion to their body weight, they consume grasses eight times faster than beef cattle.

Populations of these devastating pests fluctuate widely from year to year due to environmental conditions and other variables. Severe outbreaks are often associated with a series of dry years. Hot and dry weather in early spring is frequently correlated with severe infestations. Ranchers and growers should be aware of the grasshopper potential early in the season and apply control measures while the hoppers are in their early stages of development and are most susceptible to insecticides.

During severe infestations, grasshoppers migrate from rangeland and attack cultivated crops. Some species of grasshoppers will breed in cultivated crops and confine their feeding to cropland.

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### Grasshopper Outbreaks

### Wintertime temperatures have little impact

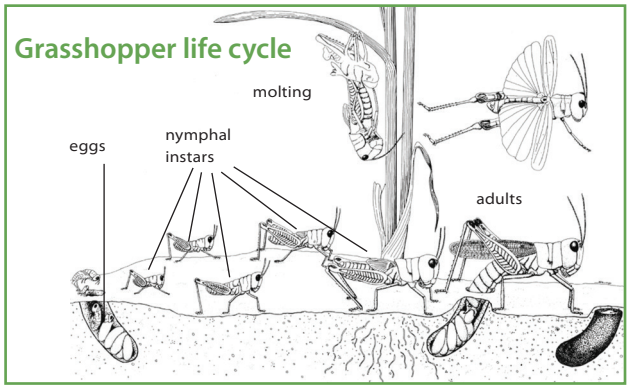
| Increasers (+) | Season | Conditions |
|---|---|---|
| | Spring | Ideal: Continuous warm, dry conditions aid hatching and forage growth for feeding |
| | Summer | Intermittent rain helps late hatchers |
| | Fall | Extended warmth maximizes egg laying<br>• Most overwinter as eggs. |
| **Decreasers (-)** | Spring | • Cold, wet weather delays growth stages.<br>• Warm, wet weather for more than a week creates fungus and delays growth stages. |
| | Fall | Early fall shortens egg laying |
| | Any | Extreme drought |

### Typical life cycle

Some knowledge of the life history of grasshoppers will help in predicting the severity of outbreaks. In most species, the female deposits egg pods in the soil in the fall. A number of factors will determine how many eggs she lays. A long, warm fall will favor production of a greater number of eggs in comparison with a short fall with the onset of an early frost. The egg storage pod is the overwintering form for most of our destructive grasshopper species. The egg pods are able to withstand the most drastic winter weather.

Eggs hatch in the spring. Hatching is triggered when soil temperatures reach a critical level for certain duration day degree development units. Most nymphs hatch from overwintering eggs in May or June. Hatching extends over a prolonged period and usually corresponds to late or early fall oviposition. The nymphs go through five stages, or instars, in their growth to adults. The nymphs are wingless and rely on their well-muscled legs to migrate in their quest for food. The adults are strong fliers and can move considerable distances in short periods of time.

There is only a single generation per year for most species.




Robert E. Pfadt. Field Guide to Common Western Grasshoppers. Third Edition. Wyoming Agricultural Experiment Station, Bulletin 912, February 2002.

## Prevathon® insect control

Prevathon® insect control powered by Rynaxypyr® active helps protect the yields and quality of animal feed and crops by achieving reliable and consistent control of grasshoppers and many worm pests. Prevathon insect control is highly efficacious and yet at the same time has an excellent mammalian, such as livestock and wildlife, toxicological profile.

## Key benefits of Prevathon insect control:

- Delivers long-lasting residual control of key worm species and grasshoppers.
- Helps break the insect resistance cycle due to its alternate mode of action versus current standards.
- Delivers longer-lasting insect control – up to 28 days – which helps eliminate the need for multiple applications per season.
- Allows applications in pasture and rangeland right up to cutting (zero-day PHI) with short PHIs in other crops.
- With zero-day grazing and haying intervals, ensures livestock can re-enter and graze immediately after application once sprays have dried.
- Offers effective control while having minimal impact on beneficials such as honey bees†
- Has an excellent worker protection standard profile with a four-hour re-entry period and minimal PPE, which allows you to better manage your crop and your workload.
- Quick feeding cessation to minimize crop damage.

† In line with integrated pest management and good agricultural practices, insecticide applications should be made when pollinators are not foraging to avoid unnecessary exposure.

## Prevathon insect control use rates — grasshopper

| Crop | Fluid Ounces per Acre | REI (Hours) | Last Application (Days to Harvest) |
|---|---|---|---|
| Grass forage, fodder and hay (rangeland and pasture grass) | 8.0 – 16.0 | 4 | 0 |

Do not apply more than 60 fl. oz./A of Prevathon insect control per crop. Do not make more than two applications per acre per crop. The minimum retreatment interval is seven days.

## Use directions

The key to effective use is in timing, coverage and correct use of Prevathon insect control.

**Timing** of application is critical. Applications should be made when grasshopper nymphs are small. Lower label doses are recommended for young nymphs, but more mature hoppers require the higher dose.

**Good coverage** is essential. Prevathon insect control may be applied by conventional ground rig, by aircraft or through certain overhead irrigation systems. Many applicators use an adjuvant with the spray solution to enhance deposition and coverage. When applying Prevathon insect control through sprinkler systems, be sure to observe all the label precautions pertaining to this method of application.

**For more information, contact your local FMC retailer or representative to learn how you can get effective solutions to control grasshoppers with Prevathon insect control from FMC and visit us at FMCCrop.com.**



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