USDA Crop and Livestock Reports: What, When, Where?

Women Managing the Farm Conference

February 8, 2019/Manhattan, Kansas

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Agricultural Economics



News & Updates



2019 Conference for Kansas Women in Agriculture Set in Manhattan Posted October 18, 2018



Registration is now open! Posted October 15, 2018



Call for Presentations for 2019 WMF Conference

FEATURED



IMPORTANT DATES

2019 Conference

February 7-8, 2019

Hilton Garden Inn and Manhattan Conference Center, Manhattan, Kansas

Pre-conference Workshops on February 6, 2019

Price Analysis and Forecasting

"Prediction is very difficult, especially if it's about the future".

Neils Bohr, Physicist

 "I have seen the future and it is very much like the present, only longer."

Kehlog Albran, Author

"The future, predict we cannot."

Yoda



Moneyball: The Art of Winning an Unfair Game

- By Michael Lewis (2003)
- Sabermetrics (Bill James: 1980s)
- Billy Beane Oakland A's general manager
- Determined "prices" for things not generally considered "priceable"
 - Fielding skills, on-base percentage, pitches not in the strike zone that are swung at.



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Moneyball: Valuing Hitters

- For hitters, the most important statistic:
 - OBP: on-base percentage (3x more important than slugging percentage). Most important predictor of run production.
 - Also: strikeout percentage and ERV (expected run value). These are all more important than HR,
 RBI or batting percentage.
 - A few others: pitches per plate appearance,
 walk:strikeout ration, pitches not in strike zone
 that are swung at.



Moneyball: Valuing Pitchers

- For pitchers, the most important stat:
 - Ground ball:fly ball ratio. By far the most important. 2.5x more important in predicting low runs scored than ERA (earned run average).
 - Others: walk:strikeout ratio, pitches per batter.



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Market Efficiency

- In "Moneyball", market inefficiencies existed:
 high-priced players did not have some of the most
 important statistics; those with some of the most
 important stats were low-priced.
- Much economic analysis assumes that markets operate efficiently (perfectly competitive market)
 - Perfect information
 - Homogeneous good
 - No participant with market power to set prices
 - No barriers to entry or exit
 - Equal access to production technology



Market Efficiency

- For the most part, commodity markets are efficient. (You cannot/will not consistently beat the market over a long time).
- BUT: you may well be behind the market if you don't know what is going on.
- If inefficiencies exist, opportunities exist.
 - Land markets?
 - Valuing used equipment and machinery?
 - Commodities?
 - Others?



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Fundamental Analysis vs. Technical Analysis

- Fundamental Analysis: uses supply and demand data (and other economic data such as income, costs, currency rates, inflation, etc) to understand prices. <u>USDA reports provide data about</u> <u>fundamentals (supply/demand).</u>
- Technical analysis: primarily uses the patterns of price data itself. Looks for trends in prices, as well as highs and lows which provide "natural" limits to price movement.



Fundamental Analysis

- Advantages of fundamental analysis
 - Provides extra information not available using technical analysis.
 - May predict a price movement well in advance of it actually happening
 - Gives incentive to hold a winning position in the longer term
 - Fundamental news provides information to the entire market, but is best utilized by someone who knows what it means.



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Fundamental Analysis

- Disadvantages of fundamental analysis
 - Difficult to determine timing
 - May be missing variable(s)
 - Does not account for unexpected developments
 - 1973: Russian wheat sales and OPEC embargo
 - 1979: Russian invasion of Afghanistan; Iran revolution
 - 1991: Iraq invades Kuwait
 - 2001: 9/11
 - 2006: Ethanol subsidy/mandate/tariff
 - 2014: Oil glut caused by shale oil (fracking)
 - 2018-2019: Tariff war with China



Fundamental Analysis

- In today's world, the factors affecting the market fundamentals (supply and demand) are more numerous and more interconnected than ever.
 - Argentina's export ban on grains (2008) and export taxes (2010)
 - Russia's drought and fires (2010)
 - Greek debt drama (2011-2015)
 - China's economic slowdown (2015)
 - Brexit (2016-2019)
 - U.S. rejects TPP and renegotiates NAFTA (2017)
 - U.S./China engage in escalating tariff war (2018-19)



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A Few Other Factors to Pay Attention To:

- Income growth and unemployment
- Inflation
- Currency exchange rates (\$, Euro, Yen, etc)
- Interest rates (long-term and short-term)
- Trade balances/deficits (current account)
- Government deficits and debt
- Government policy trade, farm bill
- Weather
- Natural disasters
- Conflict/War (or potential conflict, eg. North Korea)



USDA Reports

- USDA provides a variety of reports on agricultural commodities at daily, weekly, monthly, quarterly, and annual intervals.
 - Crop reports, including supply-demand info, planting intentions, stocks and inventory, and crop condition reports, among others.
 - Livestock reports, including animal inventories, slaughter, cold storage, on-feed, among others.
- In addition to reports, the annual USDA
 Outlook Conference at the end of February
 is something to pay attention to.
 Presentations released online after the
 conference.



