



# CARSON COUNTY AG NEWS

## FEBRUARY 2015



### Events

Cotton Production &  
Sorghum Meeting  
March 4, 2015  
Begins at 10:00 am  
White Deer  
Community Center

If you have any  
questions, please  
contact our office.

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## Cotton Production & Sorghum Meeting

### March 4, 2015

Registration 10:00 a.m.  
Meeting begins at 10:30 a.m.

White Deer Community Center  
204 E. 5th Ave, White Deer TX 79097

2 CEU's will be offered.

Lunch will be Provided by the Carson County Gin

### Speakers and Topics will include:

- \* Dr. Mark Kelly - Cotton Variety Selection and New Variety Technology
- \* Dr. Peter Dotray - Weed Management and Herbicides and Q&A
- \* Dr. Steve Amosson - Cotton and Sorghum Budgets as well as Market Outlook
- \* Dr. Jourdan Bell - Sorghum Production, Sorghum Rotation and Herbicides

There will be a \$10.00 Registration Fee

**\*\*\*RSVP by 5:00 p.m. March 1, 2015 with the  
Carson County Extension Office at 537-3882\*\*\***

**If you leave a message Please leave your name  
and a return phone number.**

# Early rust pressure in Texas Wheat

*Dr. Clark Neely, Small Grains/Oilseeds Extension Specialist – College Station, TX*

February is typically a time of year that wheat growers are more concerned with top-dressing nitrogen and controlling weeds than controlling diseases; however, this topic has been on the minds of many growers in recent weeks. It is not uncommon to see small amounts of leaf rust in the fall, particularly on early planted wheat for grazing, however, rust presence generally declines throughout the winter months for most of the state as freezing temperatures will often subdue the disease. The exception being South Texas where rust consistently overwinters. Typically, it is this overwintering rust in South Texas that then migrate northward with warming temperatures during the spring.

In the past month there have numerous reports of both stripe rust and leaf rust throughout Texas and Louisiana. Limited information exists on the impact of early fungicide applications (growth stage Feekes 5-7) on winter wheat yield, but in most cases it is generally accepted as uneconomical and has little impact on yield. This is based on the premise that rust pressure is generally low in January through early March for most of the state and there is little disease to control. With the higher than average disease pressure present in fields, it may be prudent to apply an early fungicide application. A study conducted in Louisiana (Edward and Hunger, <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-5602/PSS-2138.pdf>) showed a significant yield increase on winter wheat by applying an application of propiconazole followed by a second fungicide application after flag leaf emergence.

With high presence of rust around the state this early in the season, the stage will be set for high rust infection rates later in the spring if weather conditions are favorable.

Wheat growers are encouraged to scout fields often to detect “hot spots” and spread of disease throughout the remainder of the growing season, particularly if they have planted leaf or stripe rust susceptible varieties. The most current resistance ratings for wheat varieties can be found in the 2014 Texas Wheat Variety Trial Results publication (<http://varietytesting.tamu.edu/wheat/docs/2014/2014%20Final%20Wheat%20Pub.pdf>). For proper disease identification refer to Texas A&M AgriLife Extension publication titled “Identifying Rust Diseases of Wheat and Barley” (<http://amarillo.tamu.edu/files/2010/11/RustDiseasesTexas.pdf>). Additional information on fungicides and diseases in wheat can be found at <http://amarillo.tamu.edu/amarillo-center-programs/extension-plant-pathology/wheat-publications/>.

# Grain Sorghum and Resistance to Sugarcane Aphids

*Ronnie Schnell, Assistant Professor and State Cropping Systems Specialist, College Station*

## **Statewide:**

Sugarcane aphids were a major pest in grain sorghum during 2014, affecting most production regions of Texas. While direct yield loss was not an issue for many growers, excessive honey production resulted in reduced harvest efficiency for some growers. Aphids located in the upper canopy and grain heads before harvest are a concern (**Figure 1**). As growers look for options to manage sugarcane aphids, planting hybrids with genetic resistance to the sugarcane aphid will be a major component of an integrated pest management program.

As information on resistant grain sorghum hybrids becomes available, it is important to understand the terminology related to resistance and what results growers should expect from hybrids with various forms of resistance. Resistant hybrids have genetic traits that result in one or more of the following:

- **Less damage than a plant without the resistant trait**
- **Yields more than a susceptible hybrid when confronted with pest invasion**
- **Suppressed insect pest abundance**
- **Elevated tolerance level**

There are three kinds of resistance that will alter the relationship between insect pests and the host plant. This includes antibiosis, antixenosis and tolerance. Antibiosis is a type of resistance where the host plant causes injury, death, reduced longevity or reduced reproduction of the pest. Antibiosis will reduce pest numbers and damage to the plant. This is what many associate with true resistance. Antixenosis, also known as non-preference, is when the pest does not desire this plant due to color, odor, texture, etc. Tolerance is the final form of resistance where the plant is able to withstand or recover (repair) from damage caused by the pest. A tolerant plant will remain healthy and yield well despite presence of pest. Although, there may not be a reduction in pest (aphid) numbers or honeydew production.

