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Everyone interested in forages is welcome to receive and contribute to the Oklahoma Forages Newsletter.

Potato Leafhopper Economic Considerations in Alfalfa and Peanut

After a brisk round of southerly winds and rains, some insects that are not year-round residents find their way to Oklahoma. Normally, potato leafhoppers are year-round resident of the Gulf Coast states and will gradually migrate northward with spring winds. Because of wind dispersal, potato leafhoppers are likely to be a pest of alfalfa from June to October. Generally, the potato leafhopper poses the greatest threat (if any) in higher rainfall and humidity areas of the state, but this year that description fits many areas. In western Oklahoma, potato leafhopper populations decline as hot, dry conditions prevail unless they can find a suitable host and adequate rain or irrigation. This is where crops like peanut, alfalfa and even horticultural crops such as pecan can serve as viable hosts for these insects.



The potato leafhopper adult is a light green, wedge-shaped insect about 1/8 inch in length. Nymphs closely resemble adults; however, they are smaller, yellow and wingless. Both adults and nymphs are very active; they can move sideways and backward as rapidly as forward when they are disturbed.



Both adults and nymphs use their piercing-sucking mouthparts to feed on alfalfa; however, the most serious damage is caused by the nymphs. Initial feeding is characterized by a wedge-shaped yellow area formed on the leaf tip known as "hopperburn". This type of damage is already noticeable in peanut in the Ft. Cobb area and in alfalfa in many areas since early

June. Heavy feeding causes the entire leaf to turn yellow and heavily infested fields take on a yellow color, even from a distance. Usually, damage is greatest along field margins. Although the chlorotic symptoms may be accompanied by some leaf drop and reduction in quality of forage, a more serious problem is stunting of plant growth and significant yield loss. Mowing ditches next to alfalfa fields can increase the chance of sustaining leafhopper damage because the leafhoppers move (fly) from the mower noise into adjacent alfalfa.

Potato Leafhoppers (Continued)



Due to their minute size, the best means of detecting leafhoppers in alfalfa before damage is apparent is a standard 15 inch sweep net. Sample at least five spots across each field. In each spot take at least 20 sweeps before counting the number of adults and nymphs recovered.

Treatment is generally justified at these combinations of alfalfa height and leafhopper numbers	
Alfalfa Height (inches)	Leafhoppers per sweep
3	0.2
6	0.5
12 or taller	1.0



Besides height and leafhopper density, yield potential and stand age should also be considered in the treatment decision. For recommendations on insecticide choices in alfalfa consult OSU Fact Sheet #7150.

Thresholds for potato leafhopper in peanut are not well defined and generally don't become a serious problem until later in the season (late July to mid September); however, this year hopperburn is already evident in peanut fields and the rows have not even started to lap. This year will mark the earliest that damage from potato leafhopper has been evident on peanut in Oklahoma. Peanut growers should use caution when deciding to treat for this problem, particularly where leafhoppers are not easily seen. If the insects are common when walking through the peanuts and 25-30% of the plants show hopperburn then treatment can be justified. Unnecessary applications of insecticides during hot weather can lead to mite flare ups, so please be certain that control of leafhoppers in peanut is justified. Chemical recommendations on peanut can be obtained in [OSU Fact Sheet # 7174](#).



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Alfalfa Has More than Its Share of Problems This Year

We have had no shortage of conditions that have been out of human control this year, each one having a negative impact on alfalfa production throughout most of the state.

We started the year with adequate moisture after many months of drought which contributed to a good price for alfalfa hay. That may have been the last bright spot for many producers.

The winter was not particularly hard on alfalfa even though most fields were covered with snow more times than usual. Alfalfa began growing early because of generally warm conditions, but this turned bad because of the cold weather around Easter. By itself, that would not normally be particularly noteworthy. We lose the first growth of the season every few years without severe consequences.