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Crop Reports

- The USDA publishes monthly crop supply and demand estimates for the USA and the world
 - These benchmark estimates provide grain markets with objective, timely and comprehensive supply-demand info
 - World Agricultural Supply-Demand Estimates (WASDE)
 - Crop Production Reports
- USDA crop and WASDE reports have broad impact as they define fundamental supplydemand conditions in commodity markets



USDA World Agricultural Outlook Board and WASDE Reports

- Interagency process, with monthly forecasts of U.S. and world supply and demand for major crops
- A balance-sheet approach
 - Supply: Beginning stocks, Production & Imports
 - <u>Use</u>: Food, seed and industrial use, Exports, Feed+Residual
 - Ending Stocks or carryout stocks
 - Prices: U.S. average cash price projections (by marketing year)



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Monthly Crop Production & WASDE Reports

- USDA <u>Crop Production (NASS)</u> & <u>WASDE (WAOB)</u> reports are prepared simultaneously in a secured area & released at 12:00 noon ET (11 am CT) between the 8th & 12th day of each month
 - NASS production forecasts are incorporated into U.S. crop supplydemand estimates



www.usda.gov/oce/commodity/wasde



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OCE / WAOB / WASDE

World Agricultural Supply and Demand Estimates

2018 Release Dates (12:00pm ET)

Jan. 12, Feb. 8, Mar. 8, Apr. 10, May 10, Jun. 12, Jul. 12, Aug. 10, Sep. 12, Oct. 11, Nov. 8, and Dec. 11

2019 Release Dates (12:00pm ET)

Jan. 11, Feb. 8, Mar. 8, Apr. 9, May 10, Jun. 11, Jul. 11, Aug. 12, Sep. 12, Oct. 10, Nov. 8, and Dec. 10

Latest Report

November-08 Report (latest.xxx) (wasde1218.xxx) (wasde1118.xxx) PDF PDF PDF XML XML XML



USDA United States Department of World Agricultural Supply and Demand Estimates

ISSN: 1554-9089

Office of the Chief Economist Agricultural Marketing Service Farm Service Agency Economic Research Service Foreign Agricultural Service WASDE - 584 Approved by the World Agricultural Outlook Board December 11, 2018

WHEAT: The outlook for 2018/19 U.S. wheat this month is for unchanged supplies, lower exports, and higher ending stocks. Wheat exports are lowered 25 million bushels to 1.0 billion with all of the reduction in Hard Red Winter (HRW) on historically low exports for this class in the first half of the 2018/19 marketing year (MY). The reduction in HRW is partially offset by higher exports of Hard Red Spring and Soft Red Winter. Projected 2018/19 ending stocks are raised 25 million bushels to 974 million, which are still down 11 percent from last year. Based on NASS monthly prices reported to date and price expectations for the remainder of the MY, the projected season-average farm price is up \$0.05 per bushel at the midpoint with the range narrowed to \$5.05 to \$5.25.

World 2018/19 wheat supplies are increased 0.8 million tons as additional Russian carryin stocks and a larger Canadian crop more than offset a reduction in Australian production. Based on the updated ABARES estimate, Australia's production is lowered by 500,000 tons to 17.0 million. This would be the lowest Australian wheat output since 2007/08. Canada's wheat production is raised 300,000 tons to 31.8 million, based on the latest estimate by Statistics Canada.

Projected global 2018/19 trade is lower, as reduced Australian, EU, and U.S. exports are partly offset by higher Russian exports, which are increased 1.5 million tons to 36.5 million. Russia and other Black Sea suppliers continue to displace EU and U.S. exports in several markets in the first half of 2018/19 but are expected to be less competitive in the second half based on reduced exportable supplies. Australia's wheat exports are lowered 1.0 million tons to 10.5 million as its export prices are expected to remain uncompetitive and more supplies are consumed domestically for feed. Global ending stocks are raised 1.4 million tons to 268.1 million, primarily on increases for the EU and the United States but are 4 percent lower than last year's record 279.9 million

COARSE GRAINS: This month's 2018/19 U.S. corn outlook is for lower corn used for ethanol, reduced imports, and larger ending stocks. Imports are lowered based on observed trade to date. Corn used to produce ethanol is reduced 50 million bushels to 5.6 billion, based on the most recent data from the Grain Crushings and Co-Products Production report and weekly ethanol production data as reported by the Energy Information Administration for the month of November. These data imply corn used for ethanol during the September to November quarter declined relative to the prior year for the first time since 2012. With no other use changes, ending stocks are up 45 million bushels from last month. The season-average corn price received by producers is unchanged at a midpoint of \$3.60 per bushel but the range is narrowed 5 cents on

December 2018 WASDE - 584 - 15 U.S. Soybeans and Products Supply and Use (Domestic Measure) 1/ **Past years Current year** 2016/17 2017/18 Est. 2018/19 Proj. 2018/19 Proj. SOYBEANS Dec Million Acres Area Planted **SUPPLY** 83.4 90.1 89.1 89.1 Area Harvested 82.7 88.3 89.5 88.3 Bushels 52.0 49.3 52.1 52.1 Yield per Harvested Acre Million Bushels Beginning Stocks 197 438 438 Production 4,296 4,411 4,600 4,600 **Imports** 22 22 25 25 4,734 5,063 Supply, Total 4,515 5,063 **USE** Crushings 1,901 2,055 2,080 2,080 Exports 2,166 2,129 1,900 1,900 Seed 105 104 96 96 32 32 Residual 41 Use, Total 4.214 4.296 Ending Stocks Avg. Farm Price (\$/bu) 2/ 9.47 9.33 7.60 - 9.60 7.85 - 9.35

Marketing Year

- The marketing year for wheat:
 - June 1 May 31
- The marketing year for summer crops (corn, soybeans, milo)
 - September 1 August 31.
- USDA begins estimating yields/production, usage, and prices in May each year for the following marketing year (projections for 2018-2019 MY began in May, 2018).



Marketing Year Average Prices

- Marketing Year Average (MYA) prices are determined by a weighted average of NATIONAL cash prices.
- Prices are weighted by sales each month.
- A relatively large proportion of sales take place in the three months following harvest for most crops (grain sorghum is an exception).
- MYA prices are used for government program payments (ARC, PLC), as well as crop insurance.
- USDA estimates MYA prices each month based on historical weights and expected prices and provides a range of expected prices.

