



# **U.S. AG TRADE & MIDWEST AGRICULTURE**

**Federal Reserve Bank of Chicago:**

**Midwest Agriculture's Ties to the Global Economy**

**How will the Midwest economy and agriculture adjust to changing trade patterns?**

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**Chief Economist**

**Agriculture Division of DowDuPont**

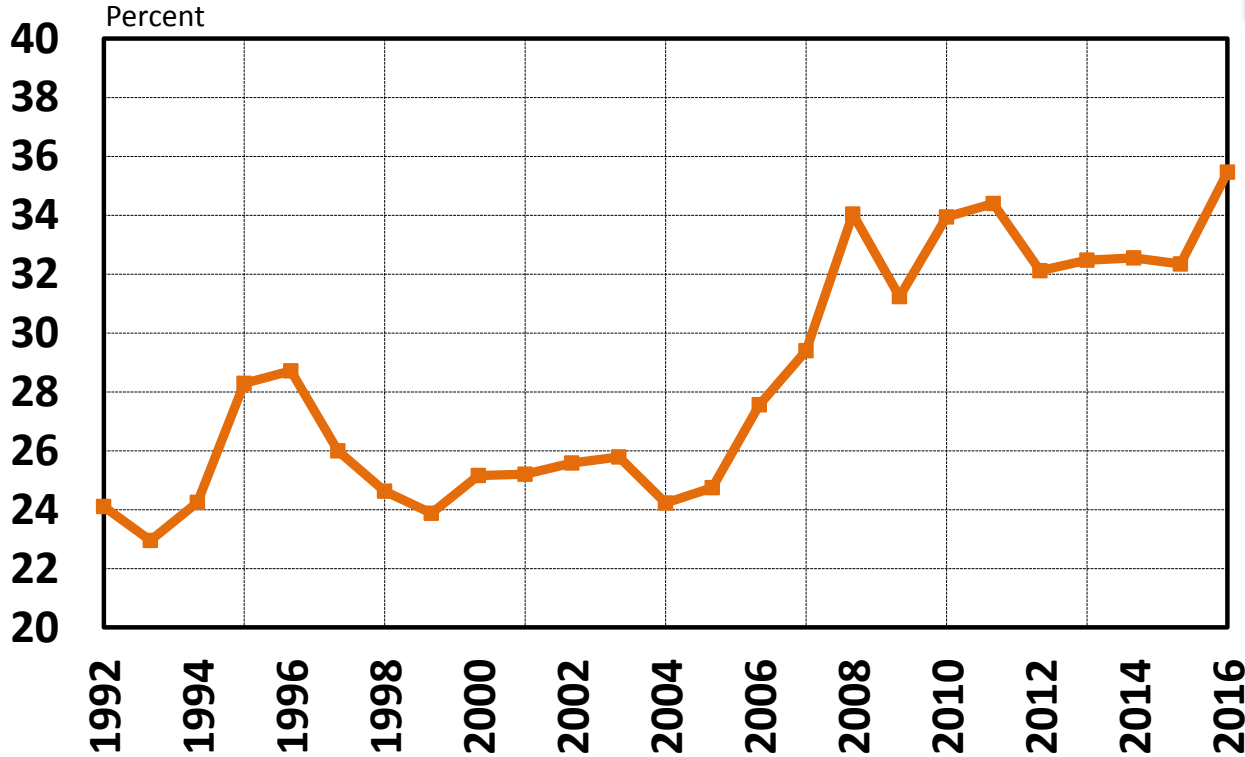
**November 28<sup>th</sup>, 2017**

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# U.S. Value of Ag Exports / Farm Receipts



## Comments

The growth in exports on the recent agricultural boom is sometimes lost because of the growth due to biofuels.

The RFS1 in 2005 with the big boost with the RFS2 in 2007 propelled ethanol and biodiesel production growth.

Even though farm receipts were going up with the new domestic uses, the exports were a growing percent of receipts.

# U.S. Ag Trade is Very Important

**Top Commodity Imports, 2007-2016**

	Billion \$	% of total
Coffee	56.8	6.0%
Wine	49.4	5.2%
Cocoa and Products	41.3	4.3%
Malt Beverages	38.7	4.1%
Beef & Veal	36.5	3.8%
Misc Hort Products	29.2	3.1%
Biscuits & Wafers	28.2	3.0%
Other Beverages	24.9	2.6%
Other Grains	24.8	2.6%
Rubber / Gums	24.5	2.6%

## Comments

Most of the export commodities are important to Midwest agriculture.

