

Dry Bean Management Concerns

Insects

Phillip Glogoza
Extension Entomologist



Wireworm





**Wireworm
feeding sites**

Wireworm Bait Station

Best use may be in the fall . . . Check before freeze OR dig up grain in the spring.



- Recommend 10 to 12 stations per 40 acres, randomly placed in the field . . .
- Time consuming . . .
- History of wireworm ?





Seedcorn Maggot

- Attack bean seed which prevents sprouting or weakens seedling
- most severe in wet, cold seasons

- Seedlings that emerge may lose their cotyledons
- prevention is with the use of seed treatments
- Lindane, Lorsban 50SL, others?



Cutworms can get the JUMP on everything



- Army cutworm and Dingy cutworm overwinter as partially grown larvae;
- Army cutworm are problem in southwest ND by late April;
- Dingy cutworm in early May, from the Valley to the north central counties

If that isn't enough . . .

- Red backed cutworm hatch in spring and are problems by early June;
- Crops, such as corn, sunflower and beans can be eaten off below ground.
- Impossible to control when below ground feeding!



Cutworm Damage



Typical plant cutting by older cutworm larvae

Cutworm eating into corn stalk from below ground



Cutworm Damage



Typical plant cutting by older cutworm larvae

Cutworm found below ground at base of cut plants



Cutworm

Treat when 1 cutworm or more is found per 3 feet of row and small larvae (< 3/4 inch) are present. Application rates of 15 to 20 gallons of water per acre by ground application is suggested.

acephate (Orthene 75S, Address 75S

Asana XL*

carbaryl (Sevin)

** restricted use insecticide*

Efficacy of Insecticides for Control of Black Cutworm Larvae in Corn, Illinois, 1996

Source: Shaw, Steffey, Gray, and Finger, University of Illinois

<u>Treatment</u>	<u>Method</u>	<u>Rate/Acre</u>	<u>Mean % Cut Plants</u>	
			<u>3 DAI</u>	<u>10 DAI</u>
Aztec 2.1G	band	6.7 oz./1,000 ft	27.4	35.8
Force 3G	band	5 oz./1,000 ft	21.7	26.7
Lorsban 4E	rescue	1 pint	16.7	26.2
Lorsban 4E	rescue	2 pints	15.1	16.8
Lorsban 4E	band	2 pints	33.3	33.3
Lorsban 15G	band	8 oz./1,000 ft	35.0	41.7
Pounce 3.2EC	rescue	4 fl. oz.	5.5	5.5
Pounce 3.2EC	pre-emerge	4 fl. oz.	23.3	35.0
Scout X-Tra	rescue	2.28 fl. oz.	7.2	8.8
Warrior 1EC	pre-emerge	2.56 fl. oz.	20.0	35.0
Untreated Check	-----	-----	39.5	54.6

DAI = Days after infestation

MAJOR CROPLAND GRASSHOPPERS



TWO-STRIPED



PACKARD



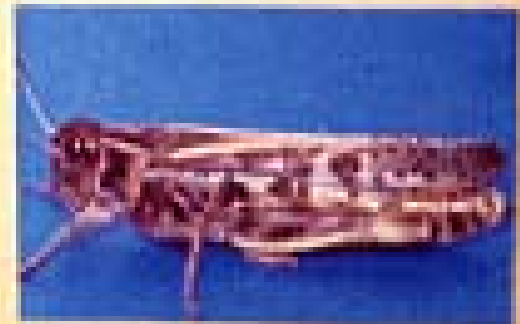
MIGRATORY



DIFFERENTIAL



RED-LEGGED

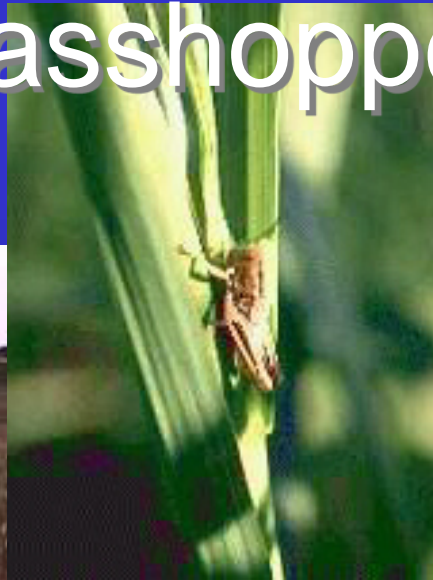


CLEAR-WINGED

Grasshopper Seasons



May - June



July - August



August - Sept



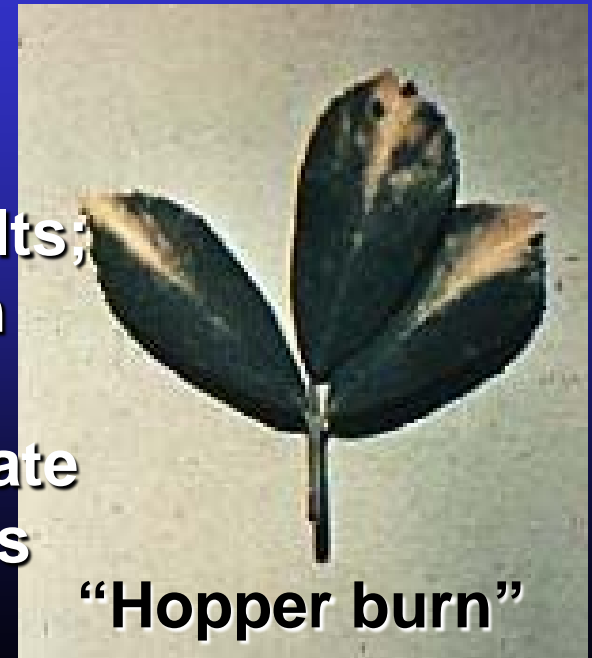
Grasshopper Infestation Ratings



<u>Rating</u>	<u>Nymphs / sq. yd.</u>		<u>Adults / sq. yd.</u>
	<u>margin</u>	<u>field</u>	<u>field</u>
Light	25 - 35	15 - 25	3 - 7
Threatening	50 - 75	30 - 45	8 - 14
Severe	100 - 150	60 - 90	15 - 28
Very Severe	200+	120+	28+

Insects with Piercing - Sucking Mouthparts

Potato Leafhopper



- Nymphs more injurious than adults;
- nymphs walk sideways, found on undersides of leaf;
- One leafhopper nymph per trifoliate
- do NOT allow damage to progress to the point where yellowing of foliage has occurred.

Insects with Piercing - Sucking Mouthparts



Lygus bugs

- Prefer to feed on flower and leaf buds
- toxin in saliva can abort flowers and cause poor development of seeds



Insects with Piercing - Sucking Mouthparts



Bean Aphid



- black in color
- feed on stems and underside of leaves
- NOT a major problem in ND

Leafhoppers

Treat when an average of 1 leafhopper nymph per trifoliolate is found.

Aphids

No treatment guidelines for aphids.

acephate (Orthene 75S, Address 75S)

Asana XL*

Di-syston G*

dimethoate

Malathion

Penncap-M*

Thimet 20G*

** restricted use insecticide*

Spider mites



- Can be a problem during hot dry weather.
- Control decisions difficult.

- Leaves turn blotchy or stippled;
- infested plants take on a droughty appearance.



Tunneling Caterpillars



Common Stalk Borer

European Corn Borer



- Corn borer may tunnel into bean pods . . . Difficult to scout and prevent.

Other Caterpillars

- **Green Cloverworm**
- **Velvetbean caterpillar**
- **Saltmarsh caterpillar
(woolly bear)**