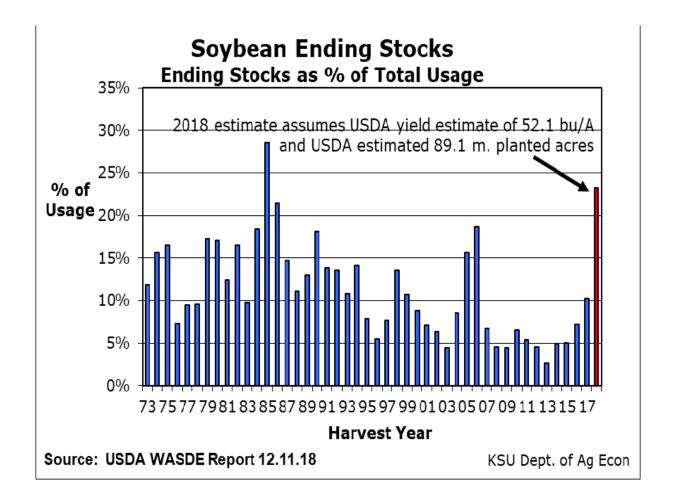


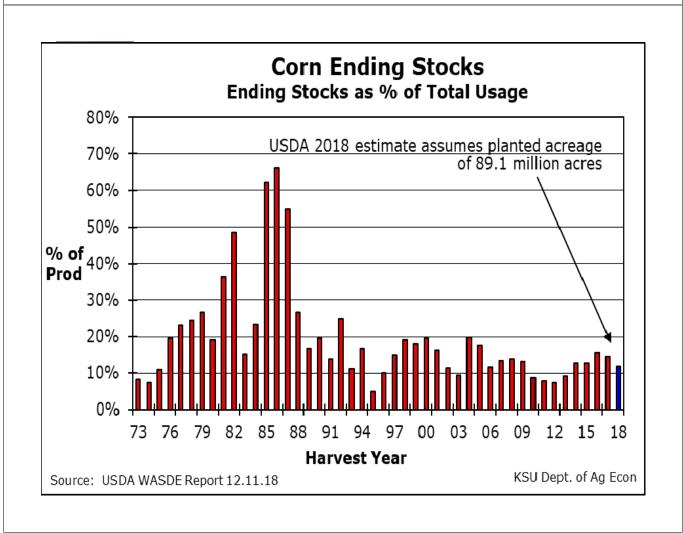
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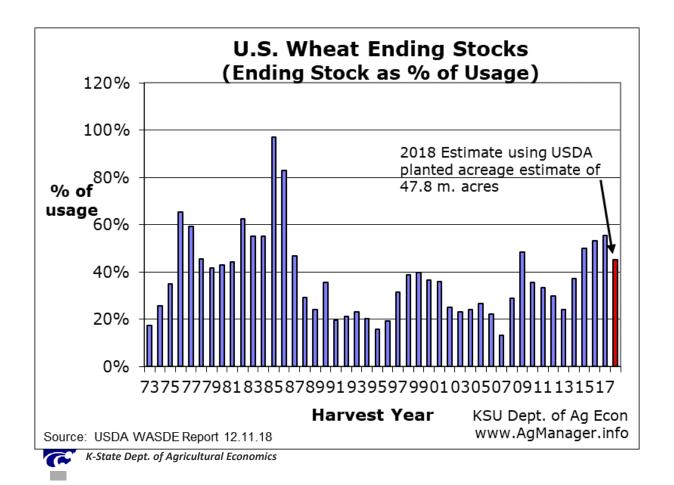
Using WASDE Data and Information

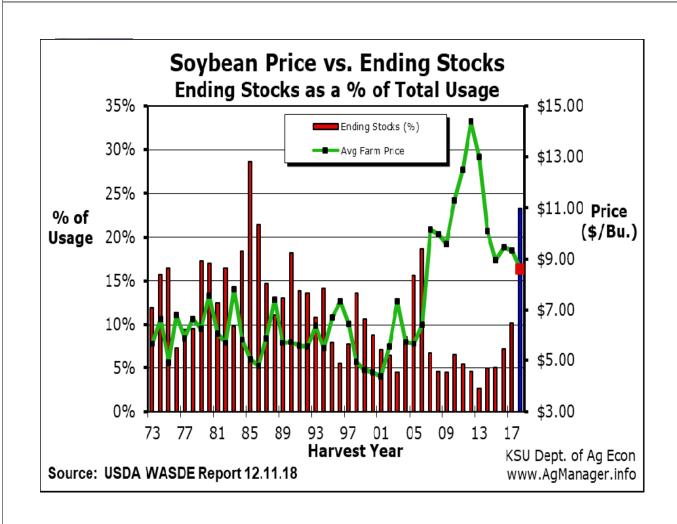
- Understanding supply and demand situation by comparing with historical values. Includes exports, production, imports, domestic use (ethanol), etc.
- Evaluating the size of ending stocks of a commodity and expected effects on prices (stocks to use ratio).
- Obtaining an idea of what USDA expects for MYA prices.

