

Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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Grasshoppers increasing in Western Kansas

Weather patterns can have a significant impact on grasshopper populations year to year. Hot, dry summers increase survival of nymphs and adult grasshoppers, leading to increased egg production during the growing season. Cool, wet weather promotes fungal pathogens that can reduce egg and nymph survival, but if the following spring is warm and wet, egg hatching will increase and more nymphs survive. So, several years of hot, dry summers followed by warm, wet springs can eventually lead to large populations of grasshoppers in some regions.

As the weather in western Kansas continues to be hot and dry this summer and areas of drought increase, larger populations of grasshoppers going into the fall season could be possible. This year's USDA Rangeland Grasshopper Hazard map (Figure 1) may explain the recently observed buildup of grasshoppers along field edges and in grassy areas. As non-crop sources of food are exhausted, grasshoppers will shift their grazing over to anything still growing in the landscape. In areas with greater grasshopper pressure seedling alfalfa and wheat could be at risk.

Before planting alfalfa, treatment should be considered if there are 15 or more grasshoppers per square yard around the planting area. Once planted and growing, consider treatment if 3-5 grasshoppers per square yard are found in the seedling alfalfa stand.

Vegetated borders around areas where wheat will be planted should be scouted 10 days before planting. Consider treating those borders if there are 7 to 12 grasshoppers per square yard. Once growing, 3 or more grasshoppers per square yard within the field can destroy seedling wheat stands. If grasshopper populations are low to moderate, seed treatments can protect emerging wheat plants for several weeks if products are applied at the highest registered rate. Seed treatments will be less effective under severe

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grasshopper pressure. Avoid planting too early as this will help reduce the time that wheat will need to be protected.

In either crop, depending on the products used and severity of the season's grasshopper buildup, multiple applications might be necessary. Please refer to the most recent Alfalfa and Wheat Insect Management Guides for specific control information.

Alfalfa Insect Management Guide: <http://www.bookstore.ksre.ksu.edu/pubs/MF809.PDF>

Wheat Insect Management Guide: <http://www.bookstore.ksre.ksu.edu/pubs/mf745.pdf>

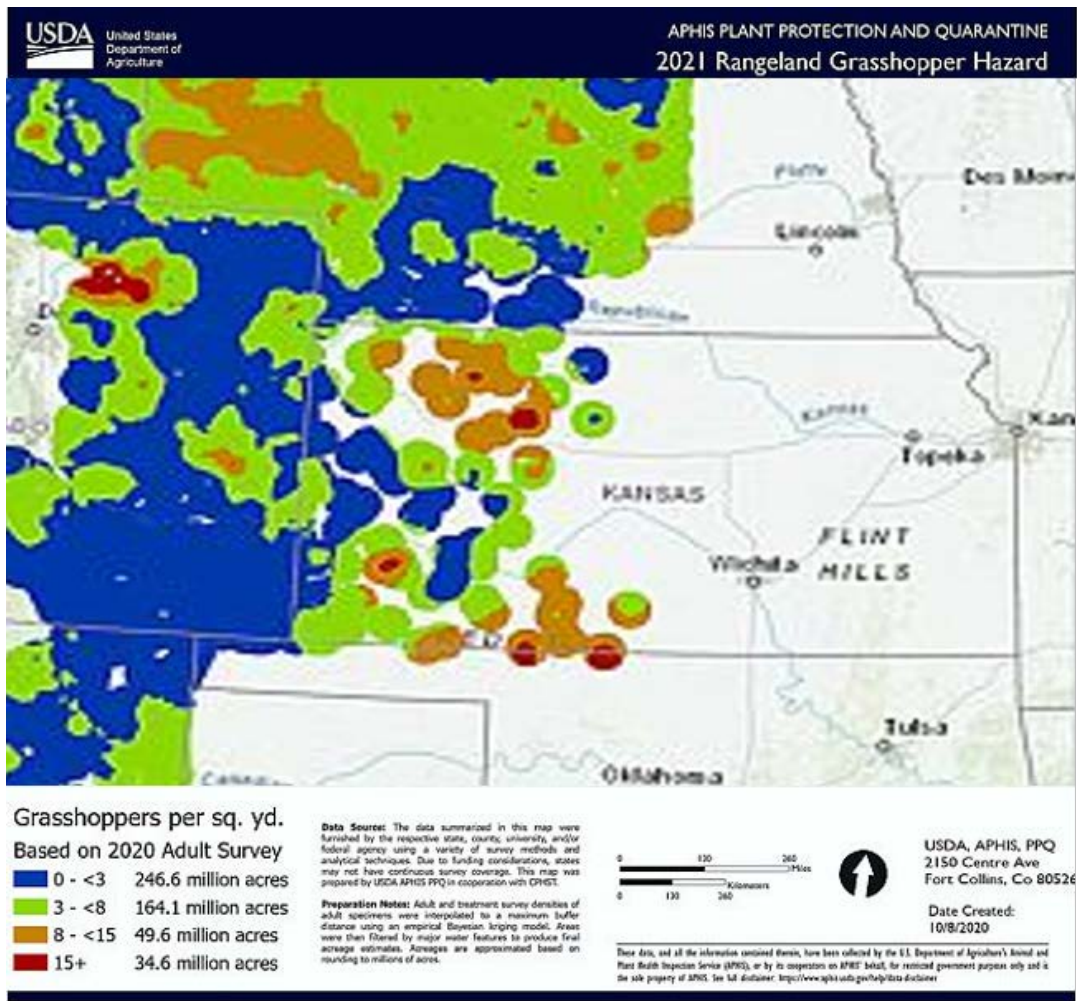


Figure 1. Areas shaded in orange and red could experience increased grasshopper pressure through this fall.