**Top Commodity Exports, 2007-2016**

	Billion \$	% of total
Soybeans	190.0	15.1%
Corn	99.9	7.9%
Wheat	80.2	6.4%
Other Feeds & Fodder	57.0	4.5%
Cotton	50.9	4.0%
Misc Hort Products	45.2	3.6%
Beef & Veal	41.4	3.3%
Soybean Meal	40.1	3.2%
Pork	40.1	3.2%
Chicken	32.7	2.6%

# U.S. Ag Trade is Very Important

## Comments

Note the importance of NAFTA partners, as well as China/Other Asia and Europe.

### Top Import Sources, 2007-2016

	Billion \$	% of total
Canada	191.7	20.1%
European Union	168.5	17.7%
Mexico	159.2	16.7%
China	38.5	4.0%
Brazil	32.2	3.4%
Indonesia	29.1	3.1%
Australia	28.8	3.0%
India	25.1	2.6%
Chile	24.8	2.6%
New Zealand	21.3	2.2%

### Top Export Destinations, 2007-2016

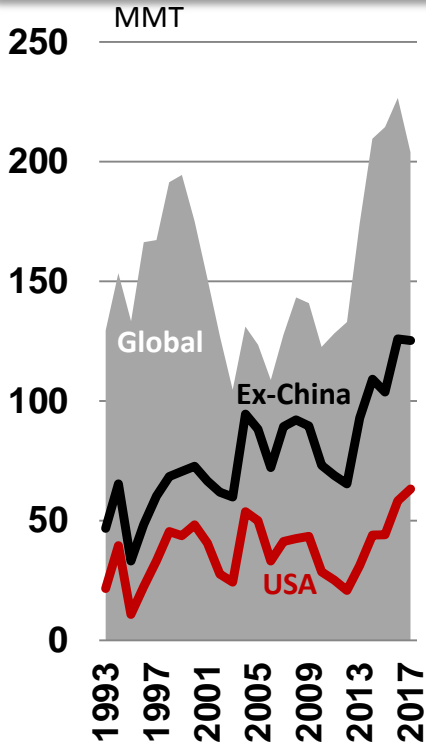
	Billion \$	% of total
China	187.3	14.9%
Canada	187.2	14.9%
Mexico	166.0	13.2%
Japan	121.4	9.6%
European Union	103.1	8.2%
South Korea	55.7	4.4%
Taiwan	32.5	2.6%
Hong Kong	29.8	2.4%
Indonesia	23.7	1.9%
Philippines	20.4	1.6%

# Global Ending Stocks

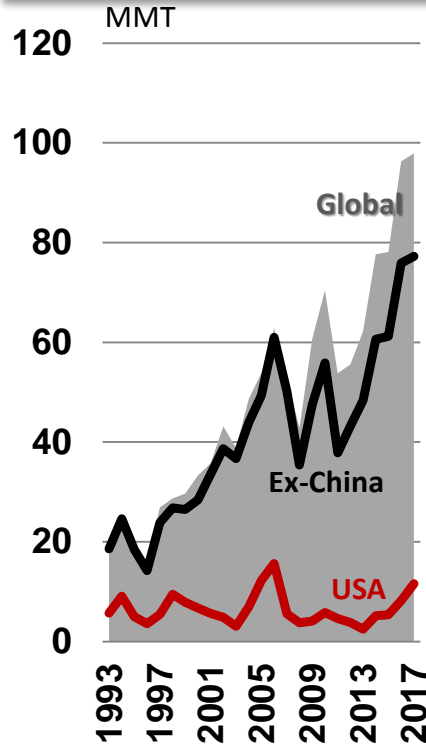
## Comments

Farmers did not cut back area and stocks did not decline significantly in 2017/18.