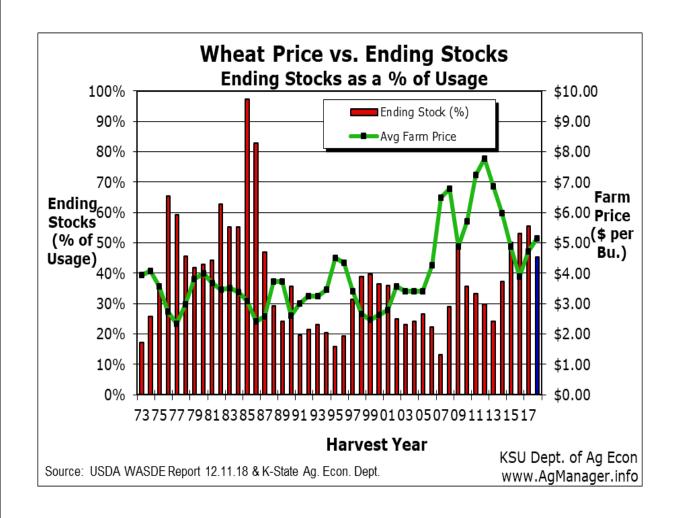


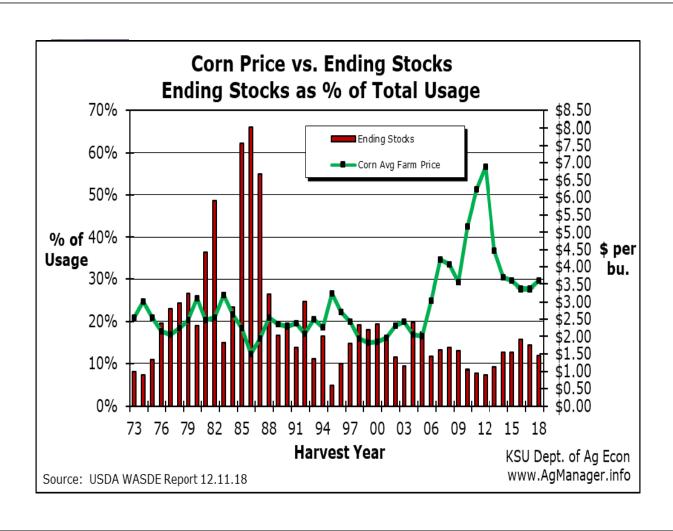


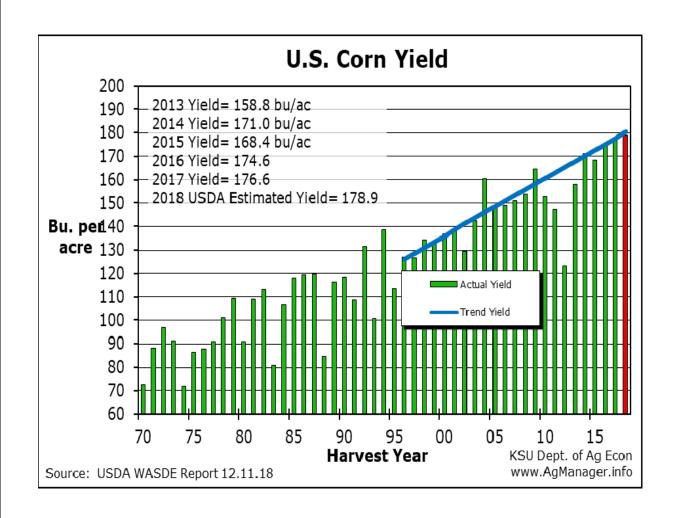


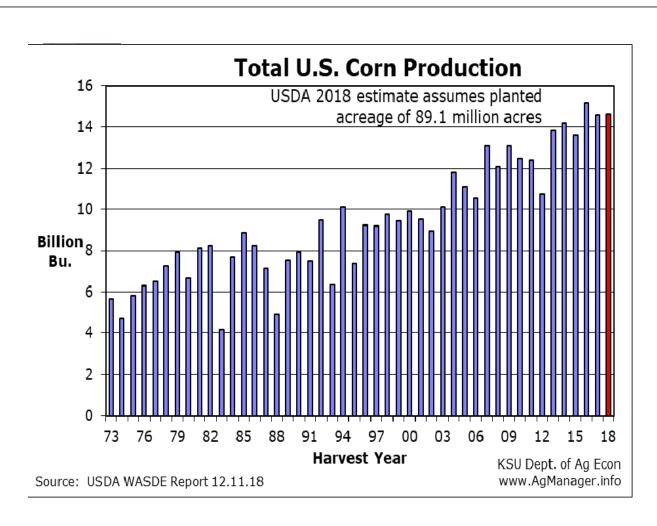


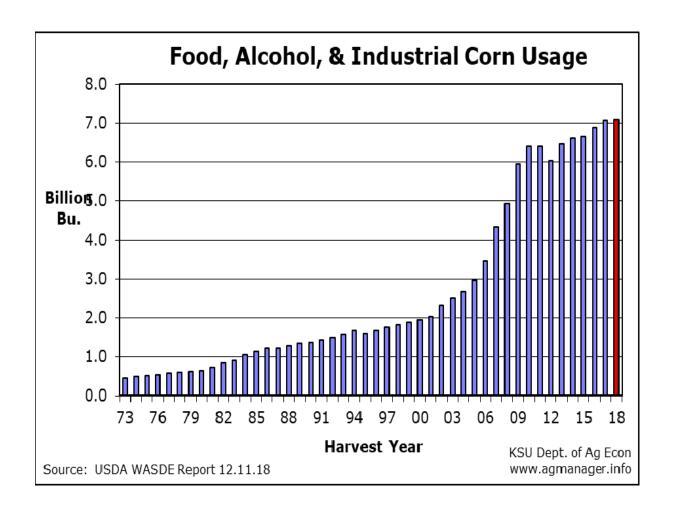


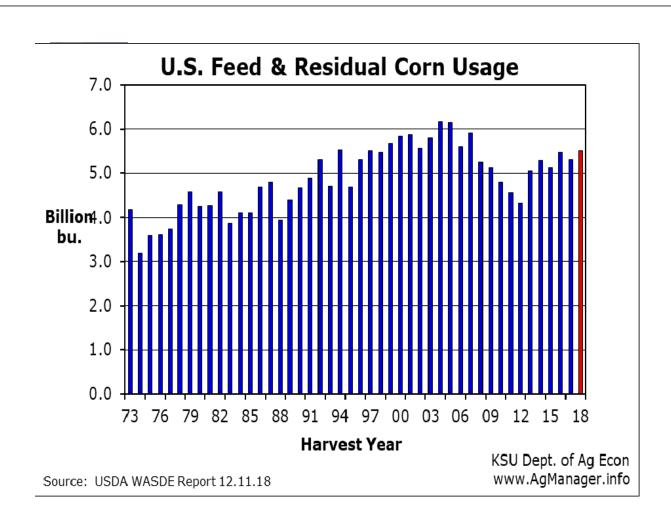












Other Crop Reports: National Agricultural Statistics Service (NASS)

- Winter wheat and rye seedings report early January
 - Reports actual planted acres from survey data
- Planting Intentions Report end of March
 - For summer crops, based on farmer survey in early March
- Acreage Report late June
 - Planted acres, based on early June survey. First report of actual planted acres.



