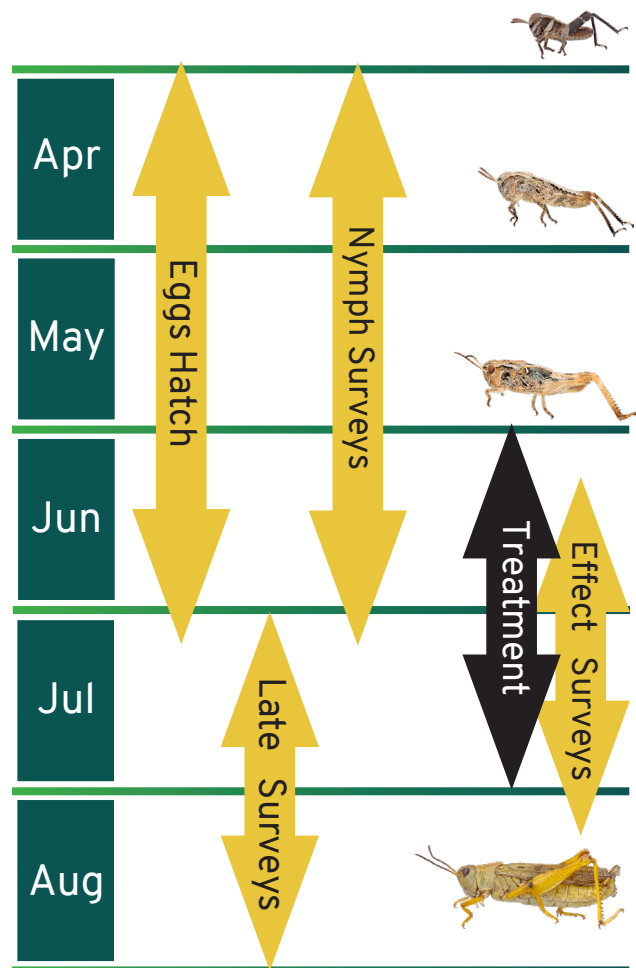


Grasshopper Timeline

Oregon grasshopper season begins in April, when eggs laid the previous fall hatch from the soil. Hatches can last until July depending on elevation, temperature, soil moisture and the specific grasshopper species. ODA nymph (immature grasshopper) surveys occur April to July 4th to determine local treatment needs. Diflubenzuron treatments, which target only nymphs, are scheduled for late May to late July. Two weeks after the treatment, efficacy surveys will follow to assess treatment success. Late emergence surveys and treatments will be conducted as needed.



Senate Bill 5561

In response to the severe outbreaks of 2020 and 2021 the Oregon state legislature passed Senate Bill 5561, providing one-time funding of five million dollars to help combat the severe grasshopper season expected in 2022. The bill provides funds for resources to support a grasshopper and Mormon cricket control and suppression cost-sharing program, with \$4,196,793 for suppression/treatment and \$803,207 for pre-treatment and post-treatment surveys. Funds will be made available to program participants in the form of reimbursement for approved Diflubenzuron treatments.

How to Participate

Participation in the SB5561 Grasshopper Survey and Suppression program is open to private land owners and land managers for properties within the state of Oregon. Parties interested in having their properties surveyed for nymphs to determine eligibility for reimbursement of treatment expenses should visit the Oregon Department of Agriculture's "Oregon Grasshopper/Mormon Cricket Outbreak Reporting Form" website to report their outbreak and request a nymphal survey. ODA will use the information from the completed form to contact interested parties.

The site can be visited at:

<https://oda.fyi/GHMC>



Additional Information

Please visit us online for questions regarding grasshoppers and Mormon crickets in Oregon, their control, and their impact on Oregon agriculture. If you would like more information about Senate Bill 5561 and the Disaster Relief for Grasshopper Survey and Suppression Program, including details about eligibility, requirements and scheduling, please see our online FAQ at:

<https://oda.direct/IPPMGrasshoppersCrickets>



For other questions or to learn more about the Insect Pest Prevention and Management Program, contact us:

Oregon Department of Agriculture Insect Pest Prevention & Management Program
635 Capitol St. NE Suite 100
Salem, OR 97301
503-986-4636 or 1-800-525-0137

Or visit us at our website:

<https://ODA.direct/IPPM>



One time funding for this ODA product was provided by Oregon Senate Bill 5561



OREGON DEPARTMENT OF AGRICULTURE

Insect Pest Prevention and Management

Oregon Department of Agriculture Guides and Pest Alerts



Grasshoppers and Mormon Cricket

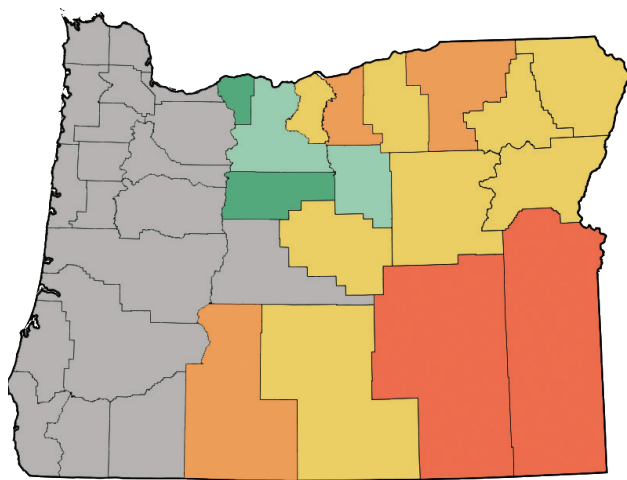
Control and Suppression of Rangeland Pests



