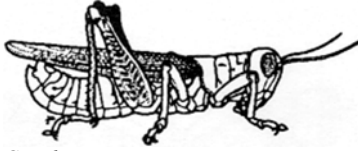


## Dry Beans XIII-4

### Grasshoppers

*Gary L. Hein & Frank B. Peairs*



*Grasshopper.*

Four species of grasshoppers are mainly associated with damage to cropland. These include the redlegged, two-striped, migratory, and differential grasshoppers. Damage to dry beans is normally confined to fields planted next to grasshopper hatching areas when the hoppers move out from these areas in mid season.

#### **Identification (and life cycle/seasonal history)**

The grasshopper species that invade cropland overwinter in the egg stage. They begin to hatch in late May and early June and continue to hatch for about a month. Populations increase through June as does their damage potential. Extended cool (less than 65°F) and rainy weather during hatching can cause severe mortality of the young nymphs and can substantially reduce the buildup of grasshopper populations. Grasshoppers will develop through five immature stages before they become adults. This development will take about five to six weeks. When the grasshoppers become adults beginning in late June and early July they often move out of the hatching areas and into field crop areas. These infestations are often limited to field margins, but extreme populations can produce serious defoliation well into the field. Egg-laying will begin in mid to late summer and continue until the grasshoppers are killed off by frost in the fall. Grasshopper feeding activity begins during the daytime when temperatures rise above 70°F.

#### **Plant Response and Damage**

Grasshopper damage is generally limited to the margins of fields as grasshoppers move out of adjoining hatching areas. In mid-summer, the increased mobility of adult grasshoppers, coupled with the drying down of original food sources increases the damage potential to field crops. If a heavy grasshopper hatch occurs, grasshopper nymphs can move into bean fields and destroy emerging beans by consuming the cotyledons and the growing point of the small plants. If grasshopper densities are great at this time, the damage to these emerging fields can proceed quite rapidly and result in nearly complete stand loss near the borders.

#### **Management Approaches**

Tillage operations will reduce grasshopper egg survival; therefore, untilled areas are the major hatching areas for grasshoppers. Many of these untilled areas are very attractive to

grasshopper because of the mixture of both grasses and broadleaf weeds. The attractiveness of these areas to grasshoppers can be significantly reduced by eliminating the broadleaf weeds and establishing solid grass cover.

If grasshoppers along field margins are defoliating dry beans extensively, insecticide treatments would be warranted. If the population level exceeds 20 hoppers per square yard in the margins, and they are beginning to move into the field, a treatment should be considered. If they have spread through the field, then a treatment should be considered if they exceed 8 per square yard. Adult grasshoppers are much more difficult to control than the smaller nymphs, so in years where extremely high grasshopper numbers are present early treatment of hatching areas before the grasshoppers become adults may reduce the impact of the grasshoppers later in the season. These treatments should be targeted when the grasshoppers are smaller nymphs, about mid June.

*Product List for Grasshoppers:*

<b>Insecticide</b>	<b>Product per Acre</b>	<b>Preharvest Interval, remarks</b>
Asana XL <sup>RI</sup>	5.8-9.6 oz./A	PHI 21 days; REI 12 hrs.
cyfluthrin <sup>RI</sup> (Baythroid, generics)	See label for rates.	PHI 21 days; REI 12 hrs.
dimethoate <sup>I</sup> multiple formulations	See labels for rates	PHI see label; REI 48 hrs.
Mustang MAX <sup>RI</sup>	3.2-4.0 oz./A	PHI 21 days; REI 12 hrs.
Orthene/acephate multiple formulations	See label for rates	PHI 14 days; REI 24 hrs
Sevin/carbaryl <sup>I</sup> multiple formulations	See label for rates	PHI 21 days; REI 12 hrs.
Lambda- cyhalothrin <sup>RI</sup> (Warrior, generics)	See label for rates.	PHI 21 days; REI 24 hrs.
<sup>R</sup> Restricted use pesticide <sup>I</sup> Labeled for chemigation		

*The information herein is supplied with the understanding that no discrimination is intended and that listing of commercial products, necessary to this guide, implies no endorsement by the authors or the Extension Services of Nebraska, Colorado, Wyoming or Montana. Criticism of products or equipment not listed in neither implied nor intended. Due to constantly changing labels, laws and regulations, the Extension Services can assume no liability for the suggested use of chemicals contained herein. Pesticides must be applied legally complying with all label directions and precautions on the pesticide container and any supplemental labeling and rules of state and federal pesticide regulatory agencies. State rules and regulations and special pesticide use allowances may vary from state to state: contact you State Department of*

*Agriculture for the rules, regulations and allowances applicable in your state and locality.*

Categories: Dry Beans, Grasshopper

Date: 04/24/2006