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Other Crop Reports: National Agricultural Statistics Service (NASS)

- Monthly yield and production forecasts
 - Winter wheat starting in May
 - Spring wheat and other small grains starting in July
 - Other spring-planted crops starting in August
 - Final crop estimates end of the harvesting season
- Quarterly Stocks Reports
 - Grain and soybeans stored on and off farms (January, March, July, September)
 - These inventory reports have become large market-changers in an era of relatively low stocks.



Other Crop Reports: National Agricultural Statistics Service (NASS)

- Weekly crop progress and condition report
 - Beginning in March, for each state.
 - Released each Monday morning, reporting on the previous Monday-Sunday period.
 - Also includes days suitable for fieldwork as well as topsoil and subsoil conditions for the state.
- Expected yield reports
 - Monthly, August to November, for corn and soybeans.
 - Reflect conditions as of the first of the month.



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Annual USDA June Ag Survey

Largest USDA Survey Each Year

- Survey done in 1st two weeks in June:
 - ≈ 2,400 interviewers contact > 125,000 farmers
 - Either by phone or in person
- U.S. crop & livestock producers report:
 - Acreage of each crop either planted or intend to plant
 - Acreage they expect to harvest as grain
 - Stocks of grain in on farm storage
 - Livestock inventories



Importance of January Crop Reports

- January is the biggest report period of the year for crops.
 - Crop Production Annual Summary
 - Quarterly Grain Stocks
 - First quarter estimated usage is documented in the stocks report.
 - Winter Wheat Seedings
 - January WASDE reports.
 - First "final" yield for the corn and soybeans



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Other "Big" Reporting Times

- End of March: Planting Intentions report and Quarterly Stocks reports.
- End of June: acreage report (reporting actual plantings, based on early June survey)
- Mid-August: first expected yield report for summer crops, based on field surveys.
- End of September: small grains summaries (including wheat) and quarterly stocks report, with ending MY inventories for summer crops.





Useful Websites for Crop Reports

- Crop Progress and Conditions
 - http://www.nass.usda.gov/Publications/State_Crop_ Progress and Condition/
- Prospective Plantings:
 - https://usda.library.cornell.edu/concern/publications/x633f100h?locale=en
- Winter Wheat Seedings:
 - https://usda.library.cornell.edu/concern/publications/ /n870zq819?locale=en
- Small Grain Summaries:
 - https://usda.library.cornell.edu/concern/publications/ 5t34sj573?locale=en



Useful Websites for Crop Reports

- Quarterly Grain Stocks Reports:
 - https://usda.library.cornell.edu/concern/publications/xg94hp534?locale=en
- June Acreage Report:
 - https://usda.library.cornell.edu/concern/publications/j098zb09z?locale=en
- K-State AgEcon Grain Outlook Newsletter:
 - http://www.agmanager.info/grain-marketing/grain-market-outlook-newsletter



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A Few Additional Sites

- Weekly Export Inspection Report:
 - Monday morning at 8 am.
 - http://www.ams.usda.gov/mnreports/wa_gr101.txt
- Weekly Export Sales Report:
 - Thursday morning at 8 am.
 - http://www.fas.usda.gov/export-sales/esrd1.html
- Weekly Petroleum Status Report:
 - Wednesday morning at 10:30 am.
 - http://www.eia.gov/petroleum/supply/weekly/
- NOAA 6-10 day forecasts (Daily)
 - http://www.cpc.ncep.noaa.gov/products/predictions/610day/index.php/



Macroeconomic Data: FRED

FRED: Federal Reserve Economic data

https://fred.stlouisfed.org/

Maintained by the St. Louis Federal Reserve Bank.

Interest rates	Bond yields		
GDP	Oil prices		
CPI, PPI	Consumption expenditures		
Unemployment rate	Public debt		
Money supply	Exchange rates		
Inflation rates	Consumer sentiment		
Housing starts	Vehicle sales		
Savings rates	MUCH more.		



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One Other Helpful Site: FarmDoc

University of Illinois

 FarmDoc: extension website for ag econ department at University of Illinois. Lots of good information on markets, production, finance and other topics.

http://farmdoc.illinois.edu/

 FarmDoc Daily: a very useful daily blog with articles related to grain markets primarily. Can be very helpful in understanding grain markets and also for varying types of analysis.

http://farmdocdaily.illinois.edu/



Livestock and Meat Market Information USDA Reports

- Many USDA livestock reports available
- The bigger ones:
 - Livestock, Dairy, & Poultry Outlook middle of each month, with a quarterly forecast for next 4-6 quarters
 - Cattle-on-Feed third or fourth Friday of each month.
 - Livestock Slaughter Thursday, often the day before cattle-on-feed, each month.
 - Cattle Inventory semi-annually, end of January and end of July.
 - Hog and Pig Inventory quarterly, March, June, September, December.