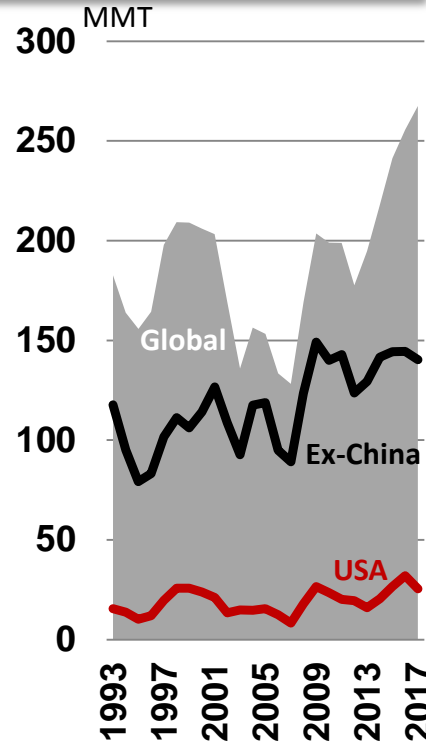
### CORN



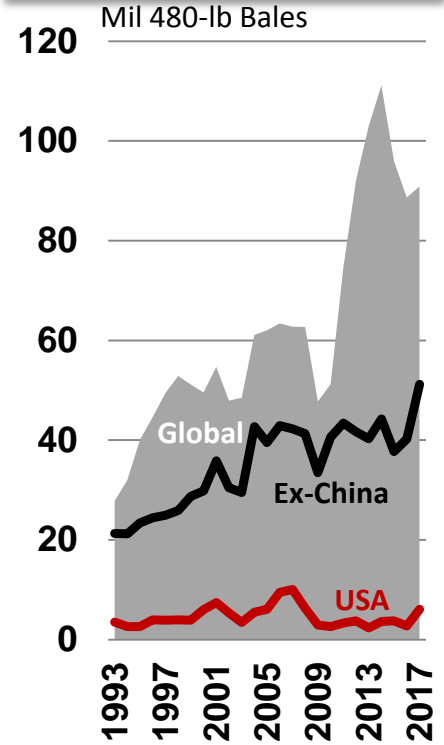
### SOYBEANS



### WHEAT



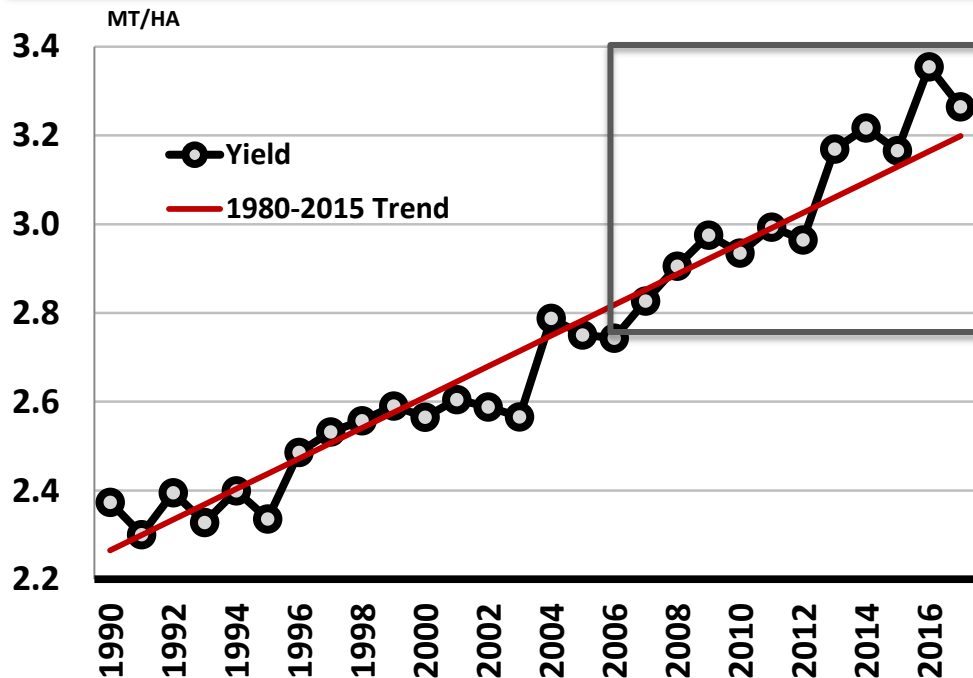
### COTTON



Data Source: USDA

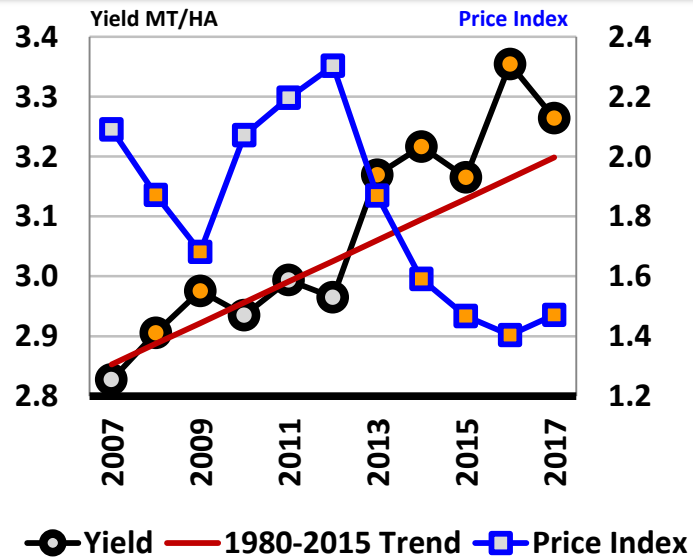
# Five Consecutive Years of Above Trend Grains & Oilseed Yields is a Historic Event

