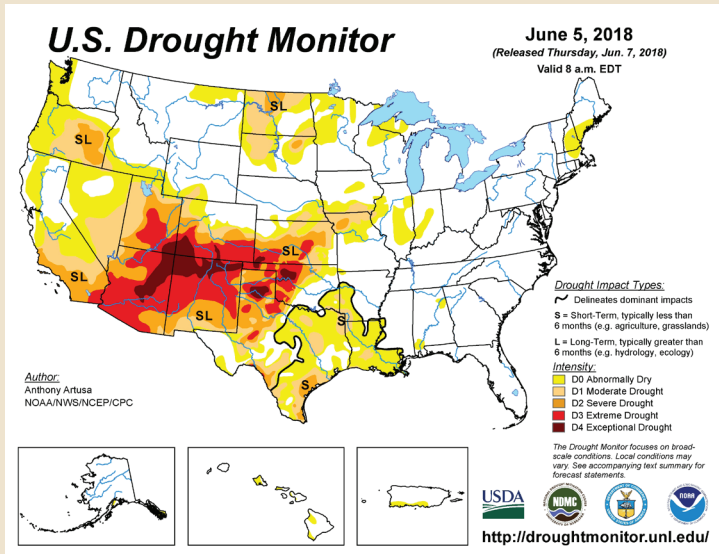


# Broiler Economics

By Dr. Paul Aho

## CORN BELT WEATHER NEARLY PERFECT SO FAR

After a cold and wet start to the planting season in the US Corn Belt, conditions improved dramatically in the last month. From being behind the normal planting pace earlier in the year, both corn and soybeans are now ahead in planting and in emergence. In addition, as the drought monitor shows, there are few signs of drought in the Corn Belt. For the moment, a normal harvest of corn and soybeans can be expected this year.



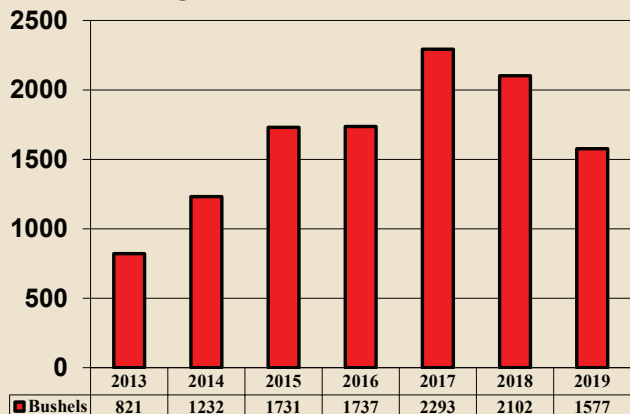
### Corn

The June USDA World Agricultural Supply and Demand Estimates (WASDE) report projects a lower ending stock of US corn this crop year. In addition, world ending stock is expected to drop dramatically by 35 million metric tons this year and another 37 million tons next year. Falling world stocks, in all likelihood, signal the end of a period of relatively low prices for corn in recent years. Although the corn market may well now be in a new long-term bull market, the price will not go up in a straight line. In the last month, for example, corn prices dropped significantly and may have moved from overpriced to underpriced.

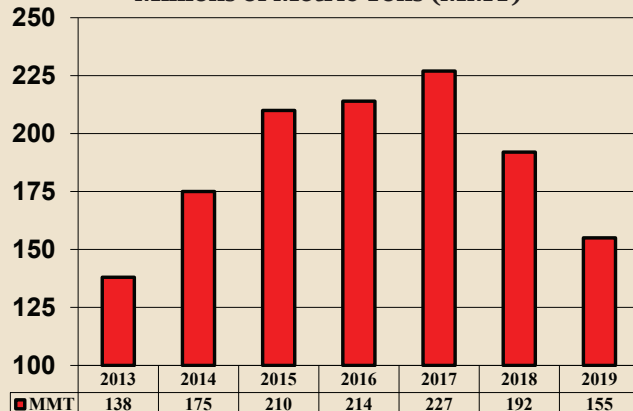
**US Corn Supply and Demand – June  
USDA Billions of Bushels**

