

WHEAT PRODUCTION NEWSLETTER

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Freeze damage?

By Jeff Edwards

Cool temperatures from now until harvest are probably just what the doctor ordered for our current wheat crop (see article below), but the recent cold snap was a little too cool to fill this prescription. I looked some fields in the Red Rock area that appeared to have freeze injury as a result of a dramatic temperature change on March 12-13. Northeast area agronomist Bob Woods reported on March 24 that temperatures were low enough in some northeastern OK counties to potentially cause freeze injury to well-developed wheat in the area.

Canadian county extension agent Brad Tipton reported on March 29 that "*I checked each variety in the "un-grazed" plots (behind the hotwire) because these are much further along in development than the same varieties of our "grazed" plot area...I did not find any damaged growing points or heads...even though heads were 4 or more inches above the crown on all varieties... All heads/growing points were a "whitish/greenish" color.*" However, a few days later Brad reported moderate freeze injury on wheat in another area of the county.

Based on these and other reports, freeze damage appears to be localized and the impact on the Oklahoma wheat crop as a whole will likely be minimal. We are not out of the woods yet, however, and growers should be checking fields regularly.

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So, what do you need to look for? Well, it depends on the stage of growth. A freeze that occurs earlier in the year might simply result in leaf necrosis that appears similar to nitrogen burn. Other symptoms might include leaf crinkling similar to that shown in the picture below. Perhaps the most important type of freeze injury to look for is damage to the developing grain head, as this would have the greatest potential impact on yield.

In my opinion, the gold standard in extension publications on this topic is *Spring Freeze Injury to Kansas Wheat*. It can be found at <http://www.oznet.ksu.edu/library/crpsl2/C646.pdf> and I recommend you take a look and keep a copy for future reference.



Freeze injury can vary from moderate tissue damage, as shown above, to complete loss of the developing grain head.

Million dollar rain?

By Jeff Edwards

I will never be able to drive a race car like Jimmie Johnson. I simply do not have the genetic potential and if I did it was lost long ago due to lack of proper cultivation. So, even if I do everything right from this point forward and get all the right breaks, I don't have the potential. At thirty-two years of age, my potential as a racer was decided long ago.

This may seem like an odd way to introduce a discussion on wheat yield potential, but just like my potential as a stock car racer, our wheat yield potential was decided a couple of months ago. All we can do at this point is preserve what potential we have.

A rain on January 31st would have likely saved much of our crop and increased yield potential. It would have helped the wheat produce more tillers and probably increased head size. Rains that fell in mid-March, however, only helped preserve yield potential that was already there. Tiller numbers and head size were already determined, so about the best we can do at this point is ensure that all potential grain sites are filled.

I predict that we will have some localized areas in Oklahoma with average to above-average wheat yields. The outlook for wheat production in the state as a whole, however, still looks gloomy and the probability of the state having a bumper crop is about the same as the probability of seeing me in the Lowes 48 at Bristol later this year.

Foliar fungicides

By Bob Hunger and Jeff Edwards

It has been a quiet year for diseases thus far, but there is no guarantee that things will remain this way. We will keep you up to date regarding any changes in the Oklahoma wheat foliar disease situation, but any decisions regarding fungicide application will need to be made in the very near future.

Not all varieties respond to fungicide application equally, so it is very important to know the "disease resistance package" of all your wheat varieties. It is also of paramount importance to remember that fungicides don't have curative action. That is they can prevent disease infection on an otherwise healthy leaf, but they cannot recoup yield potential already lost to disease. Finally, profitability of fungicide application will largely depend on the yield potential of the crop. A 10% increase in yield on a 30 bu/ac wheat crop, for example, does not offer the same opportunities for return on investment as a 10% yield increase on a 70 bu/ac wheat crop.

Optimal timing for fungicide application in Oklahoma is generally between Feekes growth stages 9 and 10. It looks as though we will reach these growth stages a little earlier than normal this year, so the decision on whether or not to apply a foliar fungicide to wheat will need to be made in the very near future. To help you make this decision we have attached a Q&A guide to foliar fungicide use in Oklahoma.

Thinking about no-till?

By Randy Taylor

Have higher fuel prices got you thinking about no-till? Certainly many wheat growers in Oklahoma are contemplating no-till. If you are considering no-till for the coming year, you should be preparing for it before wheat harvest.

One item often overlooked by the first-time no-tiller is spreading residue at harvest. Most combines are equipped with some type of straw spreader, but chaff and other material coming over the cleaning shoe is seldom spread.

If we consider that wheat typically produces 100 pounds of residue per bushel of grain, a 30 bu/ac wheat crop will have 3000 lb/ac of straw and chaff. If half of this goes through the combine, you could leave up to 7500 lbs/ac in the strip behind the machine. Spreading the straw will greatly reduce this density, but the chaff can still cause problems.

The small windrow of chaff behind the combine will have a higher volunteer seed concentration, will potentially intercept pesticides, and will insulate the soil surface. The cooler, wetter soil under the chaff can lead to emergence problems if you plant into it next spring. Cool, wet soil won't be a problem if you are planting wheat or canola in the fall. However, a windrow of chaff can cause poor planter or drill performance regardless of when the crop is planted. The extra residue in a chaff windrow can reduce emergence.

If you are considering a chaff spreader, the following are some questions should you ask:

- How far does it spread chaff? Make sure it will cover the width of your header. If your header isn't too wide, you can probably get by with a less expensive model.
- Does it spread material uniformly? The spreader should spread chaff uniformly in both directions.
- How is the unit driven? Some units are hydraulically driven while others are belt driven. At least one type uses a fan mounted on the side of the combine to provide an air blast to spread material.
- Is it user friendly? Can the spreader be easily adjusted? How much trouble is it to inspect and adjust the combine after the spreader is installed?
- How much does it cost and can you get dealer support?

Remember, no-till is a feasible cropping system for most of Oklahoma. However, you need to plan ahead and think about how you can accomplish your goal of establishing and growing a crop.

Upcoming Events

April 4 & 5 – Southern Wheat Research and Education Consortium (SWREC) meeting
At the USDA ARS facility in Stillwater.
Contact Jeff Edwards for details.

April 11 – Canola tour at the North Central Research Station in Lahoma, OK.

May 11 – Grady county wheat field day at Minco, OK. Tour will begin at 11 AM at the Minco demonstration plots. Contact the Grady county extension office for more information.

May 19 – Wheat field day at the North Central Research Station in Lahoma, OK.

May 22 – Grant/Garfield county field day. Tour will start at the Lamont variety trial at 10 AM. Contact the Grant or Garfield county extension offices for more information.

June 1 – Field day at the Oklahoma Panhandle Research and Extension Center at Goodwell, OK. Contact the OPREC for details.



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