

GRASSHOPPER MANAGEMENT on RANGELAND and NON-CROP SITES

Summary of North Dakota Law Regarding Grasshopper Control Along Roadsides

Townships and Counties

They are authorized to control grasshoppers infesting road rights of way under their authority (1991 law).

● **Requirements**

- Pesticides **must be labeled** for use on forage crops so it **may be hayed**
- Written notice to all landowners or tenants 3 days prior to treatment
 - T** Date of treatment
 - T** Name of pesticide and restrictions on harvest and use of forage
 - T** Must exclude areas opposed by adjacent landowner or occupant

State Highway Rights of Way

Counties may enter into agreement with DOT to control grasshoppers in state highway system rights of way.
(Contact DOT District office)

● **North Dakota Department of Agriculture must approve plan when state funds involved**

- (Contact North Dakota Department of Agriculture at 701.328.4765)
- Request for Approval form is submitted by County Pest Coordinator
 - Plan must include county or township roads
 - Scouting to verify economic infestation
 - Treatments must be made prior to adult stage

Financing Summary

Counties

Governing body may use county emergency fund (57-15-28) to pay for control costs in county road system rights of way and for cost share with townships.

Maximum balance

- 5 mills for large counties (Burleigh, Cass, Grand Forks, Ward)
- 10 mills for small counties

Tax limitation for emergency purposes (57-15-06.7)

- Tax for emergency purposes not to exceed 2 mills.

Townships

Electors may appropriate funds (57-15-19) for controlling grasshoppers in township rights of way. Total annual tax levy (for all purposes) in a civil township may not exceed 18 mills.

Roadside Right of Way Grasshopper Spray Program Considerations

Treatment of grasshoppers when they are young, concentrated in hatching areas, and highly susceptible to lower rates of insecticide is a long standing management strategy.

Roadside right of ways are sometimes major hatching areas for grasshoppers. Infestations are often variable and not all roadsides are likely to be infested. Roadsides that were weedy or had enough green vegetation to attract adult grasshoppers during the previous year's egg laying period are more likely to be infested with eggs. Roadsides adjacent to late season crops that are themselves attractive egg laying sites are also more heavily infested.

Numerous other areas on the farm can also be hatching areas, including:

Fencerows	Last years weedy fields
Shelterbelts	Fields planted to a late season crop last year
Rock piles	especially when summer fallowed this year, such
Grass waterways	as:
Weedy waste areas	Sunflower
Some CRP	Safflower
Alfalfa and haylands	Flax
Last years weedy fallow	Soybean

Treatment timing can be difficult. Egg hatch normally occurs over a 4 - 6 week period and the developing grasshoppers gradually move out from their hatching areas. Spraying too early can miss later hatching grasshoppers while spraying too late allows early hatching hoppers to move into crops and escape treatment and perhaps cause serious crop damage.

What are Reasonable Expectations

1. Roadside programs conducted when roadsides are generally infested and a major contributor as hatching areas can reduce but not eliminate the threat of grasshopper damage.
2. Farmers may be disappointed if they do not make efforts to identify, monitor, and manage other hatching areas.
3. Roadside programs may reduce, but are unlikely to eliminate the need for additional crop protection measures in years favorable for grasshoppers.
4. Roadside programs may contribute to but are unlikely to be responsible for preventing grasshoppers from laying eggs and creating the potential for problems next year.

Roadside Programs should:

1. Include scouting to determine if a sufficient percentage of roadsides are infested to warrant a roadside program. Roadside infestations are frequently spotty and other areas frequently contribute to the grasshopper problem.
2. Treatments should generally be applied prior to significant movement of grasshoppers into fields. Movement normally begins as hoppers approach the 3rd instar. Treatments after adults appear are not effective.
3. Farmers should be encouraged to scout and if necessary treat other hatching areas with threatening populations.

GRASSHOPPERS - Insecticides for Rangeland and Non-Crop Areas - grazed or cut for hay

INSECTICIDE	DOSAGE IN LB AI/ACRE	PRODUCT PER ACRE	RESTRICTIONS ON USE
carbaryl (Sevin)	0.5 - 1.5	rate varies by formulation	Pastures: Preharvest interval is 0 days for aerial application. Rangeland: Aerial application only. Preharvest interval is 0 days. The lower rate (0.5 lb) is suggested for nymphs on small plants or sparse vegetation. The higher rate (1.5 lb) is suggested for mature grasshoppers or when material is applied to crops requiring greater coverage.
Dimilin 2L <i>RUP</i>	0.008 - 0.032	0.5 - 2.0 fl oz	Dimilin (diflubenzuron) is an insect growth regulator. Applications should be timed when the majority of nymphs are 2nd to 3rd instar. This treatment is NOT effective in controlling adult grasshoppers. Allow at least one day after treatment before cutting grass.
Malathion 57EC	1	1.5 pts	No time limitation on grazing or cutting.
Malathion ULV	0.6	8 oz/acre	Aerial application. Applied alone or dissolved in diesel oil at 1 p/A . No time limitation on grazing or cutting.

RUP - Restricted use pesticide

GRASSHOPPERS - Insecticides for non-crop areas - NOT grazed or cut for hay

INSECTICIDE	DOSAGE IN LB AI/ACRE	PRODUCT PER ACRE	RESTRICTIONS ON USE
acephate 75% (Orthene, Address)	0.25	0.33 lb	Use for early to mid-season applications. DO NOT GRAZE OR FEED vegetation cut from treated area.
Asana XL <i>RUP</i>	0.015 - 0.03	2.9 - 5.8 fl oz	Labeled for use on non-cropland adjacent to tilled areas to control migrating insects, including armyworms. DO NOT FEED TREATED CROP to livestock.
Warrior <i>RUP</i>	0.02 - 0.03	2.56 - 3.84 fl oz	Labeled for control of grasshoppers on non-cropland adjacent to crops registered for the use of Warrior. FEEDING HAY OR GRAZING LIVESTOCK in treated areas is PROHIBITED.

RUP - Restricted use pesticide