



# Current Report

Oklahoma Cooperative Extension Fact Sheets are also available on our website at:  
<http://osufacts.okstate.edu>

## Management of Insect Pests in Rangeland and Pasture

Tom A. Royer  
Extension Entomologist

Justin L. Talley  
Extension Entomologist

Arthropod pests of rangeland and pasture rarely become a serious economic problem. Many pest problems can be avoided by developing an Integrated Pest Management (IPM) plan that includes the use of good pasture management practices, proper fertilization, mowing and optimal stocking rates. Pesticide applications should not replace the use of good pasture management practices and should not be applied as "preventative insurance" because it is rarely economically or environmentally justifiable.

Pesticide recommendations in this publication were correct as of the "Modified Date" but always check the label that came with the purchased insecticide for the most current rates and restrictions. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

The number [in brackets] following a product is its Mode of Action number [MOA]. The first name listed is the trade name of a product registered for use in rangeland or pasture for the listed pest. The pesticide name in (parentheses) is the active ingredient name and can be used to select other

registered products containing the same active ingredient if available for sale in Oklahoma. Such products may cost less, so producers should compare prices. Refer to the following publications for additional information on rangeland and pasture pest management

- |           |   |
|-----------|---|
| EPP-7196  | Grasshopper Management in Rangeland, Pastures, and Crops.               |
| NREM-2869 | Management Strategies for Rangeland and Introduced Pastures             |
| NREM-2870 | Drought Management Strategies   |
| NREM-2875 | Intensive Early Stocking  |
| NREM-2581 | Seeding Marginal Cropland to Perennial Grasses                          |
| PSS-2871  | Stocking Rates: the Key to Successful Livestock Production              |
| PSS-2583  | Choosing, Establishing, and Managing Bermudagrass Varieties in Oklahoma |
| PSS-2585  | Forage Legumes for Oklahoma   |
| PSS-2587  | Bermudagrass for Grazing or Hay   |

