



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Wheat Science News

December 15, 2016 Volume 20, Issue 2

Research & Education Center
Princeton, KY 42445



Wheat Outlook and Profitability Potential

Dr. Todd D. Davis — Department of Ag Economics, Princeton

2016-17 Wheat Market Outlook

The December World Agricultural Supply and Demand Estimates (WASDE) report, released December 9, provided an update for the 2016-17 marketing-year wheat price potential and forecasted ending-stocks.

What's inside

- * ***Wheat Outlook and Profitability Potential***
- * ***Wheat Production Field School: A Hands-On Training***

Coming Up

- * ***Winter Wheat Meeting—January 5
9AM—3PM CST***
- * ***Wheat Production Field School: A Hands-On Training***
 - ***March 8 (Green-up)***
 - ***April 26 (Prior to Wheat Heading)***

UK Wheat Field Day—May 9

Table 1 shows the wheat balance sheets for the 2013 through 2016 marketing-years. Wheat planted area was down 4.8 million acres in 2016 from last year but harvested area decreased by 3.4 million acres as abandonment rates were lower than average. The U.S. average wheat yield, for all classes of wheat, is projected at 52.6 bushels/acre which is a record yield. The 2016 U.S. wheat crop is projected to be 2.31 billion bushels which is 248 million bushels more than last year's crop.

When you factor in the larger carry-in from 2015-16 of 976 million bushels plus the 2.31 billion bushel wheat crop, the total supply of wheat in the marketing channel is 3.41 billion bushel up 483 million bushels from 2015.

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 6 million bushel to 963 million. Feed use is projected to increase by 108 million bushels from last year reflecting the large crop produced and quality issues of the hard red winter crop that is competing with corn for feed use. This estimate will be pressured by the abundance of cheap corn as a feedstuff and will likely decrease in future USDA reports.

Cooperative Extension Service
Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.
LEXINGTON, KY 40546



Disabilities
accommodated
with prior notification.

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 as compared to U.S. wheat. The current projected exports at 975 million bushels, if realized, will be 200 million bushels greater than last year but 200 million bushels less than the quantity exported in 2013-14 (Table 1).

Ending-stocks are projected to increase to 1.143 billion bushels which is an increase of 167 million bushels from last year. This is projected to push the stocks-use ratio, the measure of relative excess supply, to over 50%. Stocks at 1.143 billion can be thought of as a 184 day supply of wheat on hand on June 1, 2017 before the 2017 wheat crop is harvested. This volume is weighing on the market with the U.S. marketing-year average price projected at \$3.70 per bushel which is \$1.19/bushel lower than last year's price (Table 1).

Table 1. U.S. Wheat Supply and Use					
	2013-14	2014-15	2015-16 Estimated	2016-17 Projected	Change from 15-16
Planted Acres (million)	56.2	56.8	55.0	50.2	-4.8
Harvested Acres (million)	45.3	46.4	47.3	43.9	-3.4
Yield (bushels/acre)	47.1	43.7	43.6	52.6	+9.0
----- Million Bushels -----					
Beginning Stocks	718	590	752	976	+224
Production	2,135	2,026	2,062	2,310	+248
Imports	<u>173</u>	<u>149</u>	<u>113</u>	<u>125</u>	<u>+12</u>
Total Supply	3,026	2,766	2,927	3,410	+483
Food	955	958	957	963	+6
Seed	77	79	67	69	+2
Feed and Residual	228	122	152	260	+108
Exports	<u>1,176</u>	<u>854</u>	<u>775</u>	<u>975</u>	<u>+200</u>
Total Use	2,436	2,014	1,952	2,267	+315
Ending Stocks	590	752	976	1,143	+167
Stocks/Use	24.2%	37.3%	50.0%	50.4%	+0.4%
Days of Stocks	88	136	183	184	+2
U.S. Marketing-Year Average Price (\$/bu)	\$6.87	\$5.99	\$4.89	\$3.70	-\$1.19

Source: December 2016 WASDE - USDA: WAOB.