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Livestock and Meat Market Information USDA Reports

- Some other reports:
 - Quarterly Hogs and Pigs End of March,
 June, September, December.
 - US and Canadian Cattle / US and Canadian
 Hogs latter parts of February and August.
 - Cold Storage generally around the 22nd of each month
 - Milk Production between the 19th-24th of each month



Livestock and Meat Market Information USDA Reports

- Livestock, Dairy, & Poultry Outlook
 - https://www.ers.usda.gov/publications/pub-details/?pubid=91042
 - Monthly, in the middle of the month
 - Quarterly forecast for next 4-6 quarters
- US & Canadian Cattle
 - https://usda.library.cornell.edu/concern/publicat ions/474299142?locale=en
 - Released 2x per year (March and August)
- US & Canadian Hogs
 - https://usda.library.cornell.edu/concern/publicat ions/7h149p85x?locale=en
 - Released 2x per year (March and August)



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Livestock and Meat Market Information USDA Reports

- Cold Storage
 - https://usda.library.cornell.edu/concern/publications/pg15bd892?locale=en
 - Released monthly, about the 22nd
- Livestock Slaughter
 - https://usda.library.cornell.edu/concern/publicat ions/rx913p88g?locale=en
 - Released monthly, about the 20th
- Cattle on Feed
 - https://usda.library.cornell.edu/concern/publicat ions/m326m174z?locale=en
 - Released monthly, 3rd or 4th Friday



Livestock and Meat Market Information USDA Reports

- Cattle Inventory Reports
 - https://usda.library.cornell.edu/concern/publications/h702q636h?locale=en
 - Released in January and July; end of the month
- Hogs and Pigs Inventory Reports
 - https://usda.library.cornell.edu/concern/publications/rj430453j?locale=en
 - Released quarterly (Mar, Jun, Sep, Dec); end of the month
- Milk Production
 - https://usda.library.cornell.edu/concern/publicat ions/h989r321c?locale=en
 - Released monthly, around the 20th of the month



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Livestock and Meat Market Information Other Reports and Information

- Daily Livestock Report
 - http://www.dailylivestockreport.com/
 - 1 page synopsis on livestock/meat market drivers
 - Lists schedule of releases, and links to, current month's USDA reports
- Interest Rates Forecasts
 - http://www.cmegroup.com/trading/interestrates/fed-funds.html
- CME Group Livestock Fundamentals
 - http://www.cmegroup.com/trading/commodities/cme-group-livestock-fundamentals.html
 - Overview of cattle & hog industries; outlines stages of production, etc.



Livestock and Meat Market Information Newsletters and Commentary from K-State

- KSU Radio Interview
 - http://www.agmanager.info/news/weeklycattle-market-report-glynn-tonsor-and-lmic
- "In the Cattle Markets" from LMIC
 - http://www.agmanager.info/news/cattlemarkets-lmic
- Recent Cattle Finishing Returns
 - http://www.agmanager.info/livestockmeat/cattle-finishing-historical-andprojected-returns/cattle-feeding-returns-1

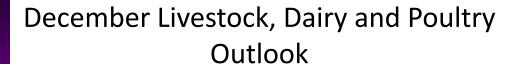


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Livestock, Dairy and Poultry Outlook

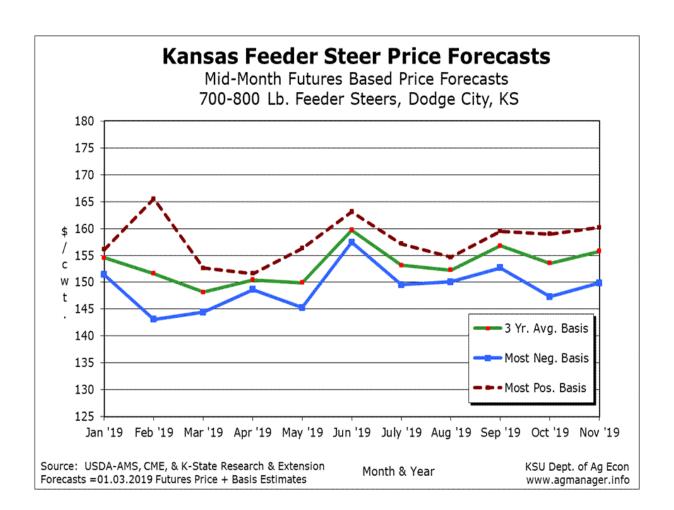
- Next release: was to be 1/17/19. Now: ????
- December LDP Outlook (12-17-2018)
 - Title: "2019 Production and Export Forecasts for Red Meat, Poultry, and Eggs Imply Small Changes in Export Share Ratio From 2018"
- Some key points: Beef
 - Higher slaughter and beef production in Q4, with higher fed steer prices.
 - Lower beef imports for 2018 and forecast for 2019. Exports of beef forecast higher on strong feedlot demand Canada.