|                  | 2016-17 | 2017-18 | 2018-19 |
|------------------|---------|---------|---------|
| Harvest          | 15.148  | 14.604  | 14,040  |
| Supply Total     | 16.942  | 16.942  | 16,192  |
| Ethanol          | 5.467   | 5.575   | 5,675   |
| Exports          | 2.293   | 2.300   | 2,100   |
| Feed             | 5.439   | 5.500   | 5,350   |
| Total Use        | 14.649  | 14.840  | 14,615  |
| Ending Inventory | 2.293   | 2.102   | 1,577   |
| Farm Price       | \$3.36  | \$3.40  | \$3.90  |

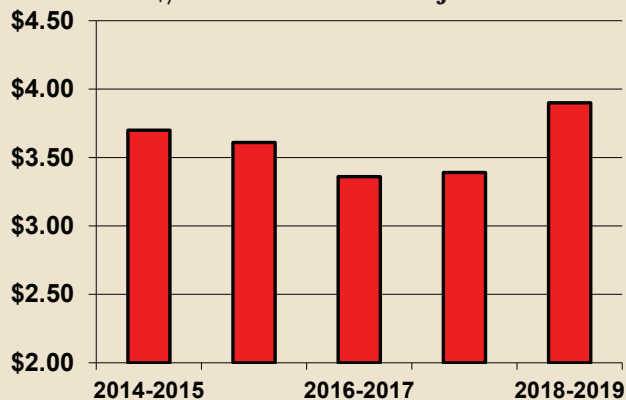
**US Ending Stock of Corn - Millions of Bushels**



**World Ending Stock of Corn  
Millions of Metric Tons (MMT)**



**Average Farm Price of Corn  
\$/Bushel to 2018-19 Projected**



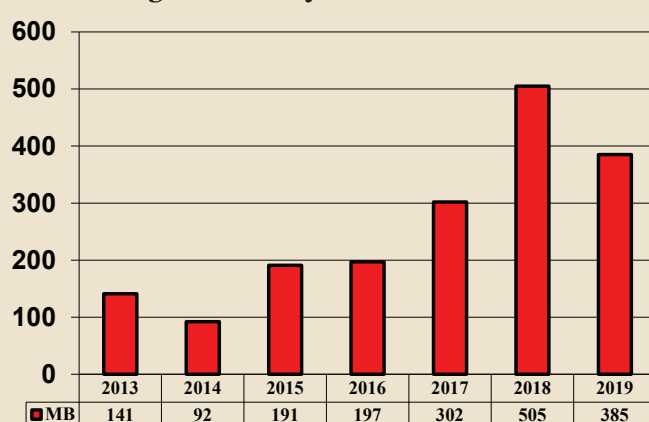
### Soybeans

The June USDA WASDE shows that both US and world soybean stocks are falling. Soybean meal prices rose substantially this year due to the drought in Argentina and are expected to remain close to these levels next year. It is important to note that soybean prices are driven, to a large extent, by South America and depend to a smaller degree on the US.

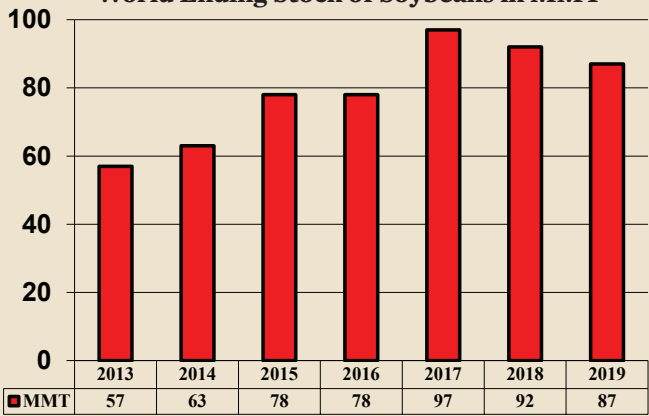
**US Soybeans – USDA - June – Billions of Bushels**

|                      | 2016-17 | 2017-18 | 2018-19 |
|----------------------|---------|---------|---------|
| Harvest              | 4.296   | 4.392   | 4,280   |
| Export               | 2.174   | 2.065   | 2,290   |
| Total Use            | 4.213   | 4.213   | 4,425   |
| Ending Inventory     | 302     | 505     | 385     |
| Meal Price short ton | \$317   | \$360   | \$350   |

