Issue 451

K-STATE Research and Extension

Extension Agronomy

# eUpdate

*04/17/2014*

These e-Updates are a regular weekly item from K-State Extension Agronomy and Steve Watson, Agronomy e-Update Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Steve Watson, 785-532-7105 swatson@ksu.edu, Jim Shroyer, Crop Production Specialist 785-532-0397 jshroyer@ksu.edu, or Curtis Thompson, Extension Agronomy State Leader and Weed Management Specialist 785-532-3444 cthompso@ksu.edu.

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## 1. Special Edition: Alfalfa weevil alert and cutting management on freeze-damaged alfalfa

The hard freeze this week could affect some alfalfa stands. If so, producers will have to decide how to manage their stands in the coming weeks. In a field in Dickinson County this week, we found the freeze had initially wilted the plants on April 15, but the plants mostly recovered by April 16, with just a little blackened foliage here and there. Wilting after a freeze is not necessarily a problem. Often, the plants recover. If the stems are crimped, that could indicate more significant freeze injury.

We also found many live alfalfa weevil larvae, about a 50% infestation level, and only a few dead ones. I'm guessing in this particular field we are looking at only a 5-10% reduction in alfalfa weevil larvae due to the freeze. Growers need to monitor their alfalfa fields now and be ready to treat as soon as the fields reach their treatment threshold -- probably this weekend or early next week in many areas of Kansas.

Figure 1. The freeze resulted in wilted alfalfa in this Dickinson County field on April 15. Photo by Holly Davis, K-State Research and Extension.

**Figure 2. An alfalfa plant from the same field one day later, April 16. The plants recovered well, with only a little blackened foliage. Photo by Holly Davis, K-State Research and Extension.**

Some alfalfa fields may have sustained more extensive freeze injury, and some may have escaped with little or no damage. If fields have been damaged by freeze, here are some key points:

1. In established stands, the growing point is at the top of each stem, and is protected within a cluster of leaves. The leaves may have freeze damage, but not the growing point. If it is cold enough, long enough, the growing point may also be killed by freezing temperatures frozen and they have a bleached appearance.

No action will be needed on the alfalfa stands if new growth begins emerging from the tips of the stems, or if the plant begins branching out below the tips. In both cases, the new growth means the plants are recovering.

On the other hand, if new shoots are emerging from the crown buds rather than the tips of stems, there will be very little regrowth from the damaged stems. Do not cut or damage new regrowth from the crown buds. That could severely damage the stand. If there is enough topgrowth, however, producers could safely cut or graze the stand before new growth from crown buds gets tall enough to be damaged by mowing.

If there is no regrowth occurring at all after 7-10 days of warm weather and the plants are severely wilted without recovery, mow or shred the plants to encourage new regrowth from the crown buds.

2. If you plan to shred or cut the damaged stands, be sure to leave at least 2-3 inches of stubble. This will help encourage regrowth.

3. Freeze-damaged alfalfa that is only 6-8 inches tall or less will be slower to regrow after mowing or shredding than taller alfalfa. That's because alfalfa plants are depleting carbohydrate reserves from the roots during the first 6-8 inches of growth, and will not have as much carbohydrate reserves for regrowth as taller alfalfa. With slower regrowth, producers will have to watch especially closely for insect infestations and treat if necessary. Alfalfa taller than 8 inches will have manufactured a new supply of carbohydrate reserves for the root and crown, and will be able to regrow more quickly after mowing or shredding.

4. If damaged stands are cut, producers should watch the regrowth carefully for further infestations of alfalfa weevil and possibly pea aphids, and treat immediately. Weevil larvae that survive in the leaf litter on the soil surface will start feeding on the new growth once the weather warms up. The hard freezes probably didn't kill the weevil larvae, so don't depend on that to have happened.

If the foliage is actually killed back to ground level, the weevils will continue to feed on the regrowth and thus hold that regrowth back significantly. The larvae will be in the foliage and if that foliage has been wilted due to the cold then it may form a protective canopy and the larvae will be well protected from a chemical application.

Insecticides will kill all the lady beetles and any other beneficials that help keep the aphids under control, so aphids may rebound fairly quickly. Thus, scouting should continue for weevils and aphids even if an effective insecticide application has already been made. If an insecticide has already been applied, pay attention to the label for the pre-harvest interval (PHI) and number of applications allowed per cutting for the product used.

5. If an insecticide had already been applied to the alfalfa for weevil control, producers will have to be aware of any residual insecticide in the alfalfa that may affect how it can be utilized.

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