COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT, LEXINGTON, KY 40546

Wheat Science News

UK University of Kentucky
College of Agriculture, Food and Environment
Research & Education Center
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In This Issue:

Importance of Wheat Growth Stages

Dr. Carrie A. Knott—Department of Plant & Soil Sciences, Princeton

Identifying growth stages of any crop is important for crop management and to maximize yields and profitability. In wheat there are two growth stage systems: Feekes and Zadoks (Figure 1 & Table 1). The Feekes scale is more common than Zadoks for producers because it is used by most pesticides labels. The Zadoks scale is much more detailed than the Feekes scale and is commonly used in scientific papers. The Feekes scale ranges from 1-11.4 and provides enough detail to capture key development stages that are associated with management practices. Despite very detailed definitions of wheat growth stages, once you get to a field these 'simple' definitions become anything but simple.

In the field you are growth staging an entire field and not individual plants. For wheat, and all other grain crops, a field is a specific growth stage once 50% or more of the field reaches that growth stage. When growth staging any crop, you must get out into the field. Typically you want to walk into the field at least 40 to 50 feet before you start growth staging. The edges of a field receive more sunlight and in some cases more water and nutrients and can therefore be larger and at a later growth stage than the field as a whole.

There are several wheat developmental stages that are important for Kentucky producers to recognize for optimal crop management and to maximize grain yield and profitability. These growth stages, approximate time of year, and importance are listed in Table 2. Photographs illustrating key developmental stages are in Table 3.

Figure 1. The Feekes Scale of Wheat Development. Excerpt from *A Comprehensive Guide to Wheat Management in Kentucky*

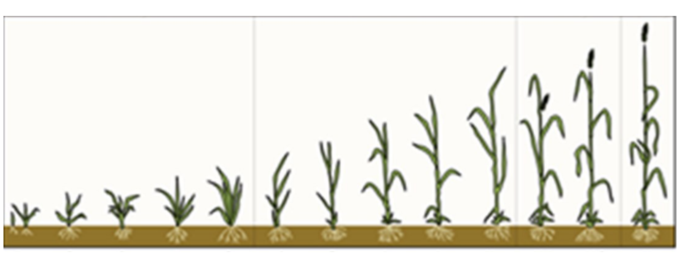


Table 1. Wheat Growth Stages Excerpt from *A Comprehensive Guide to Wheat Management in Kentucky* (http://www2.ca.uky.edu/agc/pubs/id/id125/id125.pdf).

		Scale		
Stage	**General Description**	**Feekes**	**Zadoks**	**Additional Comments**
Seedling Growth	First leaf through coleoptile	1	10	
Tillering	Main shoot and 1 tiller	2	21	
	Main shoot and 6 tillers	3	26	Leaves often twisting spirally. Many plants will only have 2 or 3 tillers per plant at recommended populations
Stem Elongation	Pseudostem erection	4-5	30	
	1st detectable node	6	31	Jointing stage
	2nd detectable node	7	32	
	Flag leaf visible	8	37	
	Flag leaf ligule and collar visible	9	39	
Booting	Boot swollen	10	45	
Head (Inflorescence) Emergence	First spikelet of head visible	10.1	50	
	1/4 of head visible	10.2	52	
	1/2 of head visible	10.3	54	
	3/4 of head visible	10.4	56	
	Head completely emerged	10.5	58	
Pollination (Anthesis)	Beginning of flowering	10.5.1	60	Flowering usually begins in middle of head
	Beginning of flowering	10.5.2		Flowering completed at top of head
	Beginning of flowering	10.5.3		Flowering completed at bottom of head
Milk Development	Medium milk	11.1	75	Milky ripe
Dough Development	Soft dough	11.2	85	Mealy ripe: kernels soft but dry
Ripening	Kernel hard (hard to split by thumbnail)	11.3	91	Physiological maturity. No more dry matter accumulation
	Kernel hard (cannot split by thumbnail)	11.4	92	Ripe for harvest. Straw dead

Table 2. Key wheat growth stages, approximate timing and importance in Kentucky wheat production.

