



**Jason Kelley - Wheat and Feed Grains Extension Agronomist, Gene Milus – Plant Pathologist and Bob Scott – Extension Weed Scientist**

April 7, 2011

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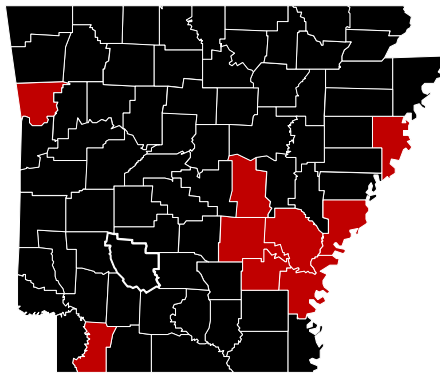
## **Current Situation – Jason Kelley**

The wheat crop continues to make rapid growth development. According to the April 4 Arkansas Agricultural Statistics Service crop report 5% of the wheat crop had headed, which was near the 5-year average, but ahead of last year's pace. Dry weather continues across the state with nearly all counties being classified as being in a drought. However the dry winter and spring so far has been beneficial to our wheat crop with 68% of the crop being reported in good to excellent condition.

Stripe rust has been found in multiple locations in central and southeast Arkansas this week. Stripe rust levels within infected fields have been low in most instances; however, hot spots have been found in susceptible varieties in Desha and Arkansas counties of Southeast Arkansas.

Wheat varieties that stripe rust has been found on include; AGS 2060, AgriPro Beretta, AgriPro W-1377, Armor 260Z, Armor Renegade, Dixie 427, Hornbeck 3266, Progeny 185, and Ranger.

## **Locations in Red with Confirmed Stripe Rust as of April 6, 2011**



Glyphosate drift complaints have been widespread with many of the calls coming from central Arkansas this week.

The Wheat Research Verification program summary below provides a good indication of growth stages, foliar disease and glyphosate drift incidence that we are seeing in wheat fields across the state at this time.

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# ARKANSAS WHEAT



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**Wheat Research Verification Program Update – April 6, 2011 Steve Kelley and Chris Grimes – Verification Coordinators**

County	County Agent	Variety	Feekes Stage	Diseases Present	Glyphosate Drift
Arkansas North	Grant Beckwith	Progeny 185	GS 10.1	Some septoria leaf blotch low on plant. No stripe rust	None observed
Arkansas South	Ken Adams	AgriPro Arcadia	GS 10.2	Septoria leaf blotch low on plants. No stripe rust	Light/Moderate symptoms. Abandoned original field due to heavy glyphosate damage.
Cross	Richard Klerk	Armor Renegade	GS 9.5	No disease present	None observed
Desha	A.J. Hood	Progeny 185	GS 10.2	No disease present	Severe damage
Greene	Chris Elkins	Delta King 9577	GS 8	No disease present	None observed
Lafayette	Joe Vestal	Dixie 427	GS 10.2	Stripe rust was prevalent on March 25. Treated with 14 oz/ac of Quilt on 3/26.	Light damage
Lonoke	Keith Perkins	Armor 260Z	GS 10	Low levels of stripe rust found April 6th	None observed
Lincoln	Steven Stone	Hornbeck 3266	GS 10.1	Low levels of stripe rust, septoria leaf blotch low on plant	Light damage
Miller	Doug Petty	Delta King 9108	GS 10	Septoria leaf blotch low on plant.	Light damage
Phillips	Shawn Payne	AgriPro Coker 9553	GS 10	No disease present	Light damage

I've gotten several calls about how to determine Feekes growth stage. Below is a detailed growth stage chart to help in the identification of growth stages.