## Management of Insect Pests in Rangeland and Pasture

<i>Pest, Damage and Treatment Threshold</i>	<i>Insecticide Formulation</i>	<i>Rate of Product/Acre</i>	<i>Comments</i>	
<p><b>Ants (including fire ants)</b> Ants range in size from 1/16 inch to nearly 1/2 inch in length and from light tan to black in color. These social insects live in a colony with thousands of workers. The two most important pest species for rangeland and pasture are the red imported fire ant and the red harvester ant.</p> <p><u>Damage:</u> Fire ants can be an irritant to cattle as they feed. Harvester ants sometimes clear large patches of grass as they feed.</p> <p><u>Threshold:</u> No threshold established.</p>	<b><u>Baits for Grazed Land</u></b>		For all baits: Apply as a broadcast or individual mound treatment when ants are active and soil temperatures exceed 60 F. If treating individual mounds, estimate the mound density, and do not disturb the mound or apply the bait directly on the mound.	
	Amdro Pro[20A]	2 -5 tbs/mound 1.0 - 1.5 lb./acre	0 day wait for grazing, 7 day wait for harvest.	
	Esteem [7C]	2 to 4 tbs/mound 1.5 to 2 lb/acre	1 day wait for harvest. Repeat after 12 to 16 weeks as needed	
	Extinguish [7A]	3-5 tbs/mound 1-1.5 lb/acre	0 day wait for grazing or harvest. Repeat every 10-12 weeks as needed.	
	<b><u>Additional Baits for Non-Grazed Land</u></b>			
	Award [7B]	1-3 tbs/mound 1 to 1.5 lb/acre	May be applied to grazed pastures on horse farms only if horses are not used for consumption.	
	Distance [7C]	1-4 tbs/mound 1.0 to 1.5 lb/acre	1 day wait for harvest. Repeat after 12 to 16 weeks as needed.	
	<hr/>			
	<p><b>Armyworm</b> Caterpillar can reach slightly more than 1 inch. Dark green or brown with 5 stripes along body.</p> <p><u>Damage:</u> Feed on foliage, usually a problem in the spring.</p> <p><u>Threshold:</u> Treat when caterpillars are abundant and foliage is being destroyed.</p>	<p><i>Bacillus thuringiensis*</i> Biobit XL Javelin WG Xen Tari [11B1, B2]</p>		<p>See product label for specific rates</p> <p>*All <i>Bacillus thuringiensis</i> products work best when applied to small caterpillars. Caterpillars cease feeding upon ingestion of product, but will take several days to die. 0 day waiting period.</p>
		Baythroid [3] (beta cyfluthrin)	2.6-2.9 fl oz/A (0.02-0.022 lb ai/A)	0 day waiting period.
Confirm 2F [18]		8 fl oz	0 day waiting period for grazing or harvest.	
Karate w Zeon [3] (lambda cyhalothrin)		2.56-3.84 fl oz (0.2-0.3 lb ai/A)	0 day waiting period for grazing, 7 days for hay.	
Lannate [1A]		0.75 - 3 pt	For Bermuda pasture ONLY. 7 day wait for grazing, 3 days for harvest.	
Malathion [1B]		2 pt	0 day wait for grazing or harvest.	
Methyl parathion 4E [1B]		1.5 pt	Remove livestock when spraying; 15 day wait for grazing or harvest.	
Sevin 80S [1A] Sevin 80 WSP [1A] Sevin 4F [1A] Sevin XLR Plus [1A]		1.25 - 1.875 lb 1.25 - 1.875 lb 2 - 3 pt 2 - 3 pt	For improved pasture only; do not apply more than two applications per season and not more than once every 14 days. Sevin label states a 14 day waiting period for grazing or harvest.	
Tracer [5]		1-2 fl oz	0 day wait for grazing, 3 days for hay or fodder.	
<hr/>				
<p><b>Fall armyworm</b> Large striped caterpillar that reaches 1.5 inches when mature. Has an inverted "Y" in the front of its head.</p> <p><u>Damage:</u> Feed on foliage. Typically a problem in the fall, feeding on the emerged heads.</p>	<p><i>Bacillus thuringiensis*</i> Biobit XL Javelin WG Xen Tari [11B1, B2]</p>		<p>See product label for specific rates</p> <p>Use higher rate for heavy infestations or when plant growth is rapid. A contact insecticide may be added for enhanced control of heavy populations. 0 day waiting period for grazing or harvesting.</p>	
	Baythroid [3] (beta cyfluthrin)	2.6-2.9 fl oz/A (0.02-0.022 lb ai/A)	0 day wait for grazing or harvest.	

