

April 2018

# Ag News

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## Off the Top...

### New Soybean Specialist Hired

Rachel Atwell Vann has been named Assistant Professor and Soybean Extension Specialist. She is replacing Dr. Jim Dunphy and will be located in the Crop & Soil Sciences Department at North Carolina State University. Welcome.

### New Weed Scientist in Cotton and Corn

Charlie Cahoon has been named Assistant Professor and Extension Weed Specialist for corn and cotton. Charlie earned his Ph.D. in weed science under the person he will be replacing, Dr. Alan York. Charlie grew up on a row crop, vegetable and hog farm in Hyde County in the town of Swan Quarter. After Cahoon completed his studies at N. C. State he was hired to serve as Extension Weed Specialist at Virginia Tech-Eastern Shore AREC where he served vegetable and row crop farmers throughout Eastern Virginia. Cahoon's return to N. C. State was made possible by the collaborative efforts of the North Carolina Cotton Producers Association (NCCPA) and N. C. State's College of Agriculture and Life Sciences (CALs). Welcome.

### Wheat Crop 2018

Diseases that have been identified in our wheat this year are powdery mildew and striped rust. Our current growth stage is a good time to decide if you want to apply a fungicide. Page 4 has a list of fungicides and



their performance ratings for different cereal diseases. Another critical time will be once our wheat is heading and starts to flower or pollinate, this will be when wheat is most susceptible to head scab infection. Below I have provided some website links to help you make management decisions for your wheat crop.

Information about optimal sprayer setup for head scab management can be found for ground and air applicators at: <http://www.smallgrains.ncsu.edu>

Information about head scab identification and management can be found at: <http://www.smallgrainsncsu.edu/head-scab.html>

The scab forecasting website can be viewed at: <http://www.wheatscab.psu.edu>

### Cotton Planting Information

During winter meetings, many of you signed up to receive text messaging from me. This year we will send out DD-60 information based on weather forecast. This information is not intended to be the “gospel” but a tool to assist you in your cotton planting decisions. You are the one who best knows your soil conditions and how many planting days you need to get your cotton crop planted in a timely fashion. I have included the information below discussing things to consider when making cotton-planting decisions. Also, updates are available on [cotton.ces.ncsu.edu](http://cotton.ces.ncsu.edu)

### Cotton Planting 2018...

Take time to find out the cool germ on the different lots of cottonseed you plan to plant this year.



In cotton, there are two common germination tests, standard germination and cool germination. Standard germination results are reported on the seed tag. Standard germination tests are conducted at 86 degrees F for sixteen hours per day and 68 degrees F for 8 hours per day. In North Carolina, it is highly unlikely that all of the cottonseed you plant will benefit from these close to ideal conditions.

The test that is of more practical value to growers in North Carolina is the cool germination test often referred to as “cool germ”. Cool germ tests are not reported on the seed tag. The seed companies run this test on all seed and the dealer or distributor usually has this information. If not, the value can be obtained by calling the seed company with the lot number of the seed. NCDA can run cool germ tests on your seed if needed.



What is considered to be “good” cool germ results? Being aware of the cool germ results is probably more important than what is actually a good or bad cool germ. As long as you are aware of the cool germ values for a given seed lot you can plan accordingly. A somewhat arbitrary division of cool germination values follows in Table 1.

**Table 1.** Cool germinations ratings.

Cool germ value	Rating-Comments
Under 50	Bad – most companies would not sell the seed
50-65	Acceptable – use special care with this seed*
65-80	Good
Over 80	Superior

\*What is meant by using special care with this seed?  
 There are several things a grower can do to make it likely that this type of seed (cool germ 50-65%) will produce an acceptable stand:

- 1. Do not plant during cool periods.**  
 Cool temperatures can be especially detrimental during the first two days after planting. The DD60

forecast for the five days following planting is the best indicator we have of planting conditions. The table below offers guidelines as to the relationship between DD60's and planting conditions.