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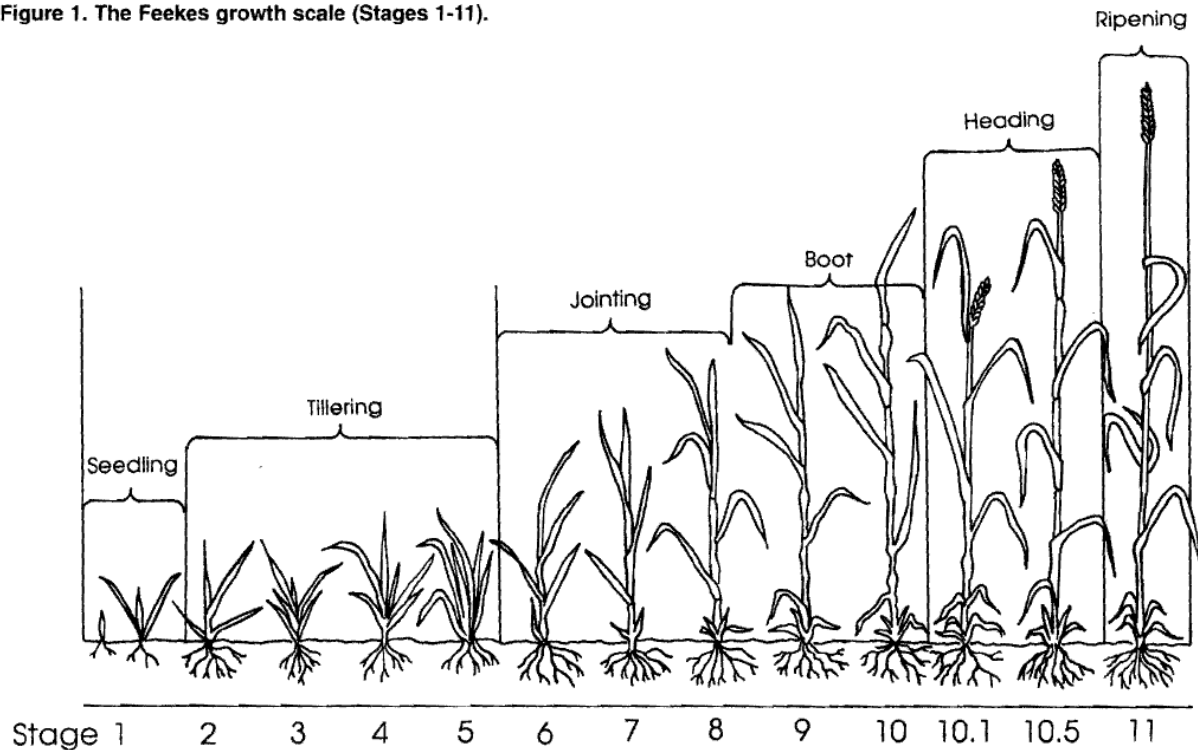
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Figure 1. The Feekes growth scale (Stages 1-11).



Stage	Description	Stage	Description
1	One shoot (number of leaves can be added)	10.1	First spikes just visible (awns just showing in barley, spike escaping through split of sheath in wheat or oats)
2	Beginning of tillering	10.2	Quarter of heading process completed
3	Tillers formed, leaves often twisted spirally. In some varieties, plants may be creeping or prostrate	10.3	Half of heading process completed
4	Beginning of the erection of the pseudo-stem, leaf sheaths beginning to lengthen	10.4	Three-quarters of heading process
5	Pseudo-stem (formed by sheaths of leaves strongly erected)	10.5	All spikes out of the sheath
6	First node of stem visible at the base of shoot	10.5.1	Beginning of flowering
7	Second node of stem formed, next to last leaf just visible	10.5.2	Flowering complete to top of spike
8	Last leaf visible, but still rolled up, spike beginning to swell	10.5.3	Flowering over at base of spike
9	Ligule of last leaf just visible	10.5.4	Flowering over, kernel watery ripe
10	Sheath of last leaf completely grown out, spike swollen but not yet visible	11.1	Milky ripe
		11.2	Mealy ripe, contents of kernel soft but dry
		11.3	Kernel hard (difficult to divide by thumb-nail)
		11.4	Ripe for cutting, straw dead

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## **Glyphosate Drift on Wheat – Bob Scott**

Unfortunately, it appears that one of the most common problems for wheat producers this year is not a weed or other pest, but the occurrence of glyphosate drift. Damage reports first started coming in from the southern counties over two weeks ago, as wheat begins to head further north reports from county agents are coming in like a roll call from south to north. I cannot begin to estimate the number of acres affected at this time, from my cell phone it seems like all of them.

If you are familiar glyphosate drift on rice, you know the effects of glyphosate drift to wheat. During tillering effects of small amounts of glyphosate on wheat can cause stunting, chlorosis and some dead leaves and tillers; however, prior to jointing this damage does not effect seedhead or flagleaf development. If drift, even small amounts, occurs after tillering and after joint formation begins (like green-ring in rice), the damage is basically invisible until the flagleaf emerges. Flag leaves will be stunted (a symptom of almost no other ailment in wheat), bleached to striped white or yellow chlorosis, often twisted at the base of the flagleaf where it attaches the stem. If the flag leaf is damaged, a damaged head almost always follows. This can resemble the effects of late applications of 2, 4-D as seedheads get "caught" in the collar region and can emerge sideways from the sheath. There is no cure for glyphosate drift damage and damage can range from 5-100% depending on severity of injury, which depends on rate and timing. It is proving difficult to find the source for many of these drift calls. Just a reminder, this is the job of the Arkansas State Plant Board  [\(501\) 225-1598](http://www.arkstateplantboard.com).