The main difference between resistance (as antibiosis or antixenosis) and tolerance is that resistance causes an insect response and tolerance results in a plant response. A hybrid that reduces aphid numbers and damage to the plant under field conditions, especially when the pest is present during critical growth periods, is resistant. As seen in Figure 2, the resistant breeding line on the left shows little evidence of aphid damage compared to the susceptible breeding line on the right that failed to produce a head. Tolerance to late season aphid infestations may show reduced plant damage and reduced honeydew levels but should not be interpreted as resistance. Furthermore, whether planting resistant or tolerant grain sorghum hybrids, growers should scout fields as usual to monitor occurrence and changes in aphid populations.

For further Texas A&M AgriLife discussion of a practical view toward current grain sorghum hybrids that the grain sorghum industry has designated as 'Tolerant' see the Jan. 29 "Sorghum Tip" published by Texas Grain Sorghum Association at <http://texassorghum.org/sorghum-tips>

## Educational Video Releases

We are excited to release the u-tube video links to educate producers about **Palmer amaranth (pigweed/ careless weed)**. The videos will include discussion from experts in the field including Specialist, Researchers, IPM agents, County Extension Agents, and Commodity Leaders. We appreciate their time and effort in making these videos possible. The first presentation is “History and Biology of Palmer amaranth” and the discussion of how it grows and reproduces. All videos focus on resistance and stops to manage this problem. Please see the links below:

History and Biology of Palmer amaranth <http://youtu.be/QbA45TgJEgg>  
Weed Control prior to Emergence <http://youtu.be/-OeD0p1YPQg>  
Control of Weeds after Emergence <http://youtu.be/cFgZbPD8Dhs>  
New Technologies and Economics (to be released the week of the 23rd)



We can send your  
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and the cell provider you use so that we  
can send you text updates and  
reminders!

Call us at 806-537-3882

# AgriLife Research study: Water limiting factor to corn silage quality



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A Texas A&M AgriLife Research study determined the biggest factor in corn silage quality is water. (Texas A&M AgriLife Research photo)

AMARILLO – Minimizing yield losses while reducing groundwater usage is a continual goal for Texas A&M AgriLife Research scientists on the High Plains, where quantities of water from the Ogallala Aquifer are diminishing.

That was the goal of a 2014 study led by Dr. Wenwei Xu, AgriLife Research corn breeder in Lubbock, and Thomas Marek, AgriLife Research irrigation engineer in Amarillo, and contributed to by Texas Tech University graduate students Karl Brauer and Traci Bland, which showed the biggest factor in corn silage quality was water.

The objective of this study, supported by the U.S. Department of Agriculture Ogallala Aquifer Program, is to determine if the brown midrib, or BMR, trait affects water-use efficiency, as well as length of maturity and level of irrigation, Xu said.

Two BMR and four non-BMR corn hybrids with maturity of 100-110 days were grown under four different irrigation treatments in the northern Panhandle. Data were collected on the amount of irrigation, total plant biomass, moisture content at harvest, forage quality and other agronomic traits.

A separate grain trial was also conducted at Halfway to compare water-use efficiency in hybrids with relative maturities of 100-110 days. Grain yield data were collected on six corn hybrids varying in maturity under four irrigation levels.

“In the Texas Panhandle, we’re on the southern end of the Ogallala Aquifer, and of course the aquifer is drying up from south to north,” said Brauer during a presentation at the American Society of Agronomy-Crop Science Society of America-Soil Science Society of America international meeting in Long Beach, California.

“This will affect producers pretty much throughout the High Plains as the problems increase with groundwater shortages and allocations, and how that gets distributed,” Brauer said. “In the Panhandle, corn is predominantly used in dairies and feedlots. The ability to continue production will depend on how cropping systems adapt to the lower water allocations and stricter management of that resource.”

Overall, the study showed that irrigating at 100 percent of evapotranspiration, or ET, provided no yield or quality advantages over 75 percent ET irrigation, so essentially can be viewed as a “waste,” Brauer said.

And in general, yields and quality both began crashing below irrigation levels of 75 percent ET, which is the measurement of total water utilized during crop development, he said.

“We determined we need to be irrigating at 75 percent of our past ET levels as estimated with the current model and finding hybrids that better tolerate stress,” Brauer said, adding this was from studies conducted by Xu and Marek over several years.

“You’re still going to have heat stress and other factors, so we want to find the toughest hybrids out there.”

Quality is such an important part of silage that if a producer is even a half inch short on irrigation, it can affect silage quality, he said. The reduction in forage quality represented by starch content was consistent across hybrids tested as water amounts were decreased. Protein content was the only nutritional parameter that responded positively to stress.

“Irrigated corn requires a balance between water conservation and silage quality,” Brauer said.

This study demonstrated there is little economic advantage to irrigating to 100 percent ET, but also indicated that somewhere between 65 and 75 percent ET, yield and quality will begin to decrease, Marek said

“Short-season corn is expected to perform better under drought, however we discovered there was not generally a yield advantage under water deficit and instead, long-season hybrids outperformed at the 100 and 75 percent ET levels.”

“Likewise, we found BMR did not outperform non-BMR under drought conditions,” Xu said. “Silage quality decreased with decreasing ET. While some differences existed between hybrids per parameter, overall digestibility was similar for BMR and non-BMR hybrids, as well as short- and long-season hybrids in this study.”