Anthony Zukoff -- Southwest Research and Extension Center

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Fall Webworm

The second generation of the fall webworm, *Hyphantria cunea*, is now present throughout most of Kansas with webs present on certain trees such as hickory and walnut. Fall webworm nests are noticeable, with silk webbing enclosing the ends of branches and foliage or leaves (Figures 1 and 2). Fall webworm larvae or caterpillars are pale-green, yellow to nearly white, with two black spots on each abdominal segment. Caterpillars are covered with long, white hairs (Figure 3). Fall webworm caterpillars feed on a wide range of trees, including: birch, crabapple, maples, hickory, pecan, mulberry, and walnut. Fall webworm caterpillars, unlike caterpillars associated with the eastern tent caterpillar, *Malacosoma americanum*, remain within the enclosed webbing and do not venture out to feed. Caterpillars consume leaves, resulting in naked branches with webbing attached, which contains fecal deposits (frass) or 'caterpillar poop'. These nests will eventually dry-up as the caterpillars transition into pupae, with adults eventually eclosing (emerging) from the pupae later on in the growing season.

Figure 1. Fall webworm nest on walnut tree (Raymond Cloyd, KSU)



Figure 2. Fall webworm nest on birch tree (Raymond Cloyd, KSU)



Feeding by fall webworm caterpillars at this time of year is typically not directly harmful to trees—especially larger trees. The most effective method of dealing with fall webworm infestations is to prune-out the webs that enclose the caterpillars, place into a plastic bag, and dispose of immediately. Insecticide sprays are not be effective because the caterpillars remain in the webbing while feeding; thus reducing exposure to spray residues. If insecticides need to be applied, use high-volume spray applications that penetrate the protective webbing, or use a rake to disrupt or open-up the webbing so that the insecticide spray contacts the caterpillars.



Figure 3. Close-up of fall webworm larvae (Raymond Cloyd, KSU)

Raymond Cloyd—Horticultural Entomology

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Fall Armyworm

Fall armyworm, *Spodoptera frugiperda*, caterpillar infestations are prevalent throughout Kansas with the caterpillars causing damage to turfgrass (e.g. Bermuda grass). For information on Identification, Description, Damage, and Management strategies please refer to the two-page extension publication using the following link:

<https://hnr.k-state.edu/extension/info-center/common-pest-problems/common-pest-problem-new/Fall%20Armyworm.pdf>

Raymond Cloyd—Horticultural Entomology

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Worms, Worms, Worms (Fall armyworms, armyworms, Alfalfa caterpillar)

"Worms" have been voraciously feeding throughout at least the eastern 2/3's of Kansas for about the last 3 weeks. However, they have only recently gotten large enough to cause considerable damage and thus concern. The main problem in alfalfa, so far, seems to be a combination of fall armyworms (see fig 1), armyworms (see fig 2), and somewhat surprising, alfalfa caterpillars (see fig 3).



Figure 1: Fall armyworm



Figure 2: Armyworm



Figure 3: Alfalfa caterpillar

Alfalfa caterpillars are usually quite common in alfalfa and soybeans, however, not at the densities detected this year. Alfalfa caterpillars pupate then emerge as the common yellow (see fig 4) or white butterflies usually seen flying around alfalfa and soybean fields.



Regardless of which larval species, it is apparent that the majority of the larvae are relatively mature and thus will be/or are pupating soon. Pupation will probably take 4-5 days. Then the adults will emerge, mate and start depositing eggs. These eggs will hatch, and then in 4-7 days the new, but very small, larvae will start the feeding process all over again. Armyworms (fig 2) will attack mainly grasses, i.e. brome, late-planted sorghum, wheat, etc. Alfalfa caterpillars (fig 3) will mostly stay in alfalfa or soybeans, before they get too mature, and fall armyworms (see fig 1) may feed on just about any crop. However, sorghum should only be susceptible to "headworms" from flowering until soft dough. All three species may have at least one more generation, if not more, until a hard freeze puts a stop to them.

Figure 4: Adult alfalfa caterpillar

Jeff Whitworth—Field Crops

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Grasshoppers

"Worms" are not the only pests feeding on crops right now! Grasshoppers (see fig 5) are especially numerous this year and will also continue to feed into the fall and continue to deposit eggs in the soil mainly in undisturbed areas adjacent to crop fields. (All pictures by Cody Wyckoff)



Figure 5: Grasshopper feeding in corn

Jeff Whitworth – Field Crops

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Bug Joke of the Week

Q: How Do Fireflies Start A Race?

A: Ready, Set, Glow!

Raymond Cloyd—Horticultural Entomology

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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