Most of the state was not hit hard by the alfalfa weevil this spring. Not having good habitat for alfalfa weevil egg laying because producers needed the hay last fall or winter grazing contributed to the general lack of weevils. The Easter cold temperatures killed many of the eggs and young larvae.

There were very few reports of our normal aphids in alfalfa last winter and spring. The pea aphid, blue alfalfa aphid, cowpea aphid, and the spotted alfalfa aphid were present in some fields but were relatively minor compared to many years.

Stem nematodes, a normal, but minor problem during the first growth in much of Oklahoma seemed to be absent this year.

In central and southern parts of the state where the Easter cold weather did not slow alfalfa growth, some producers harvested their first cut early and took advantage of the good weather and good prices. In many northern parts of the state much of the first harvest was lost due to the late freeze, but again that is not unusual for alfalfa in Oklahoma. As the alfalfa began growing, spring black stem slowed regrowth. This fungus disease is present

most springs and early summers but causes relatively little damage compared to normal spring insects, but it seemed to hold back the alfalfa crop significantly this year.

During the first regrowth in the north and about the time for second harvest in the south, reports of potato leafhoppers began coming in. We have potato leafhoppers most years in the eastern part of the state but few producers spray to control it. In the central part of the state (from east to west), the potato leafhopper causes noticeable damage about one year in four or five, and in the west this insect is rare but does build up every ten or twenty years. (See story on Page 1 & 2).

Heavy rains started in May and increased throughout most of the alfalfa production area during June and early July. Many fields have not been harvested for the second time this year and it is time for third harvest (or even fourth in the extreme south). The combination of all the individual mini disasters has led to a major disaster in many areas of the state for alfalfa producers. Stands are yellow and dying from weeks of waterlogged soils and uncontrolled potato leafhoppers. Areas of some fields are dead due to scald, where water was standing when the bright sun came out (even though for short periods).

The weathermen are trying to predict an end to the excessive rain but are not particularly convincing to many of us.

Is there a rainbow at the end of this series of events? One good thing is that all the fields with deep soils have adequate moisture in case we go into another long dry spell. During the last several years, new plantings of alfalfa began marginally, at best, because of lack of deep moisture. Now the big question may be, can we make a good seed bed when the mud dries for planting this September?

(Continued)

A couple of recent questions: One field in Jefferson County was under 6 feet of water for 5 days from the release on Lake Waurika. **Question** is "Will it survive?"

Answer: As usual, the answers depend on a lot of things.

How much sediment was deposited? We had a strong stand of alfalfa on banks of the Washita River several years ago that was under water (10 feet or more) and was alive after many weeks, but it could not grow through the 4 to 6 inches of silt deposited on it. If all the silt had settled out in the lake before its release, it might survive.

Our plots just west of Stillwater have been submerged (water over the tops of plants from a few inches to a foot) for a day or two at least four times this spring. The plots look horrible but much of it is still alive.

One area that may have been submerged only once appears to be dying. It is hard to find green leaves. This area has subsurface water draining a hillside.

Question: Will the wet conditions have an adverse effect on age of stands, especially related to increased soil-borne diseases?

Answer: Taking two or three harvests at a time is hard on alfalfa and will take a toll on stand life. It is impossible to predict how much.

I am sure a lot of stands will be lost due to the combination of adverse conditions. Producers using relatively modern alfalfa varieties will not have much problem with soil-borne disease because of the resistance, but still may die from all the other things.

Alfalfa, as a species, is a desert plant that likes access to subsurface moisture. It does not like standing water, humid conditions, or freezes after regrowth started, etc.

-- John Caddel

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CONTRIBUTIONS WANTED

Do you have a comment about some aspect of forage production that you would like to share?

Do you have a question about some aspect of forage production?

Have you read something that helped your forage production and want to share it with the readers of Oklahoma Forages Newsletter?

Send comments, questions, or articles you have seen and want to share to Daren Redfearn daren.redfearn@okstate.edu To remain anonymous, just let us know.

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