Composite Yield Variability for Global Grain & Oilseeds



Note: Global yields per hectare for an aggregate of 9 grains (corn, wheat, rice, sorghum, barley, oats, rye, millet and mixed grains) and 5 oilseeds (soybeans, rapeseed, sunflower seed, peanuts and cottonseed). The price index is a simple average rice, wheat, corn and soybean price indices, 1990-2005 (Pre-Biofuels) =1.00

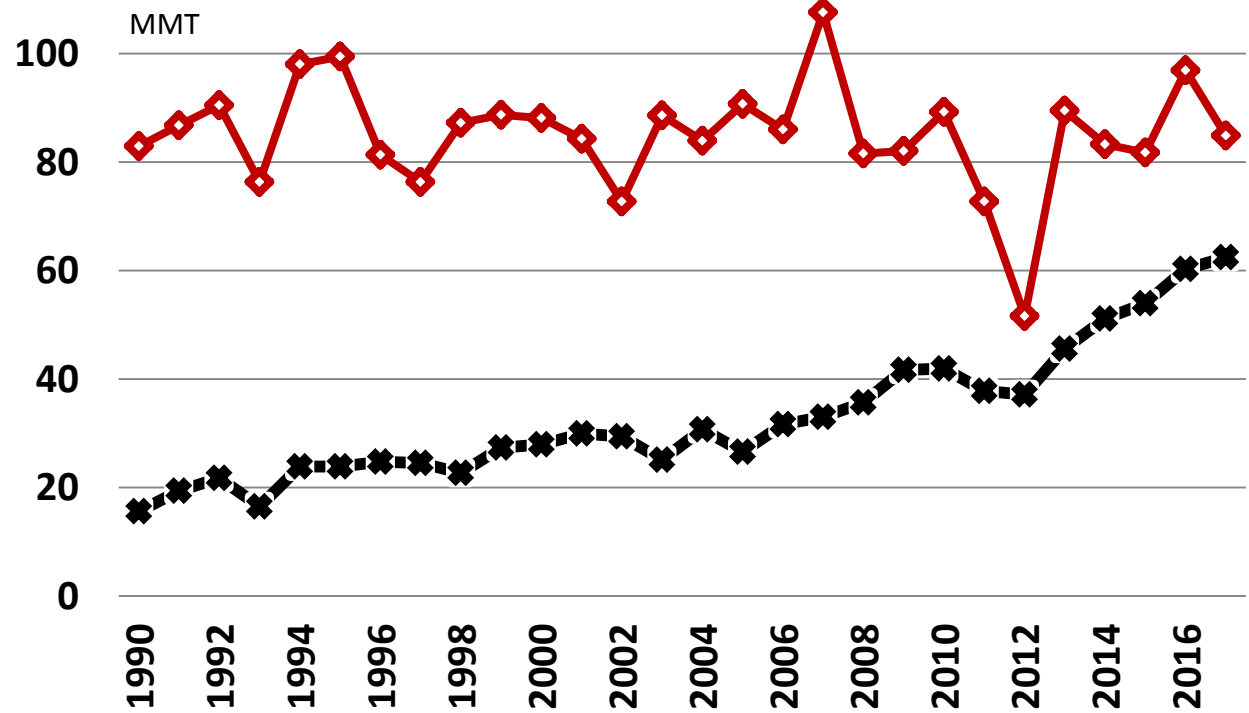
Commodity Prices & Yields



## Comments

Five consecutive years of above trend yields (gold markers) that are pressuring commodity prices. The three consecutive years at/below trend helped prices establish record or peak levels.

# U.S. Exports of Grains & Oilseeds



## Comments

The U.S. has been able to hold the level of exports of grains within a range. Weather in the U.S. that causes less production (i.e. 2012) led to a drop in exports to the world.

U.S. soybeans continues to go up as China keeps increasing imports.