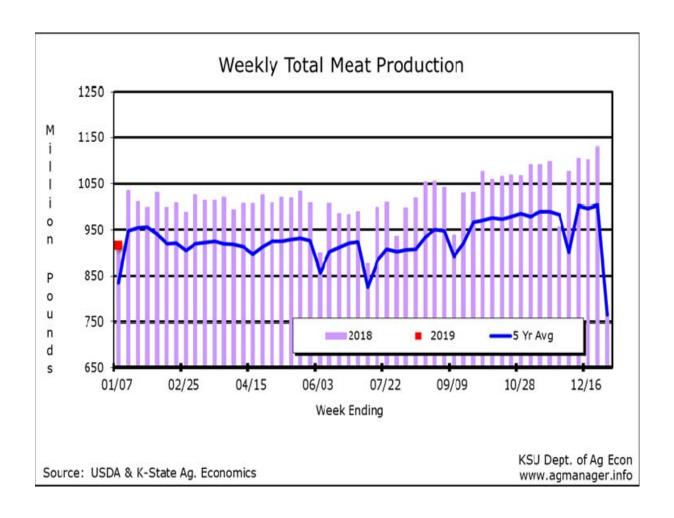


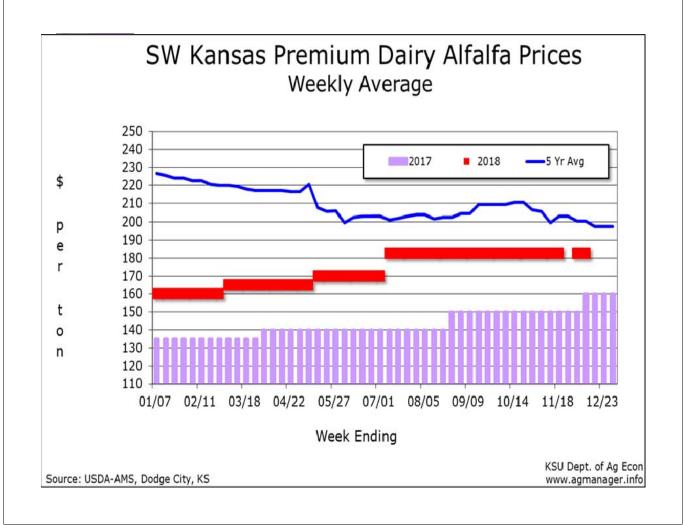


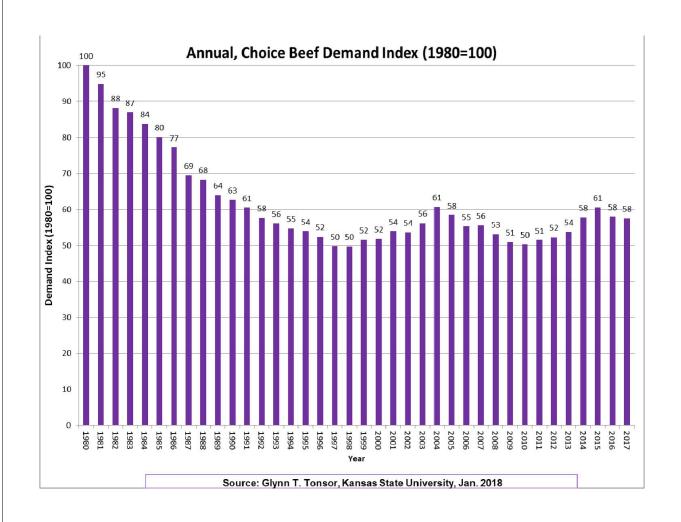
- Some key points: Pork
 - Record production in Q4, leading to lower prices from 2017. Higher exports, except China/Mexico. Strong demand elsewhere.
- Some key points: Poultry
 - Lower turkey and broiler production and prices. Lower egg production and lower prices.
- Some key points: Dairy
 - High stocks, lower prices. Slightly lower production and lower domestic use in 2019.











Jan. 1 Cattle Inventory Report

Should have been released January 31, for January 1 cattle inventory.

There probably will be a July report for 2019 (did not have July in 2013 or 2016).

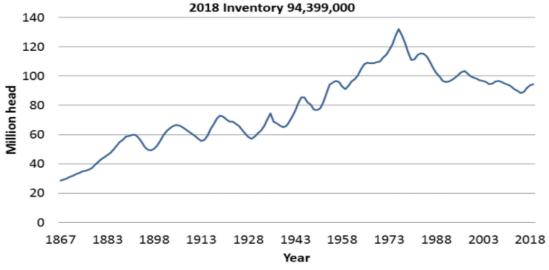
Generally expected to be flat or slight increase.

USDA has a variety of charts showing this.



January 1
U.S. All Cattle and Calves Inventory

1867-2018





Source: https://www.nass.usda.gov/Charts and Maps/Cattle/inv.php

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Cattle: Inventory on January 1 by Year, US

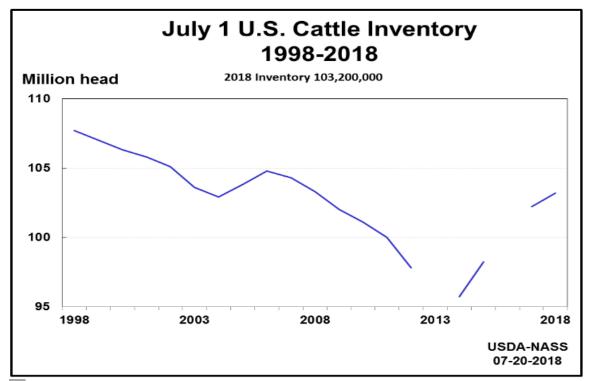
January 1 U.S. All Cattle and Calves Inventory

1867-2017





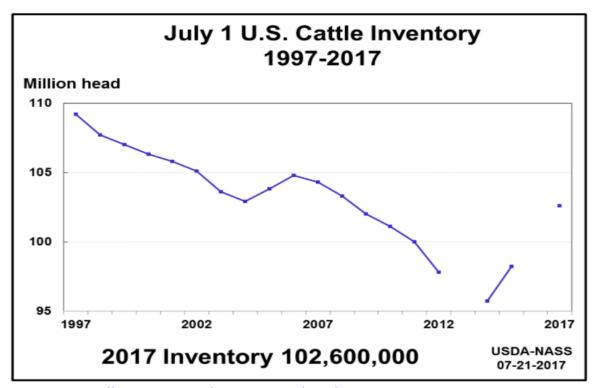
Source: https://www.nass.usda.gov/Charts and Maps/Cattle/inv.php



Source: https://www.nass.usda.gov/Charts and Maps/Cattle/jul inv.php

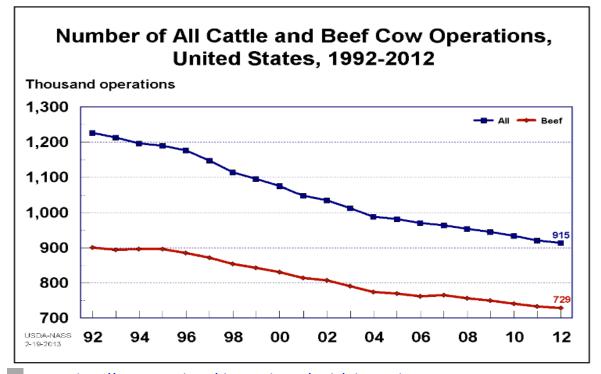
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Cattle: Inventory on July 1 by Year, US





