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Control Grasshoppers with Insecticides

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CONTROL GRASSHOPPERS WITH INSECTICIDES

THERE ARE A NUMBER of insecticides that will control grasshoppers—malathion, parathion, aldrin, chlordane, dieldrin, heptachlor, and toxaphene. Your choice of chemical will depend upon the crop or situation where used, length of residual, and local availability.

On pastures and forages, such as alfalfa and clover, there are zero tolerances for most of the effective grasshopper control chemicals. If pastures are grazed by milk cows or if hay is to be fed to milk cows or is sold, do not treat with aldrin, dieldrin, heptachlor, chlordane, or toxaphene. Meat animals may be fed on toxaphene-treated plants up to 6 weeks before slaughter.

The rates of application given here are a lower and upper range. The rates are expressed in terms of actual insecticide per acre. Use lower rates on young, newly-hatched grasshoppers in short, dense, leafy vegetation. Use the higher dosages in tall dense vegetation, when the 'hoppers are full grown, if the vegetation is dry, or when the temperatures are high.

These chemicals are usually available in different formulations—oil solutions, emulsifiable concentrates, wettable powders, and dusts. In the average low volume, low gallonage farm sprayer use only the emulsifiable form. The principal emulsion formulations and amounts to use per acre are given in the table. The oil solutions may be diluted with an oil such as diesel fuel and are used mainly in airplane spray equipment. The wettable powders are designed for use in high gallonage, high pressure sprayers with mechanical agitation. The dust forms are to be used in dusters and applied dry.

GRASSHOPPER CONTROL ON FIELD CROPS

Aldrin—2 to 4 ounces per acre

Dieldrin—1 to 2 ounces per acre

Toxaphene—1 to 1½ pounds per acre

These materials may be used up to 7 days before harvest (except barley which requires a 14 day wait-

PRECAUTIONS

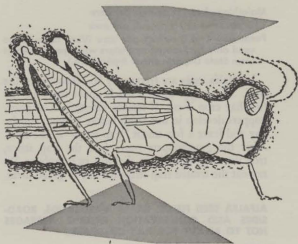
Always read and follow instructions on the label. If in doubt, consult your county agricultural agent. Important points to observe are:

1. Use insecticides only on crops for which they are recommended.
2. Use only amounts recommended. Do not overdose.
3. Observe the waiting periods before feeding or grazing.
4. Observe label precautions in handling the insecticide.
5. Store insecticides in a safe place away from children and animals.

By William M. Hantsbarger, Extension Entomologist

Control Grasshoppers with Insecticides

Cooperative Extension Service



ing period). Do not feed ensilage or straw treated with dieldrin, aldrin, or toxaphene to dairy animals or animals being finished for slaughter.

Most grasshoppers attack cultivated crops from field margins, conservation reserves acreages, fence rows, and roadsides where eggs were deposited. You will get the most satisfactory and economical control by spraying these sources of infestations before the insects move into the field. Spray just after the hatch is completed while the grasshoppers are still very small and concentrated. These areas may also be sprayed in the fall when the 'hoppers are concentrating to lay eggs, but full grown 'hoppers are harder to kill than young ones.

If the grasshoppers have spread into a field from

one or more edges, control them by spraying the invaded area plus a band several yards wide beyond the line of advance.

If the insects have spread all through a field because of migration, then you must treat the whole field.



FORAGES, ALFALFA AND CLOVER, PASTURES, AND RANGES

Malathion—1 to 1½ pounds per acre

Toxaphene—1 to 1½ pounds per acre

Parathion—4 to 8 ounces per acre (Very toxic—to be used only by licensed operators with special permit from State Department of Agriculture.)

In alfalfa, eggs are frequently laid throughout the field. These eggs usually hatch about the time the first hay crop is cut. If serious infestations of grasshoppers develop in hay fields before harvest, cut the hay and leave a few uncut "trap strips" in the field. After the grasshoppers move into the trap strips, treat the strips with aldrin, dieldrin, or toxaphene. Do not cut the treated trap strips for hay or graze them.

ALFALFA SEED FIELDS, GRASS WASTELANDS, ROADSIDES AND CONSERVATION RESERVE ACREAGES NOT TO BE CUT FOR HAY OR GRAZED

Aldrin—2 to 4 ounces per acre

Dieldrin—1 to 2 ounces per acre

Heptachlor—2 to 4 ounces per acre

Toxaphene—1 to 1½ pounds per acre

Chlordane—½ to 1 pound per acre

Formulations of insecticides and amounts to use per acre

| Formulation | Amount to use per acre |
|-------------------|---|
| Aldrin | 2 pounds per gallon emulsion concentrate ½ to 1 pint |
| | 4 pounds per gallon emulsion concentrate ¼ to ½ pint |
| Chlordane | 4 pounds per gallon emulsion concentrate 1 pint to 1 qt. |
| | 8 pounds per gallon emulsion concentrate ½ pt. to 1 pt. |
| Dieldrin | 1½ pound per gallon emulsion concentrate ½ to ¾ pint |
| Heptachlor | 2 pounds per gallon emulsion concentrate ½ to 1 pint |
| Malathion | 5 pounds per gallon emulsion concentrate 1½ to 2½ pts. |
| | 8 pounds per gallon emulsion concentrate 1 to 1½ pints |
| Toxaphene | 6 pounds per gallon emulsion concentrate 1½ pts. to 1 qt. |

Do not spray alfalfa seed fields while in bloom because of the danger to bees working in the field. If it is necessary to spray during the bloom period, apply toxaphene from 7 p.m. to 7 a.m. when the bees are not working.

GARDENS AND YARDS

Gardens and yards may be protected from grasshoppers by spraying or dusting the margins of the gardens to kill the pests before they move in. Do not treat edible vegetables with aldrin, dieldrin, chlordane, heptachlor, or toxaphene which would leave harmful residues. Malathion at 1 to 1½ pounds per acre could be used on gardens, but wait 7 days before eating any above-ground plant parts.