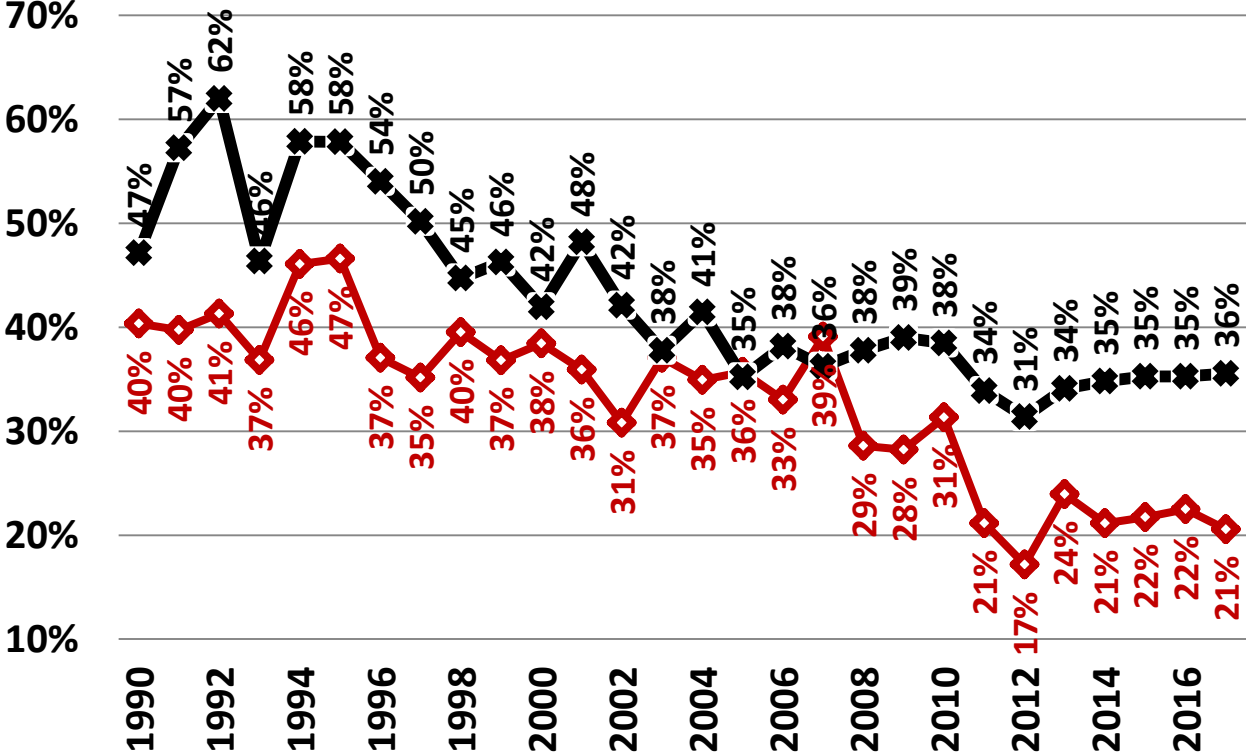
◆ Grains  
◆ Oilseeds

Note: Grains: corn, wheat, rice, sorghum, barley, oats, rye, millet and mixed grains & Oilseeds: soybeans, rapeseed, sunflower seed, peanuts and cottonseed.

Data Source: USDA



# U.S. Export Market Share



**Comments**

The U.S. has not been able to keep global market share from eroding due to increased global production, improving agricultural infrastructure by competitors in the global marketplace and exchange rates.

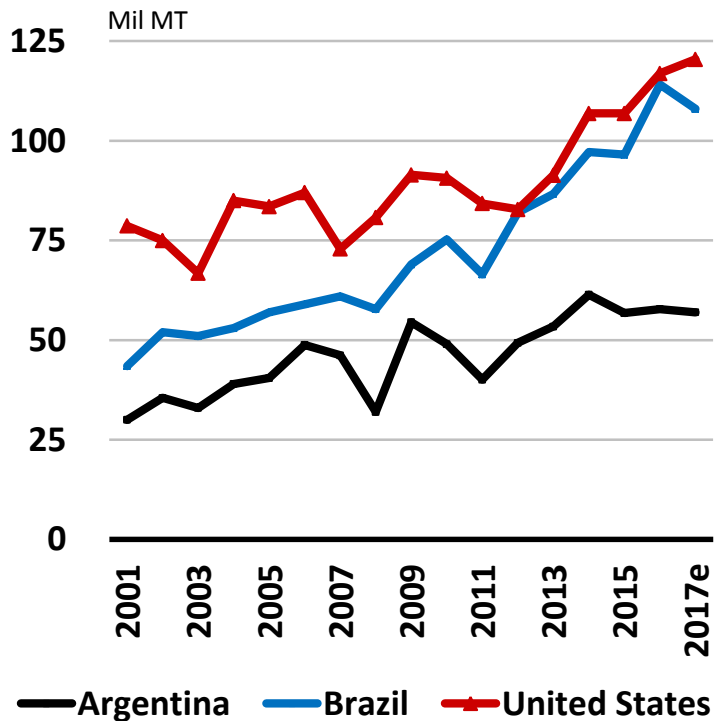
◆ Grains  
◆ Oilseeds

Note: Grains: corn, wheat, rice, sorghum, barley, oats, rye, millet and mixed grains & Oilseeds: soybeans, rapeseed, sunflower seed, peanuts and cottonseed.