Feekes Growth Stage	Typical Timing in Kentucky	Importance
3	Nov	Wheat plants with adequate tillers are needed prior to winter dormancy to ensure maximum yield potential.
3 Green-Up	mid Feb early March	Wheat begins actively growing, 'breaking' dormancy, at green-up in the spring. The first nitrogen application, of a split nitrogen application, is recommended at this stage. Often leaves appear to be twisting spirally and the plants will be prostrate: growing along the soil surface.
5	mid to late March	Wheat has elongated and become erect. The second nitrogen application, of a split nitrogen application, is recommended. If applying nitrogen as single application, apply at this stage. Herbicides and insecticides commonly applied at this stage. The growing point is still below the soil surface. The leaf closest to the soil surface on the pseudostem is about 1-inch from the soil surface.
6 Jointing	late March early April	The growing point is above the soil surface. Risk of injury (cold, freeze, herbicide, mechanical, etc.) negatively affecting yield increases. The first node is detectable. At early stages, the node will not be visible without carefully peeling the first couple of leaves from the stem. In later stages, the node becomes visible.
9 Flag Leaf	April	The ligule and collar of the final leaf (flag leaf) is visible. Almost all (75-80%) of a wheat plants' photosynthesis (energy to fuel grain fill) occurs in the flag leaf.
10.5 Heading	May	The wheat head has completely emerged.
10.5.1 Beginning Flowering	May	The first anthers become visible. Newly emerged anthers are bright yellow. The longer the anthers have been emerged the paler they become until they are white. Flowering begins in the middle of the head and progresses up and down the head. This is the optimal stage to apply fungicides to protect against head diseases. If fungicide cannot be applied at this stage it is best to apply up to 10 days **after** this date. Applications earlier than this stage are not as effective as applications after this stage.
10.5.2 Flowering	May	Anthers are visible to the top of the head.
10.5.3 Full Flower	May	All anthers are visible along the entire head. Grain is forming in the head.

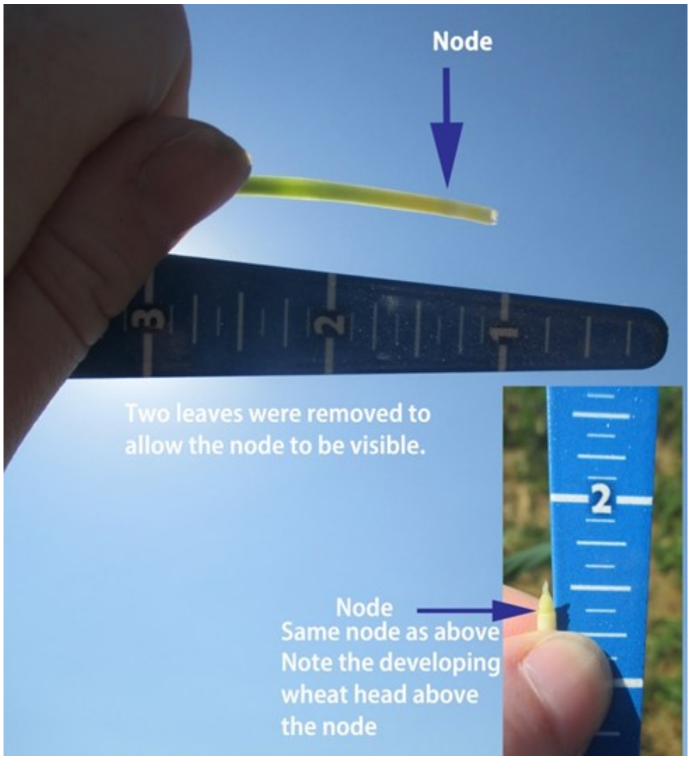
Carrie Knott, Extension Grain Crops Specialist

Table 3. Photographs illustrating key wheat developmental stages.