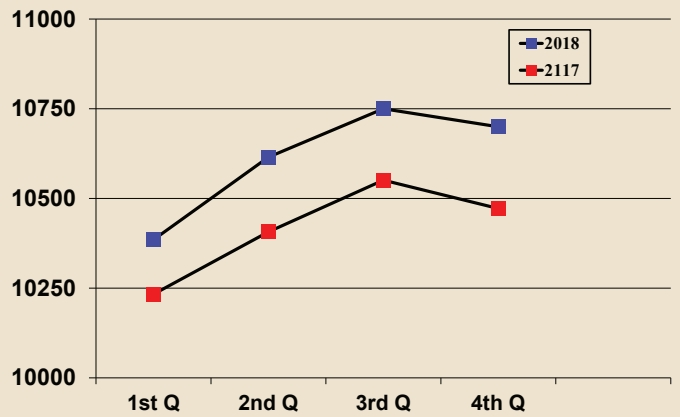
**US Ending Stock of Soybeans in Millions of Bushels**



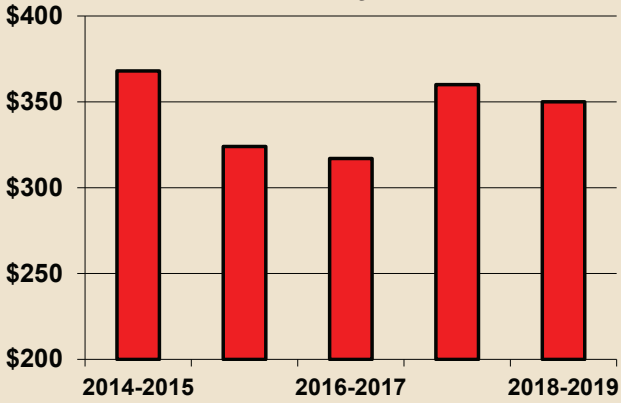
**World Ending Stock of Soybeans in MMT**



**US Quarterly Broiler Production  
Million Pounds - USDA**



**Average Crop Year Price of Soybean Meal  
2018-19 Projected**

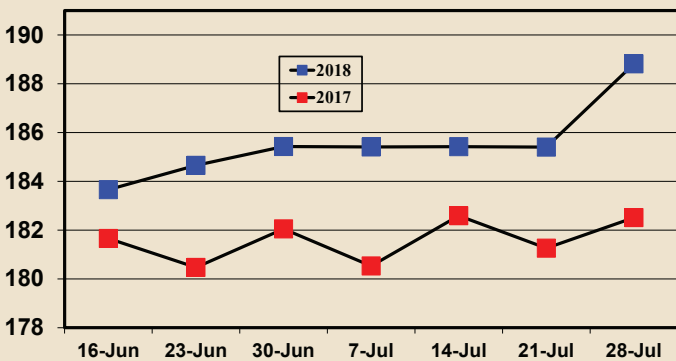


**Chicken Industry Production**

The USDA expects US production of chicken meat to increase 1.9% this year. In contrast, red meat production is expected to rise 4% this year after increasing 3.3% in 2017. These increases could be the cause of a major headache in the meat industry, particularly if China and/or Mexico impose tariffs.

The graph below shows weekly chick placement in millions moved forward 7 weeks to estimate chickens processed. Using this method of estimation, processing numbers are running at about 2% over last year.