<i>Pest, Damage and Treatment Threshold</i>	<i>Insecticide Formulation</i>	<i>Rate of Product/Acre</i>	<i>Comments</i>
<u>Threshold:</u> Treat when worms are abundant and foliage is being destroyed.	Confirm 2F [18]	8 fl oz	0 day wait for grazing or harvest.
	Karate' w Zeon [3] (lambda cyhalothrin)	2.56-3.84 fl oz (0.2-0.3 lb ai/A)	0 day waiting period for grazing, 7 days for hay.
	Lannate [1A]	0.75 - 3 pt	For Bermuda pasture ONLY. 7 day wait for grazing, 3 days for harvest.
	Malathion [1B]	2 pt	0 day wait for grazing or harvest.
	Sevin 80S [1A] Sevin 80 WSP [1A] Sevin 4F [1A] Sevin XLR Plus [1A]	1.25 - 1.875 lb 1.25 - 1.875 lb 2 - 3 pt 2 - 3 pt	For improved pasture only: do not apply more than two applications per season and not more than once every 14 days. Sevin label states a 14 day waiting period for grazing or harvest.
	Tracer [5]	1-2 fl oz	0 day wait for grazing, 3 days for hay or fodder.
	<hr/>		
<b>Grasshopper</b>	<b>PASTURE:</b>		
<u>Damage:</u> Feed on foliage. Can damage from spring through fall, but more of a problem in late summer. Small grasshoppers less than ½ inch are more easily controlled and can be spot treated with foliar spray if nesting sites are mapped out in spring.	Baythroid [3] (beta cyfluthrin)	2.6-2.9 fl oz/A (0.02-0.022 lb ai/A)	0 day wait for grazing or harvest.
	Dimilin 2L (15)	2 fl oz	Apply when majority of grasshoppers are in the 2 <sup>nd</sup> or 3 <sup>rd</sup> instar nymphal stage (less than ½ inches). Do not exceed a total of 2 fl oz per year.
<u>Threshold:</u> Small: 24 to 100 per yard <sup>2</sup> (less than ½ inches)  Large: 8 to 40 per yard <sup>2</sup> (greater than ½ inch)	Karate' w Zeon [3] (lambda cyhalothrin)	2.56-3.84 fl oz (0.2-0.3 lb ai/A)	0 day waiting period for grazing, 7 days for hay.
	Sevin 80S [1A] Sevin 80 WSP [1A] Sevin 4F [1A] Sevin XLR Plus [1A]	1.25 - 1.875 lb 1.25 - 1.875 lb 2 - 3 pt 2 - 3 pt	For improved pasture: do not apply more than two applications per season and not more than once every 14 days. Sevin label states a 14 day waiting period for grazing or harvest in pastures.
	Tombstone [3] (cyfluthrin)	1.6-2.8 fl oz/A 0.025-0.044 lb ai/A	7 day waiting period for grazing or harvest
<b>RANGE:</b>			
	Baythroid [3] (beta cyfluthrin)	2.6-2.9 fl oz/A (0.02-0.022 lb ai/A)	0 day wait for grazing or harvest.
	Dimilin 2L (15)	0.5 – 2 fl oz	Applications of Dimilin may be applied as a Reduced Area & Agent Treatment (RAAT) strip spray. See label for specific directions. Apply when majority of grasshoppers are in the 2 <sup>nd</sup> or 3 <sup>rd</sup> instar nymphal stage (less than ½ inches) Do not exceed 1 fl oz/ acre/year. If second application is needed, wait 2-3 weeks from 1 <sup>st</sup> application.
	Karate' w Zeon [3] (lambda cyhalothrin)	2.56-3.84 fl oz (0.2-0.3 lb ai/A)	0 day waiting period for grazing, 7 days for hay.
	Malathion (1B)	1.5 – 2 pt	0 day wait for grazing or harvest.
	Methyl parathion 4E (1B)	1.5 pt	Remove livestock when spraying; 15 day wait for grazing or harvest.
	Sevin 80S [1A] Sevin 80 WSP [1A] Sevin 4F [1A] Sevin XLR Plus [1A]	0.675-1.875 lb 0.675-1.875 lb 1 – 3 pt 1 – 3 pt	0 day wait for grazing. Do not make more than one application of Sevin per year, and do not exceed 1.0 lb ai/acre per year.
	Tombstone [3] (cyfluthrin)	12.6-2.8 fl oz/A 0.04-0.044 lb ai/A	7 day waiting period for grazing or harvest.

## Pre-harvest Intervals and grazing restrictions

Amdro	7 day waiting period for harvest
Baythroid	0 day wait for grazing or harvest.
Confirm	0 day waiting period for grazing or harvest
Dimilin	0 day waiting period for grazing or harvest
Esteem	0 day waiting period for grazing, 1 day for harvest.
Extinguish	0 day waiting period for grazing or harvest
Karate	0 day waiting period for grazing, 7 days for hay
Lannate	For bermudagrass ONLY. 7 day waiting period for grazing, 3 day waiting period for harvest
Karate	0 day waiting period for grazing, 7 days for hay
Malathion	0 day waiting period for grazing or harvest
# Methyl parathion	15 day waiting period for grazing or harvest
Sevin	14 day waiting period for grazing or harvest
Tombstone	7 day waiting period for grazing or harvest
Tracer	0 day waiting period for grazing, 3 day waiting period for hay or fodder.

\* Numbers in parentheses (#) that follow the insecticide name are used to designate the mode of action of the insecticide according to the classification system developed by the Insecticide Resistance Action Committee, (IRAC) in 2005. It is intended to help in the selection of insecticides for preventative resistance management. If you make multiple applications for a specific pest during a growing season, simply select a registered insecticide with a different number for each application. To further delay resistance from developing, integrate other control methods into your pest management programs.

# All uses of methyl parathion will be prohibited as of December 31, 2013.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0910 GH Revised.