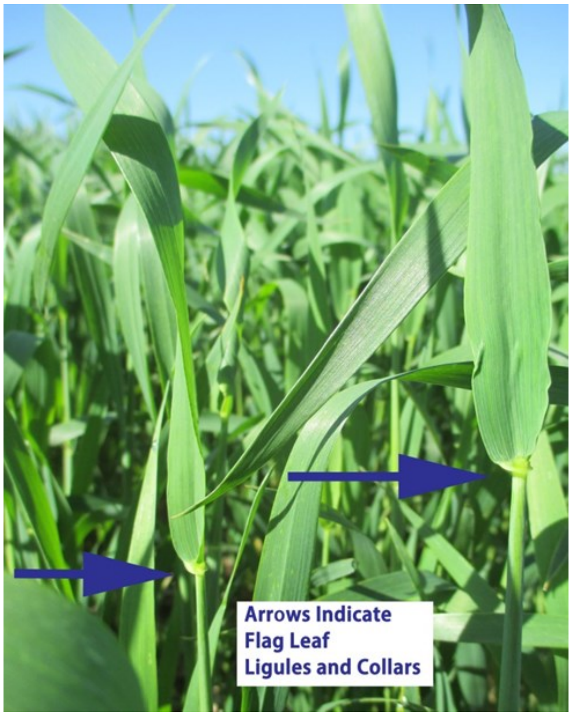
Feekes 3, Green-Up

Feekes 5

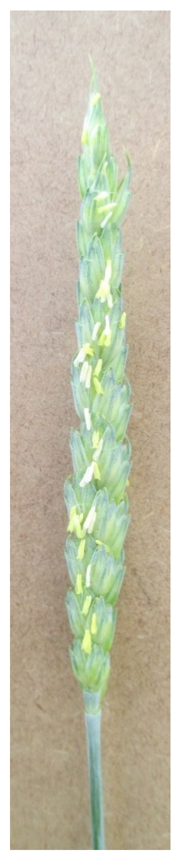
Feekes 6, Jointing



Feekes 9, Flag Leaf



Flowering

Feekes			
10.5 **Heading**	**10.5.1** **Beginning Flowering**	**10.5.2** **Flowering**	**10.5.3** **Full Flower**
			

Reminder - Samples Needed

2016 Kentucky Wheat Vomitoxin Survey

I. **Objectives:** The objectives of the Kentucky Wheat Vomitoxin Survey are to gain an understanding of annual variations in wheat vomitoxins (DON; deoxynivalenol) and the economic impact of wheat vomitoxins for Kentucky producers.

II. **Identification of Participants:** Anyone can submit a sample. The submitter must agree to share the requested agronomic and post-harvest information. Each submission will be uniquely identified by the "Submitter Code" that is chosen by the submitter. All information will be coded and remain anonymous when presented or discussed at meetings or any other venue. County level information will be used only to summarize geographical trends of the data collected.

III. **Sample Collection:** Cooperating producers will request a sub-sample of the grain samples collected by the elevator/mill/or other distribution point that collects samples and tests for DON (vomitoxin). Fill a one quart Freezer Zip-loc type bag <u>HALF FULL</u> and label bag with:

Submitter Code
County Sample Number
Date Tested at Elevator
Date Received by County Agent

KEEP the remaining sample you obtain for your own records.

IV. **Sample Storage:** Samples need to be stored indoors that is air-conditioned at room-temperature. <u>*Please do not leave in a vehicle or outdoors where fluctuating temperatures occur.*</u>

V. **Sample Submission:** Samples must be submitted to the county agent <u>***within 5 days***</u> of the vomitoxin (DON) test at the elevator/mill/other distribution point. AGENTS: keep samples stored in climate controlled offices and send to Carrie Knott (UK-REC, 1205 Hopkinsville St, Princeton, KY 42445) no later than <u>***August 15, 2016.***</u> If for some reason producers cannot make this deadline please make arrangements with your local county agent.