2. **Do not plant too deep.** This is especially critical on our Coastal plain soils that tend to crust.
3. **Do not use low-end seeding rates** for a given soil type to save money on biotechnology fees.
4. **Consider protecting the seed** with in-furrow fungicides especially if the field has a history of seedling disease or is wet natured. This is especially true if planting under less than ideal temperatures.

**Table 2.** The relationship between DD60's and planting conditions.

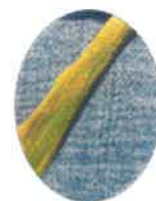
Cotton seedlings are particularly susceptible to cool weather when they first take up water (imbibe) and the 2 days following imbibition.

Relationship Between Predicted DD-60s and Planting Conditions	
Predicted DD-60 for five days following planting	Planting Conditions
10 or fewer	Very poor
11 to 15	Marginal
16 to 25	Adequate
25 to 50	Very good
More than 50	Excellent
Avoid planting cotton if the low temperature is predicted to be below 50°F for either of the two nights following planting or predicted daily DD60's is near zero for the day of planting.	

## North Carolina Stripe Rust Alert --- April 19, 2018

**Dr. Christina Cowger, USDA Research Plant Pathologist at NCSU & Dr. Angela Post, Small Grains Extension Specialist**

Stripe rust has appeared in central North Carolina. It was found this week in two neighboring fields of DG Shirley wheat in Greene County. A stripe rust epidemic can develop much quicker than a leaf rust epidemic. If scouting reveals stripe rust in your field a fungicide should be applied as soon as possible to preserve yield. Wheat varieties rated susceptible (S) and moderately susceptible (MS) should be scouted immediately. Resistant (R) or moderately resistant (MR) varieties are at low risk. Consult the variety characteristics sheet <https://officialvarietytesting.ces.ncsu.edu/wheat-variety-characteristics-2017/> to determine stripe rust susceptibility for common varieties. Apply fungicides to fields containing multiple stripe rust foci first before moving on to fields with less noticeable infections. A stripe rust focus is pictured in Figure 1B.



When choosing a fungicide pay close attention to harvest restrictions on the label. We have highlighted on the NCERA 184 Fungicide Efficacy for Control of Wheat Diseases the fungicide products with an excellent stripe rust rating. The fungicides Prosaro, Caramba, and Folicur provide excellent protection against a stripe rust epidemic. Generic versions of the same active ingredient will provide equivalent control. These fungicides have a 30-day pre-harvest restriction so use caution when applying to fields nearing harvest. Stobilurin-only products such as Aproach and Headline are less effective when used alone after a stripe rust infection has occurred. Aproach Prima also provides excellent protection against stripe rust; however, this fungicide has a 45-day pre-harvest restriction and should only be applied to varieties that are still in boot and not yet heading. As a reminder Feekes 10.5 is heads fully emerged from the boot and Feekes 10.5.1 to 10.5.4 is the flowering stage.

**NCERA 184 Fungicide Efficacy for Control of Wheat Diseases.**

## Management of Small Grain Diseases Fungicide Efficacy for Control of Wheat Diseases (2017)

The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) has developed the following information on fungicide efficacy for control of certain foliar diseases of wheat for use by the grain production industry in the U.S. Efficacy ratings for each fungicide listed in the table were determined by field testing the materials over multiple years and locations by the members of the committee. Efficacy is based on proper application timing to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table. Table includes most widely marketed products, and is not intended to be a list of all labeled products.