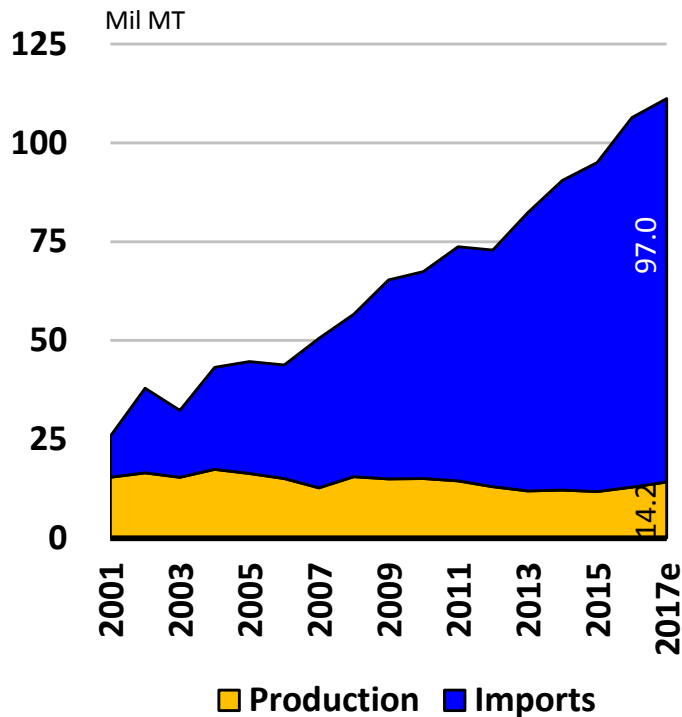
Data Source: USDA

# China Remains the Key Driver in Global Soybeans

## SOYBEAN PRODUCTION



## CHINA SUPPLY



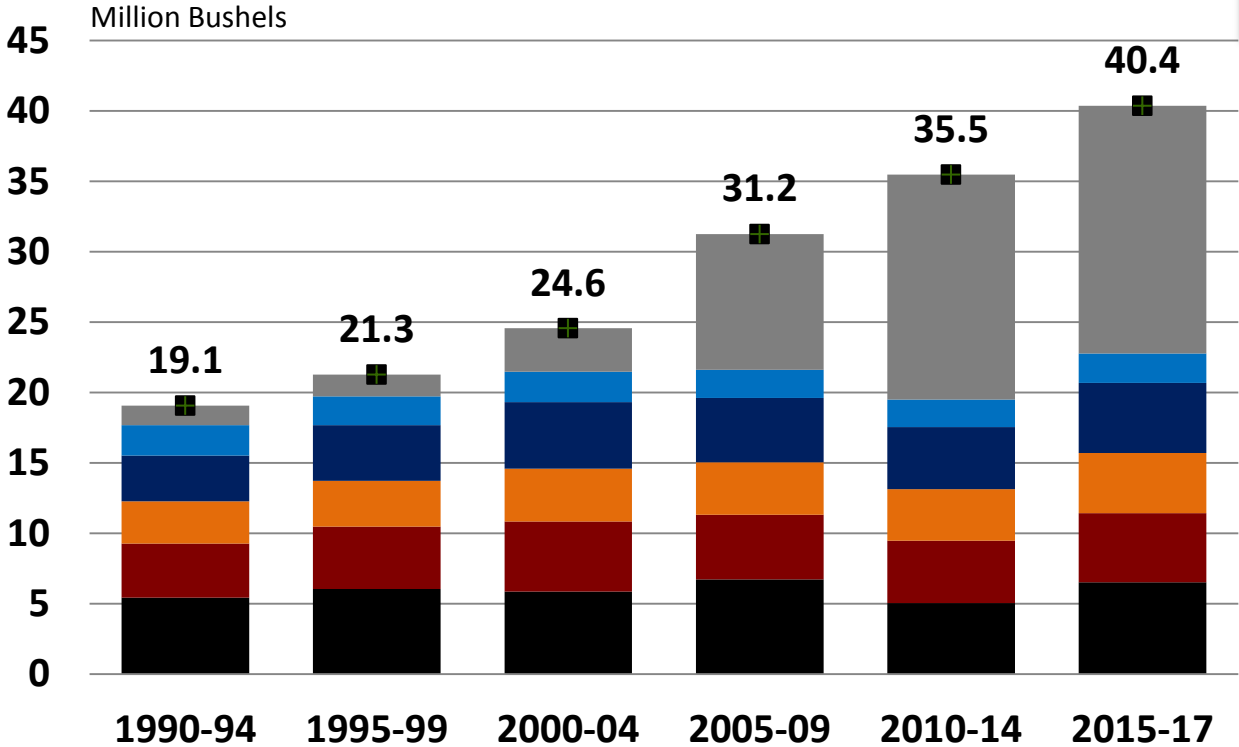
## Comments

The global soybean market is the key example of the impact that a developing major export/import relationship can have on agriculture.