VI. **Sample Results:** All county agents will receive a copy of the sample results. Producers will need to remember their Submitter Code; neither the county agent nor Carrie Knott will know the origin of any sample beyond county origin. Results of the laboratory test will be published as soon as possible, but may take several months for processing and analyses. The results will be placed in the Wheat Science Newsletter as soon as they are available: http://wheatscience.ca.uky.edu.

2016 Kentucky Wheat Vomitoxin Survey

Wheat Sample Information Form

SAMPLES MUST BE OBTAINED WITHIN 5 DAYS OF DON TESTS

Submitter Code_______________________________________County__________________________

County Agent____Phone__________________________

To be completed by County Agent

County Sample Number ______________________ Date Agent Received Sample ______________________

Agronomic Data

Variety_________________________________Planting Date______________Harvest Date_________________

Previous Crop___________________________Row Width_________Seeding Rate (seeds/area)___________

Fall Fertilizer (lb/acre) N_________P_2O_5__________ K_2O_________Other_______________________

Winter/Spring Nitrogen (N) Date__________lbs/acre__________Date__________lbs/acre___________

Fungicide______________________Date Applied_____________________Growth Stage_________________

Herbicide______________________Date Applied_____________________Growth Stage_________________

Insecticide_____________________Date Applied_____________________Growth Stage_________________

Post-Harvest Data

Yield (lb/acre)__________________Test Weight (lbs/bu)_______________Grain Moisture (%)___________

Date Delivered to Elevator/Mill/Other________________________

DON (vomitoxin) ppm_________________Dockage for DON: ☐ No ☐ Yes discount___________

ATTACH COPY OF WEIGHT TICKET HERE

Send completed forms and grain samples to:

Your local county agent

Wheat Outlook and Profitability Potential

Dr. Todd Davis—Department of Ag Economics, Princeton

2015-2016 and 2016-17 Wheat Market Outlook

The April World Agricultural Supply and Demand Estimates (*WASDE*) report, released April 12th, provided an update for the 2015-16 marketing-year wheat price potential and forecasted ending-stocks. This article will provide an update of the 2015-16 wheat balance sheet, 2016 profitability potential, and will discuss potential 2016-17 wheat balance sheets and price potential.

Table 1 shows the wheat balance sheets for the 2012 through 2015 marketing-years. Wheat planted area was down 2.2 million acres in 2015 from last year but harvested area actually increased by 700 thousand acres as the lingering drought in the Southern Plains states was broken. The U.S. average wheat yield, for all classes of wheat, is projected at 43.6 bushels/acre which is slightly lower than last year's yield. The 2015 U.S. wheat crop is projected to be 2.05 billion bushels which is 26 million bushels more than last year's crop.

When you factor in the larger carry-in from 2014-15 of 752 million bushels plus the 2.05 billion bushel wheat crop, the total supply of wheat in the marketing channel is 2.924 billion bushel up 158 million bushels from 2014.

Table 1 shows that use is not projected to keep pace with this increase in supply. Food demand is not very price responsive and is projected to increase with population growth by 9 million bushel to 967 million. Feed use is projected to increase by 18 million bushels from last year to 140 million bushels. The feed use estimate will be pressured by the abundance of cheap corn as a feedstuff and USDA continues to revise downward this estimate.

Wheat exports have been under pressure since 2013 due to strong competition from the Black Sea region, Southern Hemisphere countries, Canada and the European Union. The strong U.S. dollar makes foreign wheat more price competitive for foreign buyers. The current projected exports at 775 million bushels, if realized, will be the smallest amount exported since the 1971-72 marketing-year. The U.S. has become a residual supplier of wheat with export share below 15%. A global production problem would increase export share temporarily until global production recovers.