### Efficacy of fungicides for wheat disease control based on appropriate application timing

Class	Fungicide(s)		Rate/A (fl. oz)	Powdery mildew	Stagonospora leaf/gleume blotch	Septoria leaf blotch	Tan spot	Stripe rust	Leaf rust	Stem rust	Head scab <sup>4</sup>	Harvest Restriction
	Active ingredient	Product										
Strobilurin	Picoxystrobin 22.5%	<b>Approach SC</b>	6.0 – 12.0	G <sup>1</sup>	VG	VG <sup>2</sup>	VG	E <sup>3</sup>	VG	VG	NL	Feekes 10.5
	Fluoxastrobin 40.3%	Evito 480 SC	2.0 – 4.0	G	--	--	VG	--	VG	--	NL	Feekes 10.5 and 40 days
	Pyraclastrobin 23.6%	<b>Headline SC</b>	6.0 - 9.0	G	VG	VG <sup>2</sup>	E	E <sup>3</sup>	E	G	NL	Feekes 10.5
Triazole	Metconazole 8.6%	<b>Caramba 0.75 SL</b>	10.0 - 17.0	VG	VG	--	VG	E	E	E	G	30 days
	Tebuconazole 38.7%	<b>Folicur 3.6 F<sup>5</sup></b>	4.0	NL	NL	NL	NL	E	E	E	F	30 days
	Prothioconazole 41%	Proline 480 SC	5.0 - 5.7	--	VG	VG	VG	VG	VG	VG	G	30 days
	Prothioconazole 19%	<b>Prosaro 421 SC</b>	6.5 - 8.2	G	VG	VG	VG	E	E	E	G	30 days
	Tebuconazole 19%											
	Propiconazole 41.8%	<b>Tilt 3.6 EC<sup>4,5</sup></b>	4.0	VG	VG	VG	VG	VG	VG	VG	P	Feekes 10.5.4
	Tebuconazole 22.6%											
	Trifloxystrobin 22.6%	<b>Absolute Maxx SC</b>	5.0	G	VG	VG	VG	VG	E	VG	NL	35 days
	Cyproconazole 7.17%	<b>Approach Prima SC</b>	3.4-6.8	VG	VG	VG	VG	E	VG	--	NR	45 days
	Picoxystrobin 17.94%											
Mixed modes of action <sup>6</sup>	Fluoxastrobin 14.8%	<b>Fortix</b>	4.0 - 6.0	--	VG	VG	VG	E	VG	--	NL	Feekes 10.5 and 40 days
	Flutriafol 19.3%											
	Fluapyroxad 2.8%											
	Pyraclastrobin 18.7%	<b>Nexicor EC</b>	7.0 - 13.0	G	VG	VG	E	E	E	VG	NL	Feekes 10.5
	Propiconazole 11.7%											
	Fluxapyroxad 14.3%	Priaxor	4.0 - 8.0	G	VG	VG	E	VG	VG	G	NL	Feekes 10.5
	Pyraclastrobin 28.6%											
	Propiconazole 11.7%	<b>Quilt Xcel 2.2 SE<sup>5</sup></b>	10.5 - 14.0	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4
	Azoxystrobin 13.5%											
	Prothioconazole 10.8%	Stratego YLD	4.0	G	VG	VG	VG	VG	VG	VG	NL	Feekes 10.5 35 days
Trifloxystrobin 32.3%												
Benzovindiflupyr 2.9%												
Propiconazole 11.9%	<b>Trivapro SE</b>	9.4 - 13.7	VG	VG	VG	VG	VG	E	VG	NL	Feekes 10.5.4 14 days	
Azoxystrobin 10.5%												
Metconazole 7.4%	<b>TwinLine 1.75 EC</b>	7.0 – 9.0	G	VG	VG	E	E	E	VG	NL	Feekes 10.5	
Pyraclastrobin 12%												

<sup>1</sup>Efficacy categories: NL=Not Labeled; NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; -- = Insufficient data to make statement about efficacy of this product.

<sup>2</sup> Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.

<sup>3</sup>Efficacy may be significantly reduced if solo strobilurin products are applied after stripe rust infection has occurred.

<sup>4</sup>Application of products containing strobilurin active ingredients may result in elevated levels of the mycotoxin Deoxynivalenol (DON) in grain damaged by head scab.

<sup>5</sup>Multiple generic products containing the same active ingredients also may be labeled in some states.

<sup>6</sup>Products with mixed modes of action generally combine triazole and strobilurin active ingredients. Nexicor, Priaxor and the Trivapro include carboxamide active ingredients.