China made the decision in the early 1990s to import its soy needs, and has been able to grow this demand. Western hemisphere producers have been able to meet this demand, and it has been beneficial for both parties over time.

Data Source: USDA

# U.S. Corn Use Per Day



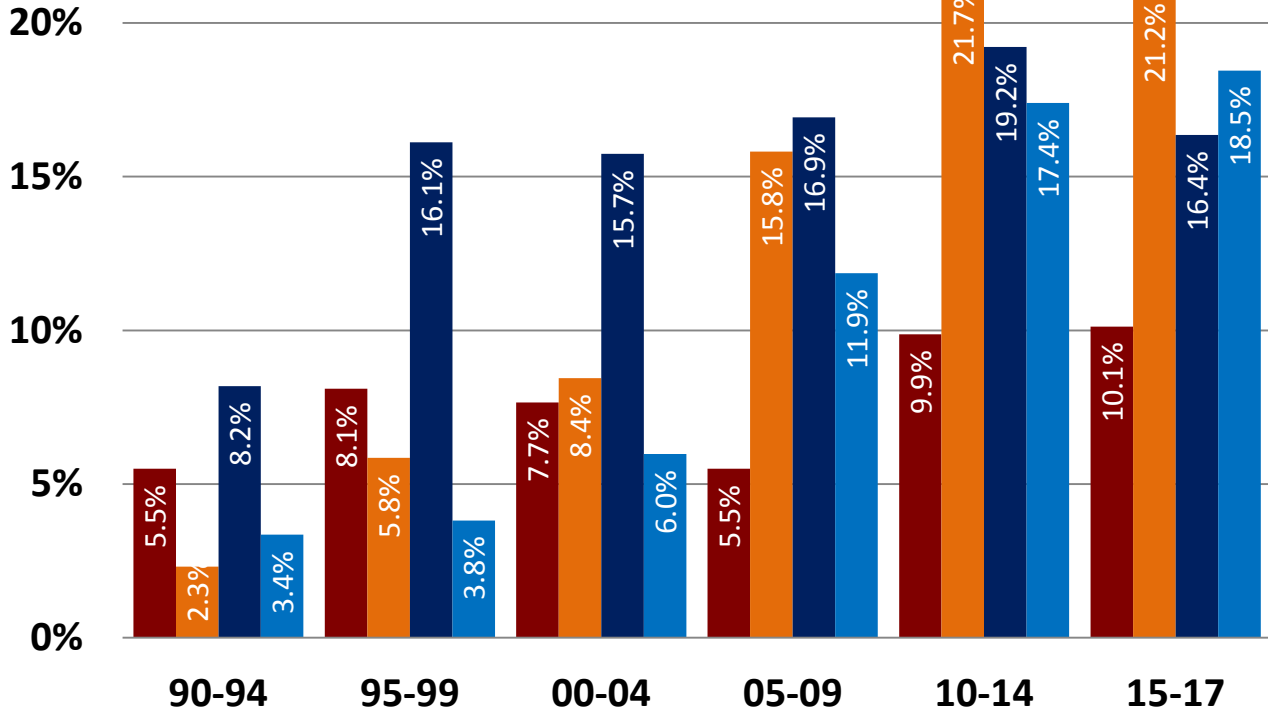
## Comments

Domestic use has grown significantly in the last 20 years. Much of this demand (ethanol, pork, poultry, dairy) is now demand that takes corn every single day. This demand reliability has helped some of the seasonal market variability. This is in addition to the market dampening effect that large supplies have had on market prices.

- Ethanol
- Milk
- Chicken
- Pork
- Beef
- Exports
- Total

Note: Internal calculations based on feed rations & USDA historical data. This is first use for illustration and the per day calculation based on a 6 day work week. Average over time period.