Ending-stocks are projected to increase to 976 million bushels which is an increase of 224 million bushels from last year. This is projected to push the stocks-use ratio, the measure of relative excess supply, to over 50%. This is the largest stocks-use in the U.S. since the 1985-87 marketing-year. Stocks at 976 million bushels can be thought of as a 183 day supply of wheat on hand on June 1, 2016 before the 2016 wheat crop is harvested. This volume is weighing on the market with the 2015-16 U.S. marketing-year average farm price projected at $4.95 per bushel which is $1.04 lower than last year's price.

Table 1. U.S. Wheat Supply and Use

	2012-13	2013-14 Estimated	2014-15 Projected	2015-16 Projected	Change from 14-15
Planted Acres (million)	55.3	56.2	56.8	54.6	-2.2
Harvested Acres (million)	48.8	45.3	46.4	47.1	+0.7
Yield (bushels/acre)	46.2	47.1	43.7	43.6	-0.1
	----------------- Million Bushels -----------------				
Beginning Stocks	743	718	590	752	+162.0
Production	2,252	2,135	2,026	2,052	+26.0
Imports	123	169	149	120	-29.0
Total Supply	3,118	3,021	2,766	2,924	+158.0
Food	945	952	958	967	+9.0
Seed	73	77	79	66	-13.0
Feed and Residual	370	226	122	140	+18.0
Exports	1,012	1,176	854	775	-79.0
Total Use	2,400	2,431	2,014	1,948	-66.0
Ending Stocks	718	590	752	976	+224.0
Stocks/Use	29.9%	24.3%	37.3%	50.1%	+12.8%
Days of Stocks	109	89	136	183	+47
U.S. Marketing-Year Average Price ($/bu)	$7.77	$6.87	$5.99	$4.95	-$1.04

Source: April 2016 WASDE - USDA: WAOB.

2016 Profitability Potential and Break-Even Prices

The profitability potential for wheat and double-crop soybeans are shown in Table 2. The University of Kentucky budgets are based on wheat yields of 75 bushels/acre. Sensitivity analysis on yields is included with wheat yields at 90 and 60 bushels per acre. The double-crop soybean enterprise budget assumes a yield of 35 bushels/acre. Table 2 includes double-crop yields of 50 and 20 bushels per acre. Prices are for Western Kentucky based on June 2016 cash-forward contract bids as posted on the DTN website on April 15, 2016.

Table 2 distributes the costs in the enterprise budgets into variable, fixed and land costs. Variable costs are inputs (seed, fertilizer, chemicals, fuel/oil, repairs, crop insurance, other costs). Fixed costs are mostly machinery depreciation with insurance on facilities and other overhead expense. Line 4 is the return of wheat and double-crop soybeans to land, operator's management and risk. If the wheat/double-crop soybean enterprise is grown on owned (debt-free) land, a positive return can be obtained especially if the double-crop soybean yields are greater than 35 bushels/acre.

The $200 per acre land rent is pro-rated between wheat and soybeans based on the production share (2/3 wheat and 1/3 double-crop soybeans). The land resource may not be fully compensated this year by both crops unless the double-crop soybeans obtain high yields and farmers lock in profitable soybean prices through a cash-forward contract.

Table 2 also shows the break-even prices needed to cover the various costs. The break-even price needed to cover total variable and fixed costs for wheat at a 75 bushels/acre yield is $4.60/bushel. If the harvested wheat yield is 60 bushels/acre, the break-even is $5.75/bushel. The break-even for wheat to cover total economic costs at a 75 bushel/acre yield is $6.38/bushel.

For double-crop soybeans, the break-even price to cover total economic costs at a 35 bushel/acre yield is $9.13/bushel. Current pricing opportunities may exist to lock in an economic profit on a percentage of expected double-crop soybeans through cash-forward contracts with your local elevator.