OREGON DEPARTMENT OF AGRICULTURE

What's the Problem?

In the summer of 2021, Oregon suffered its worst grasshopper outbreak in fifty years, with a record 10 million acres in 18 counties suffering damaging levels of infestation. Grasshoppers reached an average density of 65 animals per square yard (with densities of 8 or more per square yard considered economically significant). This followed the already historic outbreak of 2020, when 60% percent of all ODA survey sites recorded significant grasshopper numbers. Such outbreaks often follow or coincide with drought years when high temperatures and low rainfall create ideal conditions for grasshoppers by reducing the impact of predators and diseases that normally control grasshopper numbers. Grasshopper outbreaks are damaging to rangelands where excessive insect numbers result in loss of forage and vegetation cover essential for livestock and wildlife. The loss of vegetation leads to environmental damage and erosion, and may result in starving grasshoppers invading surrounding agricultural areas resulting in costly crop loss.



2021: Oregon counties mapped by infested acreage

<50,000 Acres

1,750,000 Acres<

Treatment

To treat the expected outbreak, Diflubenzuron (trade name Dimilin®) is approved for application to affected acreage. Diflubenzuron is a narrow spectrum insecticide approved by the USDA for treatment of rangeland pest



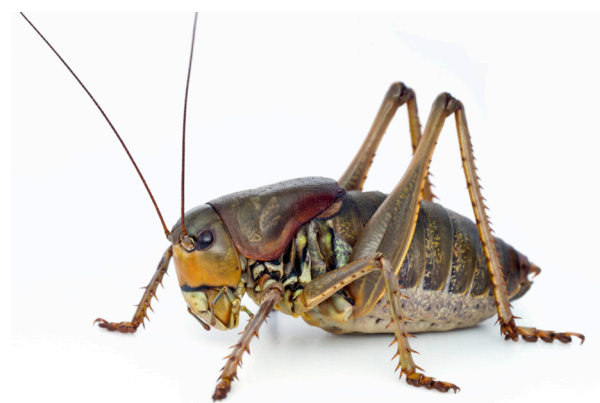
Aerial Application of Treatment
c.1986 during Oregon's last widespread outbreaks

grasshoppers and Mormon cricket. It works by disrupting the growth of the grasshoppers' chitinous exoskeleton, and so must be applied early in the season while the insects are still growing. Adult insects are unaffected. This treatment was selected because when applied according to label requirements, the treatment is low-risk for people, plants, pets, honey bees and other livestock. Unlike many alternatives, Diflubenzuron requires only a single application per season. Costs are further decreased by using Reduced Agent and Area Treatment (RAAT), a technique that reduces pesticide use by more than 50% by applying Diflubenzuron only in alternating treated and untreated strips. This alternating treatment also reduces impacts on non-target organisms and the wider environment, while still achieving up to 85% control of grasshopper pests.

The Major Pests

The state of Oregon is home to over 100 species of grasshoppers. Of these hundred plus species, only 10 are important pests of rangeland and agriculture. The most important grasshopper pests in Oregon are the Spur-throated grasshopper (*Melanoplus*) species in the family Acrididae- Migratory grasshopper (*M. sanguinipes*), Striped sand grasshopper (*M. foedus*), Red-legged grasshopper (*M. femurrubrum*), Packard's grasshopper (*M. packardii*), and Two-striped grasshopper (*M. bivittatus*). Other important pests include: Clear-winged grasshopper (*Camnula pellucida*) Big-headed grasshopper (*Aulocara elliotti*) and Valley grasshopper (*Oedaleonotus enigma*). The Mormon cricket (*Anabrus simplex*) is neither a grasshopper, nor a true cricket but rather a wingless katydid. These grasshopper cousins, which cause similar damage and respond to similar treatments, have been at outbreak levels in Gilliam county since 2017. Mormon cricket outbreaks historically last for 5 to 21 years.

Outbreak Species



Mormon Cricket (*Anabrus simplex*)

Outbreak Species



Two-striped Grasshopper (*Melanoplus bivittatus*)



Clear-winged Grasshopper (*Camnula pellucida*)



Big-headed Grasshopper (*Aulocara elliotti*)



Migratory Grasshopper (*Melanoplus sanguinipes*)



Valley Grasshopper (*Oedaleonotus enigma*)