**Weekly Chick Placement - Millions  
7 Weeks Forward - 2018 versus 2017**



The chicken industry has announced plans to open six new plants in a short period of time. Despite this flurry of construction, the impact will be minimal. The impact is muted because of the recent slowdown in the increase in average weights in the industry and an increase in death losses as the use of antibiotics is withdrawn from increasing number of birds. New plants need to be built just to maintain a relatively low rate of increase of production each year.

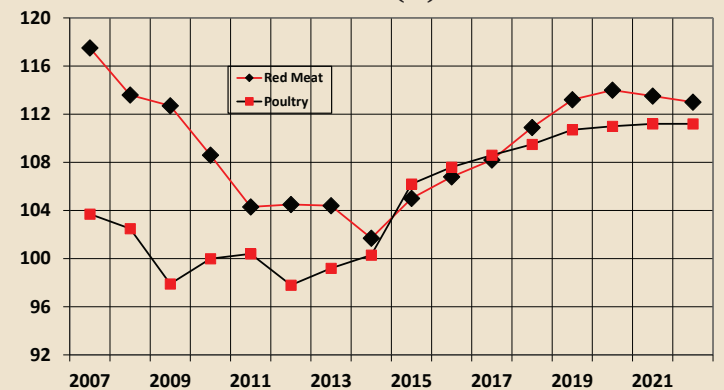
The combination of low grain prices, modest supply growth, moderate competition from red meats and strong demand brought high profitability to chicken production last year. This year, increased competition from red meats and surprisingly weak food service demand began to erode profitability. Last year there were one billion additional pounds of red meat available for domestic use. This year 1.5 billion pounds are expected. The increase in red meat supply and the possible effect of trade problems are a problem for the poultry industry. However, an even greater problem for the moment is weak demand in food service. Food service demand is weak during the time of year when it is expected to be strong. No one seems to have an explanation for this anomaly.

It is interesting to note that total per capita red meat consumption has recently been rising faster than poultry consumption. This is logical given three factors; 1) low grain prices help poor converting animals, 2) rising median income and 3) the time lag for increased red meat production. If history is any indication, when these factors change, poultry consumption will once again outperform red meat consumption. "Outperform" may mean staying the same while red meat consumption falls.

The US meat industry as a whole may be reaching market saturation. Consumption reached 220 pounds in 2006 and then took 13 years to return to 220. It took a long time in part due to a severe recession; nevertheless the difficulty of returning to 220 pounds is an indication that the industry may be close to the end as far as total per capita consumption is concerned.

A possible "black swan" event to watch for this year would be the disruption of trade with Mexico. Mexico is the number one destination for US chicken exports, buying more than one billion pounds of leg quarters per year. Any disruption in trade with Mexico would have severe consequences for the US chicken industry.

**US Per Capita Consumption of Red Meat and Poultry  
Pounds (lb)**



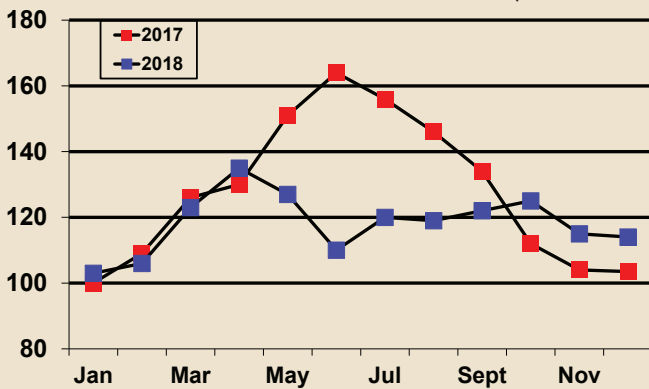
**Per Capita Consumption in Pounds - US**