This break-even analysis when using your own costs and yield potential is helpful in guiding marketing-decisions. Managers should think about forward-contracting wheat or soybeans prior to harvest if profitable opportunities are available.

Table 2. Budgeted Returns for 2016 Wheat and Double-Crop Soybeans for Varying Yields

		Wheat			Double-Crop Soybeans		
	Yield	90	75	60	50	35	20
	Price	$4.60	$4.60	$4.60	$9.40	$9.40	$9.40
	Revenue	$414	$345	$276	$470	$329	$188
1	Total Variable Costs	$290	$290	$290	$226	$226	$226
2	Return over Total Variable Costs	$124	$55	-$14	$244	$103	-$38
3	Total Fixed Costs	$55	$55	$55	$28	$28	$28
4	Return over Variable + Fixed Costs	$69	$0	-$69	$216	$75	-$66
5	Land Cost	$134	$134	$134	$66	$66	$66
6	Return to Operator Mgt & Risk	-$65	-$134	-$203	$150	$9	-$132
	Break-Even Prices ($/bu.) to Cover:						
	Total Variable Costs	$3.22	$3.86	$4.83	$4.51	$6.44	$11.28
	Total Variable + Fixed Costs	$3.83	$4.60	$5.75	$5.07	$7.24	$12.68
	Total Economic Costs	$5.32	$6.38	$7.98	$6.39	$9.13	$15.98

Source: University of Kentucky Enterprise budgets for 2016 Wheat.

Potential 2016-17 Wheat Balance Sheets

The May WASDE will provide the first estimates of the 2016-17 supply and demand projections for wheat. Table 3 provides projections from the USDA Baseline (released in February 2016) and the author's projections for the 2016-17 marketing-year.

First, let's talk about the assumptions behind these projections. Planted area is assumed to be 49.559 million acres based on the *Winter Wheat Seedings* report issued January 12th plus the *Prospective Plantings* report from March 31. The average abandonment for the last four years was 15% which implies a harvested area projected at 42.125 million acres (Table 3). The author's projections assume a trend yield of 46 bushels/acre with yields ranging 1.5 bushels above and below trend.

Table 3 provides the supply and demand estimates for the 2014-15 and 2015-16 marketing-years for comparison to the current projections. USDA's Baseline Projections assumed 51 million acres planted / 43.4 million acres harvested for 2016 (Table 3). USDA's Baseline projection is for a 1.991 billion wheat crop in 2016. The author assumes a 2016 wheat crop of 1.938 billion with a range of 1.875 to 2.001 billion bushels.

The demand side of the balance sheet is projected to remain a problem for 2016-17. The author projects total use at 1.99 billion which is only a 42 million bushel increase in use from the April WASDE's projections for the 2015-16 marketing-year. Cheap corn may limit feed use and strong export competition is projected to limit wheat exports.

Table 3. 2016 Baseline Projection for Wheat Updated February 2016.

	2014-15 Estimated	2015-16 Projected	2016/17 USDA Baseline	DAVIS Forecast Above Trend	DAVIS Forecast Trend	DAVIS Forecast Below Trend
Planted Acres (million)	56.8	54.6	51.0	49.559	49.559	49.559
Harvested Acres (million)	46.4	47.1	43.4	42.125	42.125	42.125
Yield (bushels/acre)	43.7	43.6	45.9	47.5	46.0	44.5
			------------------ Million Bushels ------------------			
Beginning Stocks	590	752	966	976	976	976
Production	2,026	2,052	1,991	2,001	1,938	1,875
Imports	149	120	125	120	120	120
Total Supply	2,766	2,924	3,082	3,097	3,034	2,971
Food	958	967	979	976	976	976
Seed	81	66	64	64	64	64
Feed and Residual	120	140	200	150	150	150
Exports	854	775	850	800	800	800
Total Use	2,013	1,948	2,093	1,990	1,990	1,990
Ending Stocks	753	976	989	1,107	1,044	981
Stocks/Use	37.4%	50.1%	47.3%	55.6%	52.5%	49.3%
Days of Stocks	137	183	172	203	191	180
U.S. Marketing-Year Average Price ($/bu)	$5.99	$4.95	$4.20	$3.95	$4.05	$4.13
Price Range ($/bu)	$5.99	$4.95		$2.90 - $5.00	$3.05 - $5.05	$3.20 - $5.07

Source: April 2016 WASDE - USDA WAOB and 2016 Baseline Projections.