Source: https://www.nass.usda.gov/Charts_and_Maps/Cattle/jul_inv.php K-State Dept. of Agricultural Economics





Source: https://www.nass.usda.gov/Charts_and_Maps/Cattle/acbc_ops.php

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CFTC Commitment of Traders Report

- To help market participants understand market dynamics, the Commitment of Traders report is released every Friday by the CFTC (Commodity Futures Trading Commission).
- Main page:

https://cftc.gov/MarketReports/CommitmentsofTraders/index.htm

Annual data:

https://cftc.gov/MarketReports/CommitmentsofTraders/HistoricalCompressed/index.htm



CFTC Commitment of Traders Report

- Provides a breakdown of each Tuesday's open interest for futures markets. Report is released on Friday.
- Open interest broken down into four trader classifications:
 - Producer/Merchant/Processor/User
 - Swap dealers
 - Managed Money
 - Other
- Pay attention to "Managed Money" class
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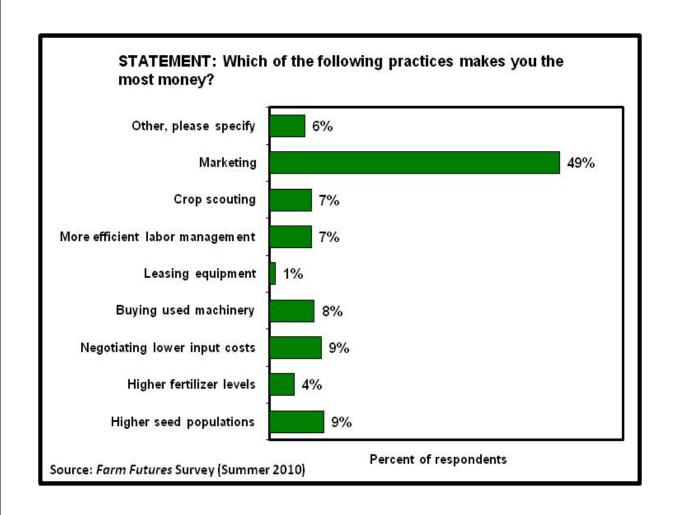


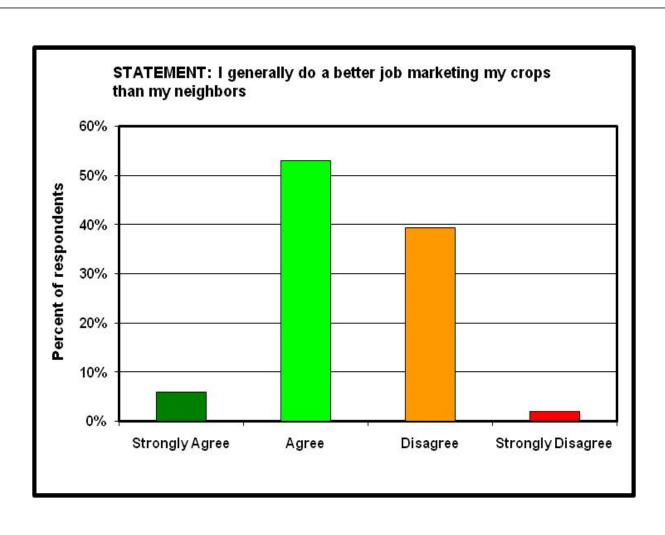
A Comment on Profitability

- Many producers believe that marketing is the key to higher profits.
- While this is true to some degree, a more important factor is managing costs and production.
 - Production is important higher production helps when prices are low. And there is some control over it.
 - Cost management is more important.
- Machinery costs are very important. But also other costs, including seed, fertilizer, chemicals, labor.

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Somewhat higher yields and prices for higher profitability farms.

Lower variable costs (seed, fertilizer, chemicals, repairs) across the board for higher profitability farms.

Also lower fixed costs, with the except of land charge for these farms.

Lower total machinery costs and total costs. These lower costs are what provide the profitability.

CORN-2017	High 1/3	Mid 1/3	Low 1/3
KFMA	\$/acre	\$/acre	\$/acre
RETURNS			
Yield	123.04	103.06	108.32
Price	\$3.24	\$3.19	\$3.05
Gross Returns from Crop	\$398.65	\$328.76	\$330.38
VARIABLE COSTS			
Fertilizer	\$47.36	\$63.66	\$74.51
Seed	\$47.48	\$67.97	\$86.97
Chemicals	\$39.00	\$42.35	\$47.18
Machinery Repairs	\$15.12	\$18.85	\$29.60
Gas/Fuel/Oil	\$9.62	\$12.31	\$14.03
Total Variable Costs	\$241.55	\$292.04	\$359.33
FIXED COSTS			
Depreciation	\$26.08	\$34.49	\$54.15
Unpaid Operator Labor	\$22.58	\$41.45	\$60.73
Land Charge	\$29.19	\$18.32	\$25.54
Total Fixed Costs	\$91.02	\$113.24	\$168.06
Total Machinery Cost	\$57.69	\$68.57	\$102.52
Total Costs	\$332.57	\$405.28	\$527.39
Net Return to Management	\$40.88	-\$80.03	-\$198.32



News & Updates

Presenters

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About

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QUESTIONS?

Women Managing the Farm Conference

Agenda

February 8, 2019/Manhattan, Kansas

Rich Llewelyn

Email: rvl@ksu.edu/Phone: 785.532.1504



Agricultural Economics





2019 Conference for Kansas Women in Agriculture Set in Manhattan Posted October 18, 2018



Registration is now open! Posted October 15, 2018



Call for Presentations for 2019 WMF Conference



2019 Conference

February 7-8, 2019

Hilton Garden Inn and Manhattan Conference Center, Manhattan, Kansas

Pre-conference Workshops on February 6, 2019