

PLANT DISEASE AND INSECT ADVISORY



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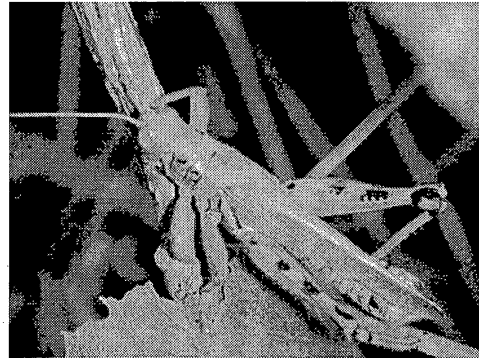
Website: <http://plants.okstate.edu/Pddl/advisory.htm>

June 11, 2002

Don't Delay Grasshopper Control Tom A. Royer, Extension Entomologist

Grasshopper numbers are at historic highs in many parts of the state if my phone conversations are accurate. As promised, I have included the counts from some of our grasshopper surveys in western Oklahoma (see table on next page). Numbers appear to be high enough to justify spraying in some situations.

I have been asked often this year "Why are the numbers not being reduced this year even though I have had some heavy rainfall events?" I can't provide a definitive answer, but I can go back to my plant pathology training and the description of the disease triangle. It states that a host, the disease-causing organism, and favorable environmental conditions must all be present before a plant disease outbreak can develop. Apparently the presence of the disease-causing organism is lacking in our grasshopper populations.



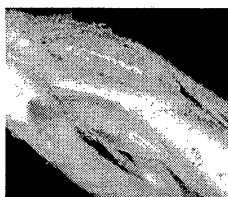
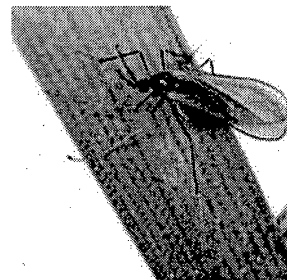
The best time to control grasshoppers is now through about July 1, while they are immature. They will be nearly impossible to control when they become adults. They become more difficult to control as they become 4th and 5th instar nymphs. In rangeland, control is probably not justified unless numbers exceed 16 per square yard. Dimilin 2L is registered for use in rangeland to control grasshoppers. It can be applied as a Reduced Agent and Area Treatment (RAAT). This involves applying it as a strip spray, with coverage ranging from 50 to 90%. The chemical works by interfering with the molting process of the immature grasshopper and must be ingested by the nymph to work.

I must caution producers that Dimilin is not registered for use in improved pasture, and therefore is not legal to use. Even if it were legal to use, coverage would probably have to be at the 90% level because the forage grows rapidly enough to create a large amount of untreated foliage that would become available for consumption by the grasshoppers. Other products that are registered for pasture should be used instead. They include Sevin XLR Plus, Malathion 5E, or methyl parathion. Rates are listed in Pages 228-229 of E-832, the 2002 OSU Extension Agents' Handbook.

County	Site	Grasshoppers/square yard
Ellis	1	26.5
	2	20.0
	3	NA
Jefferson	Treated Demo	NA
	1	38.5
	2	8.5
	3	15.5
Woodward	Treated Demo	19.5
	1	34.5
	2	12
	3	29.5
	Treated Demo	NA

Hessian Fly Reported in Oklahoma Wheat Tom A. Royer, Extension Entomologist

Hessian fly has been reported in several wheat fields in Oklahoma this spring. The presence of this insect is unusual in Oklahoma, and represents the first infestations that I have seen in the state since my arrival 5 years ago. So far, infestations have been reported by Roy Don Hanan, from a producer's field in McClain County, and Gene Krenzer from his research plots in Logan County. I collected some samples from McClain County and sent them to Purdue University to be identified to biotype. Once the biotype is identified, I may be able to suggest some resistant varieties that can be considered for planting in infested areas. Unfortunately, these infestations have already done their damage, and the producer has no options for control. In fact, there is little that a producer can do to control spring infestations of Hessian fly.



The adult Hessian fly is a tiny insect about one-eighth of an inch long and resembles a gnat. The damaging stage is the larva, which looks like a shiny, white headless/legless maggot that measure up to 3/16 of an inch. When mature, they form a 1/8 inch long puparium that is commonly referred to as a "flaxseed".



A flaxseed is dark brown and looks like a grain of rice.

There are 2 main generations that occur, a fall infestation and a spring infestation. Hessian fly injury is caused by larval feeding on stem tissue at the crown of young plants or just above the nodes of jointed wheat. During a fall infestation, young infested plants become dark-green to bluish green in color and are stunted with thickened leaves. Often, secondary tillers fail to

develop. To confirm an infestation, the plant and roots should be removed from the soil and inspected for maggots or flaxseeds by gently pulling the leaf sheath away from the stem and examining the crown area.

In a spring infestation, the stem is often injured, and will lodge. A heavily infested field looks like it has suffered hail damage. In such fields, the lodged plants will nearly always contain flaxseeds that are inserted at the first joint of the stem, just under the leaf sheath. There is no effective insecticide control for spring infestations.

Control: As stated earlier, Hessian fly infestations are rare in Oklahoma, probably due to the drier environment that exists in most of the wheat belt. Even so, it can be a problem in some years. There are just a few control options that are effective. If fields are planted later, say in October, the risk of a fall infestation will be reduced. There are 16 known biotypes of Hessian fly. If the most common biotypes of the Hessian fly are known, resistant varieties can be planted. Infested stubble should be buried at least two to four inches below the surface. Volunteer wheat should be destroyed as soon as possible if summer rains stimulate germination in the field. Seed can be treated with Gaucho or Cruiser insecticide to control fall infestations. If wheat must be planted earlier for grazing, consider using a resistant variety or have the seed treated with insecticide. Either resistant varieties or seed treatment will reduce the incidence of a fall infestation, and resistant varieties will reduce the incidence of a spring infestation as well.

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