The take-away message is that a significant production problem in the U.S. or an unexpected increase in use is needed to significantly reduce stocks and provide fundamental support for higher prices. Trend yields or better will likely maintain or increase stocks at current levels which would suggest lower prices for 2016-17. Table 3 reports the expected 2016-17 price and the price range. The price range is wide as there is significant uncertainty that could support higher or lower prices.

Could wheat prices approach $3/bushel? The lower bound of the price projections suggests that $3 wheat could be a possibility if Mother Nature blesses the United States with above trend yields and the stocks-use ratio increase above 55%.

Taking advantage of pricing opportunities when they are available should be part of a proactive management strategy of dealing with prices continuing to decline in the wheat market.

Fungicide Efficacy Table for Wheat Diseases

Dr. Carl A. Bradley, Extension Plant Pathologist

Every year, university and extension wheat pathologists meet and develop a fungicide efficacy table for wheat diseases. The name of the committee that meets and develops the table is the North Central Regional Committee on Small Grain Diseases (NCERA 184). The most-recent version of the table is provided on the next page.

Management of Small Grain Diseases

Fungicide Efficacy for Control of Wheat Diseases (Draft Revised 3-30-16)

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

Fungicide(s)												
Class	Active ingredient	Product	Rate/A (fl. oz)	Powdery mildew	Stagonospora leaf/glume blotch	Septoria leaf blotch	Tan spot	Stripe rust	Leaf rust	Stem rust	Head scab	Harvest Restriction
Strobilurin	Picoxystrobin 22.5%	Aproach SC	6.0 – 12.0	G[1]	VG	VG[2]	VG	E[3]	VG	VG	NL	Feekes 10.5
Strobilurin	Fluoxastrobin 40.3%	Evito 480 SC	2.0 – 4.0	G	--	--	VG	--	VG	--	NL	Feekes 10.5 and 40 days
Strobilurin	Pyraclostrobin 23.6%	Headline SC	6.0 - 9.0	G	VG[2]	VG[2]	E	E[3]	E	G	NL	Feekes 10.5
Triazole	Metconazole 8.6%	Caramba 0.75 SL	10.0 - 17.0	VG	VG	--	VG	E	E	E	G	30 days
Triazole	Propiconazole 41.8%	Tilt 3.6 EC[4]	4.0	VG	VG	VG	VG	VG	VG	VG	P	Feekes 10.5
Triazole	Prothioconazole 41%	Proline 480 SC	5.0 - 5.7	--	VG	VG	VG	VG	VG	VG	G	30 days
Triazole	Tebuconazole 38.7%	Folicur 3.6 F[4]	4.0	NL	NL	NL	NL	E	E	E	F	30 days
Triazole	Prothioconazole19% Tebuconazole 19%	Prosaro 421 SC	6.5 - 8.2	G	VG	VG	VG	E	E	E	G	30 days
Mixed modes of action[5]	Tebuconazole 22.6% Trifloxystrobin 22.6%	Absolute Maxx SC	5.0	G	VG	VG	VG	VG	E	VG	NL	35 days
Mixed modes of action[5]	Fluoxastrobin 14.8% Flutriafol 19.3%	Fortix	4.0 - 6.0	--	--	VG	VG	E	VG	--	NL	Feekes 10.5 and 40 days
Mixed modes of action[5]	Benzovindiflupyr 10.3% Propiconazole 11.7% Azoxystrobin 13.5%	Trivapro A EC + Trivapro B SE	4.0 + 10.5	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4
Mixed modes of action[5]	Metconazole 7.4% Pyraclostrobin 12%	TwinLine 1.75 EC	7.0 – 9.0	G	VG	VG	E	E	E	VG	NL	Feekes 10.5
Mixed modes of action[5]	Fluxapyroxad 14.3% Pyraclostrobin 28.6%	Priaxor	4.0 - 8.0	G	VG	VG	E	VG	VG	G	NL	Feekes 10.5
Mixed modes of action[5]	Propiconazole 11.7% Azoxystrobin 13.5%	Quilt Xcel 2.2 SE[4]	10.5 - 14.0	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5
Mixed modes of action[5]	Prothioconazole 10.8% Trifloxystrobin 32.3%	Stratego YLD	4.0	G	VG	VG	VG	VG	VG	VG	NL	Feekes 10.5 35 days
Mixed modes of action[5]	Cyproconazole 7.17% Picoxystrobin 17.94%	Aproach Prima SC	3.4-6.8	VG	VG	VG	VG	E	VG	--	NR	45 days