|      | Pork | Beef | Chicken | Turkey | Total |
|------|------|------|---------|--------|-------|
| 2006 | 49   | 66   | 87      | 18     | 220   |
| 2007 | 51   | 65   | 85      | 18     | 219   |
| 2008 | 49   | 63   | 83      | 18     | 213   |
| 2009 | 50   | 61   | 80      | 17     | 208   |
| 2010 | 48   | 60   | 82      | 16     | 206   |
| 2011 | 46   | 57   | 83      | 16     | 205   |
| 2012 | 46   | 57   | 80      | 16     | 202   |
| 2013 | 47   | 56   | 82      | 16     | 201   |
| 2014 | 46   | 54   | 83      | 16     | 202   |
| 2015 | 50   | 54   | 89      | 16     | 211   |
| 2016 | 50   | 56   | 90      | 17     | 215   |
| 2017 | 50   | 57   | 91      | 16     | 217   |
| 2018 | 52   | 58   | 92      | 16     | 218   |
| 2019 | 53   | 59   | 93      | 16     | 221   |

**Deboned Breast**

Prices for deboned breast meat dropped this year at the time of year when they are most likely to rise. The issue appears to be more of a lack of food service demand rather than increased supply although both contribute to the decline. The price has dropped so much recently that a rebound can be expected later in the year.

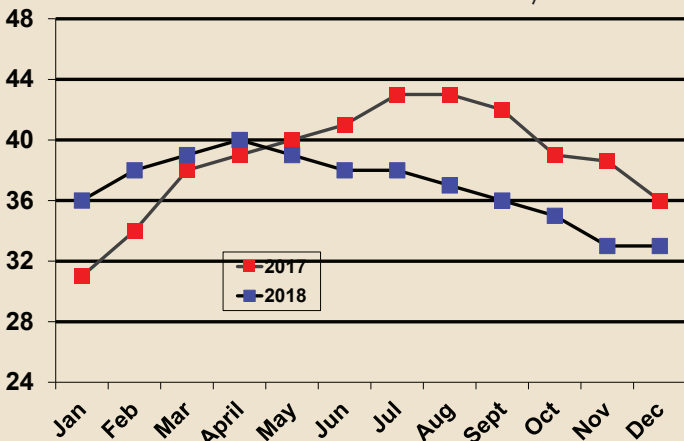
**Deboned Breast - 2017-18**  
USDA - Northeast Price - Cents/lb



**Leg Quarters**

Leg quarter prices have also been falling recently and are now at 38 cents USDA Northeast Price (There is a range in prices for leg quarters with many leg quarters sold at a price lower than the published Northeast price). This year the peak price may have already passed. If trade relations with Mexico deteriorate, leg quarter prices could tumble.

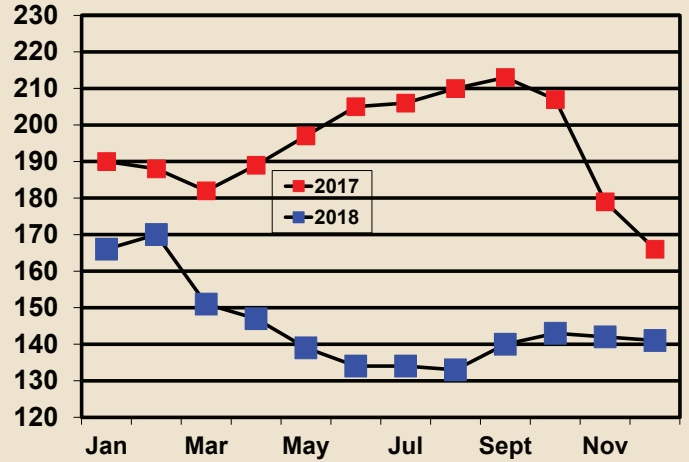
**Leg Quarter Price - 2017-18**  
USDA - Northeast Price - Cents/lb



**Wings**

The price of wings defied gravity when they rose counter seasonally last summer. As the price difference between deboned breast and wings became ever wider there was the inevitable substitution of “boneless wings” (deboned breast meat) for bone-in wings. As that trend gathered speed, wing prices fell back down to earth in a surprisingly short period of time. This year prices will remain well below the highest levels of last year. If wing prices return to normal patterns, the price will increase this fall.