2017 Profitability Potential and Break-Even Prices

The profitability potential for wheat and double-crop soybeans are shown in the following table. 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 40 bushels/acre. Table 2 includes double-crop yields of 50 and 30 bushels per acre. Prices are for Western Kentucky based on July 2017 wheat futures and November 2017 soybean futures on December 9, 2016, adjusted by the average basis for Western Kentucky.

Table 2 distributes the costs in the variable costs (seed, fertilizer, pesticides, fuel/oil, repairs, etc.); fixed costs (machinery depreciation and overhead); and land cost. The return over variable costs (line 2) is positive for 75 bushel/acre yields or larger. Wheat yields would have to be 90 bushels or larger to cover total variable and fixed costs (line 4). Wheat prices would have to \$5.85 at 75 bushel/acre yield to cover variable costs, fixed costs, and land costs.

The double-crop soybean returns are more positive than those for wheat. Only if the double-crop soybean yield is 30 bushel/acre is there projected to be a loss over variable costs, fixed costs and land cost (Table 2). Otherwise, if the double-crop soybean yields are 50 bushel/acre, the profits in soybeans can offset the negative wheat returns for the wheat enterprise that yields 75 bushels/acre or greater (Table 2).

Those growing wheat on rented land will not be able to pay \$175/acre cash rent solely by the profits generated by wheat. Without double-crop soybeans, the return over cash costs plus cash rent range from -\$70 to -\$193 per acre given the production, price and cost assumptions. If double-crop soybeans yield 30 bushels/acre, then losses would increase by \$13/acre (line 4).

Table 2. Budgeted Returns for 2017 Wheat and Double-Crop Soybeans for Varying Yields						
	Wheat			Double-Crop Soybeans		
Yield	90	75	60	50	40	30
Price	\$4.10	\$4.10	\$4.10	\$9.95	\$9.95	\$9.95
Revenue	\$369	\$308	\$246	\$498	\$398	\$299
1 Total Variable Costs	\$267	\$267	\$267	\$226	\$226	\$226
2 Return over Total Variable Costs	\$102	\$41	-\$21	\$272	\$172	\$73
3 Total Fixed Costs	\$55	\$55	\$55	\$28	\$28	\$28
4 Return over Variable + Fixed Costs	\$47	-\$15	-\$76	\$244	\$144	\$45
5 Land Cost	\$117	\$117	\$117	\$58	\$58	\$58
6 Return to Operator Mgt & Risk	-\$70	-\$132	-\$193	\$186	\$86	-\$13
Break-Even Prices (\$/bu.) to Cover:						
Total Variable Costs	\$2.97	\$3.56	\$4.45	\$4.51	\$5.64	\$7.52
Total Variable + Fixed Costs	\$3.58	\$4.29	\$5.37	\$5.07	\$6.34	\$8.45
Total Economic Costs	\$4.88	\$5.85	\$7.32	\$6.23	\$7.79	\$10.38

Source: University of Kentucky Enterprise budgets for 2017 Wheat and Double-Crop Soybeans

Table 2 also shows the break-even prices needed to cover the various costs. The break-even price needed to cover total cash costs, fixed costs, plus cash rent at a yield of 75 bushels/acre is \$5.85/bushel. If the harvested wheat yield is 60 bushels/acre, the break-even is \$7.32/bushel. This type of analysis, using your own costs and yield potential, is helpful in guiding marketing-decisions as you think about forward-contracting wheat or soybeans prior to harvest.

Currently, the Futures market is offering pricing opportunities via hedging with commodity futures, put options or using hedge-to-arrive contracts to protect 2017 soybean prices at profitable levels. It is worth taking some time to calculate your break-even prices given your farm's cost and production information. I encourage you to consider pricing a percentage of the 2017 soybean crop at profitable price levels.