## **Glyphosate Drift Symptoms– Jason Kelley**



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## **Disease update – Gene Milus**

The most serious disease at this time is stripe rust on susceptible and very susceptible varieties where the disease overwintered and formed hot spots. Fields with hot spots should be sprayed with a fungicide as soon as possible. Fields of varieties with a susceptible reaction type (abundant yellow sporulation surrounded by green leaf tissue, see photos below) but without hot spots at this time should be the next highest priority for being sprayed. Fields of varieties with only resistant to moderately resistant reactions (little or no yellow sporulation surrounded by yellow or tan leaf tissue, see photos below) are not likely to have significant losses from stripe rust, and applying a fungicide may not be necessary to control stripe rust.

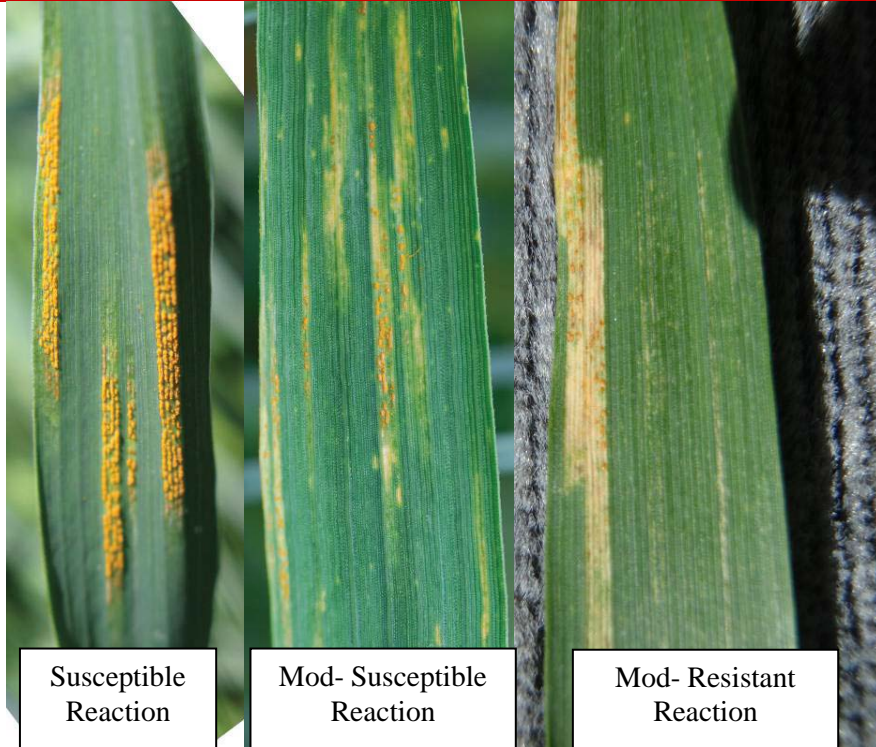
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Susceptible  
Reaction

Mod- Susceptible  
Reaction

Mod- Resistant  
Reaction

There have been no new reports of leaf rust since the previous newsletter. Recent dry weather is keeping *Septoria* leaf blotch and *Stagonospora* blotch confined to the lowest leaves that were infected last fall or earlier this spring. Frequent rains will be needed for these diseases to move to upper leaves.

The overall incidence of barley yellow dwarf appears to be low. If symptomatic plants are scattered and not stunted, then the infection likely occurred during the spring, and yield losses should be insignificant. If symptomatic plants are in stunted patches, then infection occurred last fall and yield losses likely will be significant in the stunted areas.

The risk of scab remains low across Arkansas south of I-40 where wheat has flowered or is approaching flowering. Flowering is the most favorable time for scab infection, and dry conditions are not conducive for spore production or infection. Given the recent dry conditions, several rainy periods will be needed to elevate the risk of scab.

Syngenta recently registered Alto 100 SL fungicide (Cyproconazole) for use on wheat and it has been used this season on wheat in southwest Arkansas. Recommended rates are 3 to 5.5 fl oz per acre. It likely is effective on rusts, *Septoria* leaf blotch, *Stagonospora* blotch, and powdery mildew but not effective for scab.

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### **Contact Information:**

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### **Acknowledgments:**

We sincerely appreciate the **Arkansas Wheat Promotion Board** and the Arkansas wheat producers for their support. The authors appreciate all feedback and contributions.

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