# U.S. Livestock Percent Exported



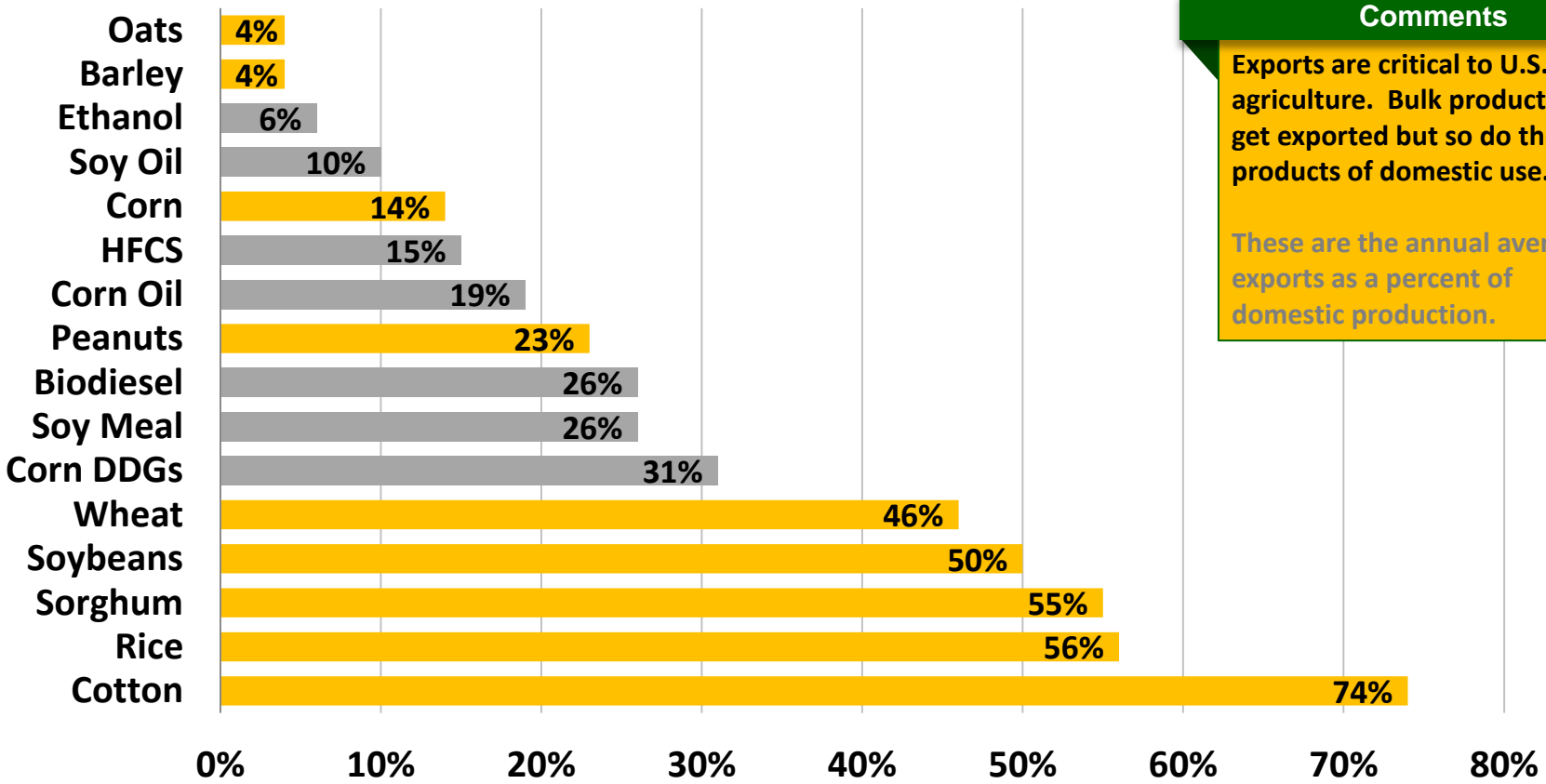
## Comments

Exports are critical to U.S. agriculture – Corn, soybeans, wheat, beef, pork, poultry, ethanol and DDG all have a significant % of total production to export and this is critical to the price outlook for all commodities.

- Beef
- Pork
- Chicken
- Milk

Note: Average over time period.

# U.S. Crop & Products Percent Exported (Average 2015/16 to 2017/18)



**Comments**

Exports are critical to U.S. agriculture. Bulk products do get exported but so do the products of domestic use.

These are the annual average exports as a percent of domestic production.

# Summary

- **Global and U.S. planted area sustained at higher levels longer than was the case in previous price downturns. Global supplies will be slow to decline without a serious weather issue in a major producing region. Export competition will remain.**
- **Domestic use has grown significantly in the last 20 years. Much of this demand (ethanol, pork, poultry, dairy) is now demand that takes corn every single day. This demand reliability has helped some of the seasonal market variability. This is in addition to the market dampening effect that large supplies have had on market prices. This demand growth is steady and firm, but slow. It has been much slower than domestic production growth.**
  - **Agriculture infrastructure touches many areas (roads/trucks, rail, water system, grain storage, meat production and processing). Some of this infrastructure has grown along with production (storage, processing) but on other parts of the infrastructure system (roads, river system, ports) we are simply pushing more volume through.**
  - **It is critical for the U.S. to invest in updating and increasing our infrastructure system. Other countries are doing this and are gaining market share from these investments.**
- **Exports will be vital and more critical for Farmers and the Agricultural Sector going forward.**



**THANK YOU**