Wheat Production Field School: A Hands-On Training *(March 8 & April 26)*

The UK Wheat Science Group will offer two hands-on training sessions on managing wheat in Kentucky. The sessions will be held at UKREC in Princeton and are scheduled March 8 (Green-up) and April 26 (Prior to Flowering). These programs are directed towards crop advisors and farm managers who provide agronomic guidance for wheat production. Class size will be limited to 30 people per training. Topics covered in each session are listed below. **Pre-registration is required for each training.**

Use the following link to pre-register by individual training dates

https://uky.az1.qualtrics.com/SE/?SID=SV_03u0j7YcoDnsoPr.

If you have any issues or questions with registration, please contact:

Edwin Ritchey: edwin.ritchey@uky.edu or 270-365-7541 ext. 301. This training is made possible by funding from the Kentucky Small Grain Growers Association. The deadline for pre-registering is February 28. A third session will cover topics associated with pre-planting decisions in the fall 2017 (topics and times TBA).

Training 9 AM - 3 PM (CT). Sign-in begins at 8:30.



Lunch will be provided.

***CEU's for CCA and Pesticide Applicator will be applied for**



Topics:

Green-Up (March 8)

- Submitting wheat samples to UK diagnostic lab - Brenda Kennedy
- Relating soil productivity to soil types - Jerry McIntosh (NRCS)
- Growth stage / plant dissection at greenup - Carrie Knott
- Assessing freeze damage - Carrie Knott
- Planting date and seeding rate differences impact tiller counts - Carrie Knott
- Herbicide symptomology associated with injury from tank contamination, application timing, etc. - Jim Martin
- Managing for efficient use of nitrogen - Edwin Ritchey & John Grove
- Tillage and traffic impacts on establishing wheat stands – John Grove & Edwin Ritchey
- Impact of rooting depth of ryegrass on productivity of certain soils - Lloyd Murdock
- Weed Identification - Jim Martin

Prior to Wheat Heading (April 26)

- Growth stage / plant dissection near heading - Carrie Knott
- Planting date and seeding rate differences impact stem counts near heading - Carrie Knott
- Growth regulators for wheat - Carrie Knott
- Application timing of fungicides - Carl Bradley
- Late nitrogen applications for protein - John Grove
- Plant analysis for assessing nutrition - John Grove
- Tillage and traffic impacts on growth - John Grove & Edwin Ritchey
- Managing insects during grain storage - Raul Villanueva
- Controlling ryegrass as a cover crop and as a weed in wheat - Lloyd Murdock & Jim Martin
- Weed Identification - Jim Martin

2017 WINTER WHEAT MEETING

January 5, 2017 9am-3pm (cst)



College of Agriculture,
Food and Environment
Cooperative Extension Service

REGISTRATION:

8:30 am

LOCATION:

James E Bruce Convention Center
303 Conference Center Drive
Hopkinsville, KY 42240

LUNCH SPONSORED BY:



CCA and Pesticide Credits
application have been
submitted.

For additional information
contact:

Colette Laurent,
UK Grain Crops Coordinator
claurent@uky.edu –
(270) 365-7541 Ext 264

Weed Problems in Winter Wheat

Garrett Montgomery

Management of Stripe Rust and Fusarium Head Blight of Wheat

Carl Bradley

Economic Tools for Improved Decision Making in Wheat Production

Jordan Shockley

Maximizing Kentucky's Wheat and Double-Crop Soybean System

Carrie Knott

Growing Barley and Rye in Kentucky

Chad Lee

Influence of the 2016's Warm Fall Season on Wheat's Pest Populations in 2017

Raul Villanueva

2017 Crop Condition

Carrie Knott

Market Outlook, Profitability Potential, and Risk Management Alternatives

Todd Davis



Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating. Disabilities accommodated with prior notification.





University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Research and Education Center
PO Box 469
Princeton, KY 42445-0469

RETURN SERVICE REQUESTED

2017 Winter Wheat Meeting—January 5, 2017 9 AM—3 PM

Wheat Production Field School: A Hands-On Training

Date: March 8, 2017 (Green-Up)

&

April 26, 2017 (Prior to Wheat Heading)

UK Wheat Field Day

Date: May 9, 2017

UK Corn-Soybean-Tobacco Field Day

Carrie Knott, Extension Grain Crops Specialist