[1]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.
[2] Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.
[3]Efficacy may be significantly reduced if solo strobilurin products are applied after stripe rust infection has occurred.
[4]Multiple generic products containing the same active ingredients also may be labeled in some states.
[5]Products with mixed modes of action generally combine triazole and strobilurin active ingredients. Priaxor and the Trivapro copack include carboxamide active ingredients.

WELCOME

We would like to welcome Dr. Raul Villanueva, University of Kentucky Extension Entomologist. Raul is the newest addition to the UK Wheat Science Group. His responsibilities will include Extension programs and applied research on arthropods of grain crops, as well as other general extension entomology duties. Raul will be based at the UK Research and Education Center in Princeton. Raul comes to us from Weslaco, TX where he worked as an Extension Entomologist with Texas A&M University. We are excited to have his expertise here at the University of Kentucky.

Dr. John Grove, Soil Scientist and member of the Wheat Science Group, moves into a new position as Director of the University of Kentucky Research and Education Center located in Princeton, KY. His position includes oversight of all the center's facilities and equipment, long-term planning and programming and represents the interests of the center to stakeholders. In addition to leading the center, Grove will continue his research on the chemical and physical management of agronomic soils. The Wheat Science Group looks forward to working with Dr. Grove in his new role.

2016

UK WHEAT FIELD DAY

MAY 10TH

Registration begins at 8:00 am (CST)

TOPICS:

Wheat Variety Trials (Walk Through)

- Dr. Dave Van Sanford • Bill Bruening

Preemergence and Postemergence Control of Italian Ryegrass in Wheat

- Dr. Jim Martin

Introduction UK Extension Entomologist

- Dr. Raul Villanueva

309 Trials Can't Be Wrong: A Summary of the National Fusarium Head Blight Uniform Fungicide Testing Program

- Dr. Carl Bradley

Identifying Key Wheat Growth Stages

- Dr. Carrie Knott

Wheat Profitability and Risk Management for 2016

- Dr. Todd Davis

Nitrogen Management Strategies for Wheat Production

- Dr. Edwin Ritchey • Don Halcomb • Phil Needham

WHERE

UKREC FARM
1205 Hopkinsville St.
Princeton, KY 42445

APPROVED CREDITS:

CCA: SW 0.5, IPM 1, CM 1

PESTICIDE CREDITS: pending

LUNCH PROVIDED BY:

KENTUCKY Small Grain GROWERS' ASSOCIATION

COOPERATIVE
EXTENSION
SERVICE

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UNIVERSITY OF
KENTUCKY
College of Agriculture,
Food and Environment

Official Business

UPCOMING EVENTS

UK Wheat Field Day
Date: May 10, 2016

UK Corn-Soybean-Tobacco Field Day
Date: July 28, 2016