**Whole Wing Prices - 2017-18**  
USDA - Northeast Price - Cents/lb



The production of chicken in the US was highly profitable last year but profitability fell in 2018 as competing meats and weak food service demand reduced prices.

**June 2018**

|                                   |                    |
|-----------------------------------|--------------------|
| Leg Quarters                      | \$ 0.38 per pound  |
| Deboned Breast                    | \$ 1.10 per pound  |
| Wings                             | \$ 1.33            |
| Chicago Corn                      | \$ 3.76 per bushel |
| Soybean Meal                      | \$ 350/Ton         |
| Total Cost of Eviscerated Chicken | \$ 0.69            |
| Revenue                           | \$ 0.70            |
| Gain (Loss) per pound             | \$ 0.01            |

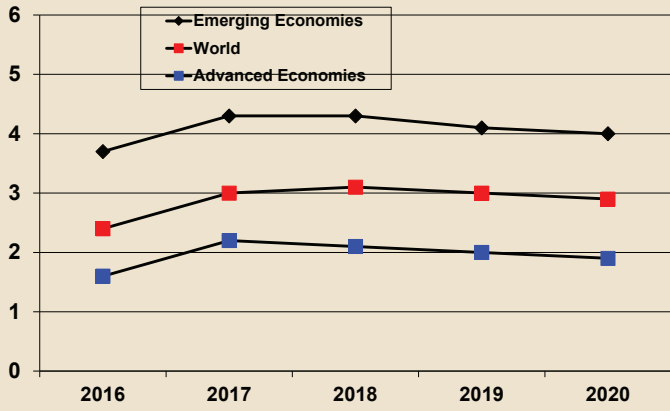
**October 2018**

|                                   |                    |
|-----------------------------------|--------------------|
| Leg Quarters                      | \$ 0.36 per pound  |
| Deboned Breast                    | \$ 1.25 per pound  |
| Wings                             | \$ 1.45            |
| Chicago Corn                      | \$ 3.86 per bushel |
| Soybean Meal                      | \$ 354/Ton         |
| Total Cost of Eviscerated Chicken | \$ 0.70            |
| Revenue                           | \$ 0.72            |
| Gain (Loss) per pound             | \$ 0.02            |

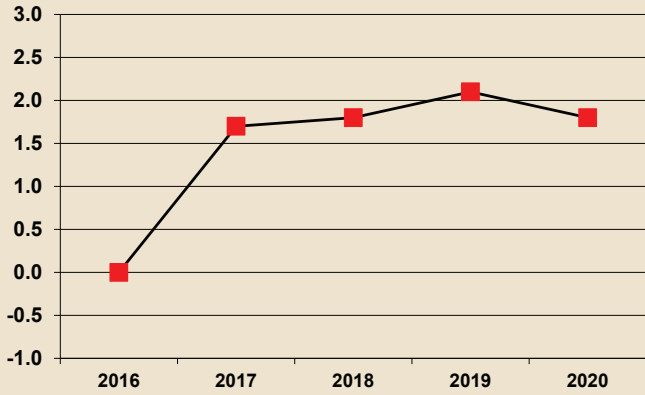
**World Chicken Growth Rate**

World economic growth and per capita income were both rising recently. If the world can avoid a trade war, income growth should continue. Normally, economic growth results in a rapid growth in world chicken production. However, chicken production did not grow at all in 2016 and rose only 1.7% in 2017. The reason is China. China’s production is down over 2 million metric tons over the last three years due to avian influenza, limited availability of genetics, weak prices and soft demand (caused to a great extent by fears about avian influenza). Production in China is recovering and world growth this year is expected to be nearly 2%. The world long-term chicken production growth rate appears to be approximately 2%, lower than in earlier decades but still faster than population growth.

**Economic Growth Rate**



**World Chicken Growth Rate in %**



FAS-USDA

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