



EXTENSION



DEPARTMENT OF
**ENTOMOLOGY AND
PLANT PATHOLOGY**
Ferguson College of Agriculture

Entomology and Plant Pathology, Oklahoma State University
127 Noble Research Center, Stillwater, OK 74078
405.744.5527

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Alfalfa Insect Update – 15 June 2020

Kelly Seuhs, Associate Extension Specialist
Department of Entomology & Plant Pathology
Oklahoma State University - 127 Noble Research Center
405-744-6456

Managing Grasshoppers in Alfalfa

Increasing population densities of grasshopper in pasture and field crops, including alfalfa, have been observed. At this time of year, development is mostly in the first to third instar making now a good time to evaluate control options. Producers should not wait until grasshoppers have reached the winged adult stage in early to mid-July, when control is more difficult (Fig. 1). As winged adults, grasshoppers are more mobile and able to fly long distances searching for food. Grasshoppers normally build along field edges, and that is the best place to scout and treat when high numbers begin developing. Treating border areas is much cheaper than treating whole fields.

Life Cycle and Damage. Grasshopper species that damage field crops such as alfalfa typically complete one generation per year. In Oklahoma, three of the most common species are the differential, two-striped, and red-legged grasshoppers (Fig. 2, 3, and 4). These grasshoppers overwinter as eggs laid in soil, usually along fences, roadsides, and in pastures rather than in field crops. Nymphs hatch from these eggs in late spring (May and June) and feed on grass and broadleaf weeds outside of fields until mid-summer when they become large nymphs or adults. As plants in non-cropland areas typically mature and become less palatable, grasshoppers then begin migration into adjacent fields and, depending upon population densities, may feed extensively on alfalfa or other available crops. While potential defoliation of alfalfa is a concern, they also pose a serious problem in seed production because they often feed primarily on fruiting structures once alfalfa is in bloom and can cause 100% loss of the seed crop, especially near field edges.

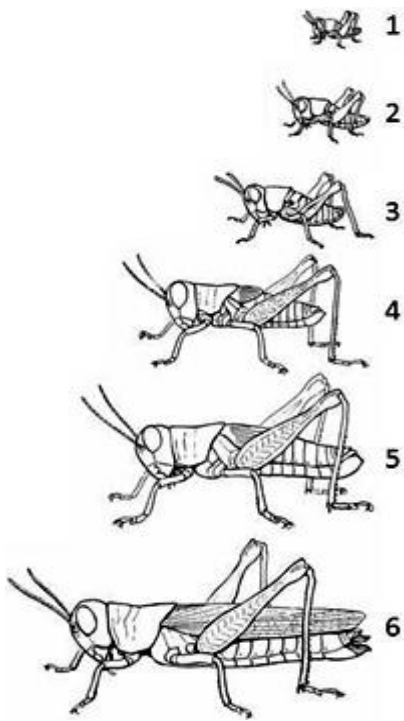


Figure 1. Nymph to Adult stages



Figure 2. Differential



Figure 3. Two-striped



Figure 4. Red-legged

Sampling and Control. Grasshopper population densities are typically estimated while walking in areas near field margins. As grasshoppers fly out of foliage, numbers per square yard are estimated. The listed economic threshold for spraying to control grasshoppers in alfalfa forage production is 15-20 hoppers/sq. yd. However, this does not apply to seed production. After alfalfa begins flowering, the aforementioned levels may result in seed losses greatly exceeding the cost of control. It is critical that grasshoppers be controlled in adjacent fence-rows, pastures, and other surrounding areas before migration into alfalfa begins. Controlling grasshoppers in areas adjacent to fields in June is effective since hoppers are sprayed while they are still small nymphs. Applications made at this time may prevent serious losses in seed production later and preserve pollinators. Additional information on control of grasshoppers can be found in OSU Extension Factsheet_No. 7150_

Disease and Insect Diagnostic Laboratory

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