



HOPPERS

USE

- Aldrin
- Heptachlor
- Dieldrin
- Chlordane
- Toxaphene

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Avoid applying insecticides on legumes when the plants are in bloom; otherwise, bees and other pollinating insects will be killed.

If treatment is absolutely essential when crop is in bloom, apply insecticides during the evening or early morning.

Pastures: Grasshoppers on range and pasture can be controlled effectively with insecticidal sprays. The safest insecticides to use on pastures are heptachlor and aldrin. The waiting period for these two chemicals is less than for other recommended insecticides.

CAUTION: Livestock feeding upon treated grass or forage may not be affected by the insecticidal treatment; however, the chemical may appear in the milk or meat of such livestock. Therefore, there must be a waiting period following applications of insecticides to pastures or forage before it can be used for livestock feed.

FORMULATIONS AND DOSAGES

In North Dakota, grasshopper control can be done by ground sprayer or airplane. When using ground spraying equipment, adjust the sprayer to apply from 5 to 10 gallons of spray per acre. The airplane is calibrated to spray from 1 to 2 gallons of spray per acre. There are many different formulations of grasshopper insecticides on the market. In the ground sprayer, it is best to use the emulsifiable concentrates and dilute with water. The airplane may use either the emulsifiable concentrates or the oil solutions. The oil solutions must be mixed with kerosene or fuel oil instead of water.

When applying insecticides for grasshopper control, it is important that the user follows recommended dosages closely and that he allows sufficient time between the last insecticidal application and harvest to avoid chemical residues. The waiting period will vary with the insecticides used. Note last column in following table:

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CHEMICAL	DOSAGE (Actual toxicant per acre)	RECOMMENDED RATES TO USE	WAITING PERIOD
Aldrin 23.41% (2 lbs. actual per gal.)	2 to 4 ozs.*	½ to 1 pt.	15 days
Heptachlor 23.41% (2 lbs. actual per gal.)	2 to 4 ozs.*	½ to 1 pt.	7 to 10 days
Toxaphene 60% (6 lbs. actual per gal.)	1 to 1½ lbs.	1 1/3 pts. to 2 pts.	35 days
Dieldrin 15.8% (1½ lbs. actual per gal.)	1 to 2 ozs.	3/8 to 3/4 pt.	30 days
Chlordane 45% (4 lbs. actual per gal.)	½ to 1 lb.	1 pt. to 1 qt.	30 days

* The lower dosages are for sprays to control young grasshoppers. The higher dosages are needed for adult grasshopper control.

PRECAUTIONS:

All insecticides recommended for grasshopper control are poisonous to man and animals, but diluted sprays are not dangerous to handle if ordinary precautions are followed.

The labels on the insecticide containers will give the necessary information on the proper use and handling of the chemical. Be sure to read this label before using. It is for your protection.

North Dakota Agricultural College and the United States Department of Agriculture Cooperating. E.J. Haslerud, Director of Extension Service. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.