

Broiler Economics

By Dr. Paul Aho

MORE CROP CERTAINTY

This was a difficult year to predict corn and soybean production. Even now, long after most of the crop has been harvested, debates rage about whether USDA estimates are correct. In the spring the ground was too wet to plant corn. At the end of the season it was too wet in many areas to get out the crop that was hard to get in. To make matters worse, snow and frost nipped at the crop in the Upper Midwest reducing yields by an unknown amount.

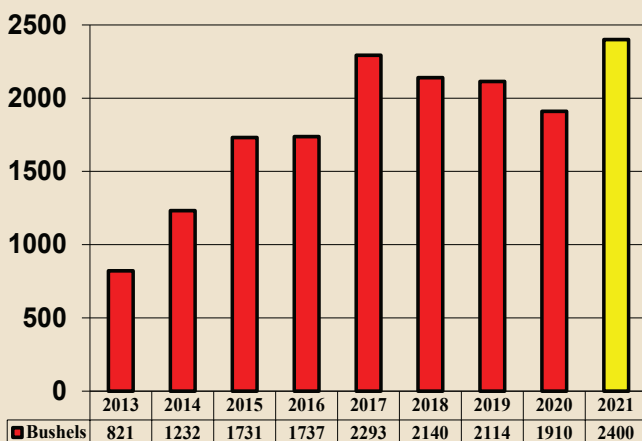
Despite all these uncertainties about the exact size of the crop, a consensus appears to show that while the 2019 harvest was not great, it was not a disaster either. The USDA now estimates that the final yield of corn will be 167 bushels per acre down from 176 last year. The ending inventory on August 31, 2020 will be lower than the ending inventory the year before. The price of corn will be slightly higher on average during the current crop year than it was last crop year.

Regardless of how badly the 2019 crop turns out in the end, corn buyers can take hope from the very real possibility of a rebound in acres and yield next year. The reduction in corn ending inventory this crop year could well be replaced by a rebound in ending inventory next crop year. The \$3.90 per bushel for December on the futures market today may well be too high. The odds are favorable that chicken producers can expect lower corn prices later in 2020.

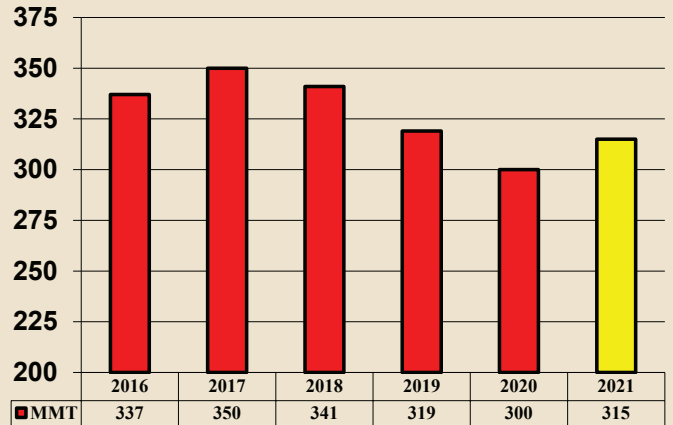
**US Corn Supply and Demand – December 2019
USDA to 2019-2020 - Billions of Bushels**

	2018-19	2019-20	2020-21
Harvest	14,420	13,661	15,000
Supply Total	16,588	15,825	
Ethanol	5,376	5,375	
Exports	2,065	1,850	
Feed	5,618	5,275	
Total Use	14,474	13,915	14,500
Ending Inventory	2,114	1,910	2,400
Farm Price	\$3.61	\$3.85	\$3.40

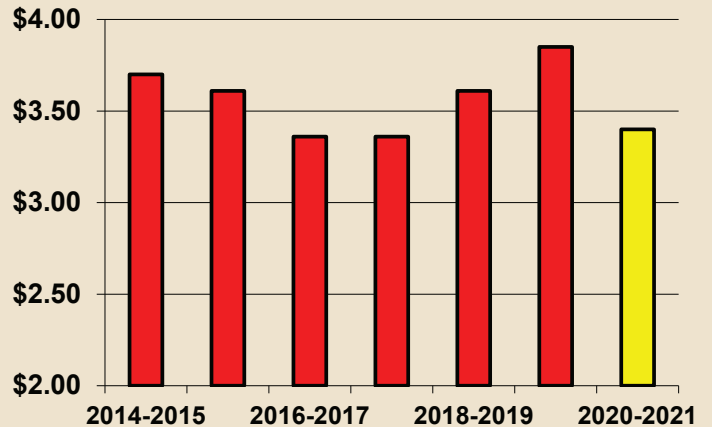
US Ending Stock of Corn - Millions of Bushels



**World Ending Stock of Corn
Millions of Metric Tons (MMT) - USDA to 2020**



**Average US Farm Price of Corn
\$/Bushel - USDA to 2019-20**



Soybeans

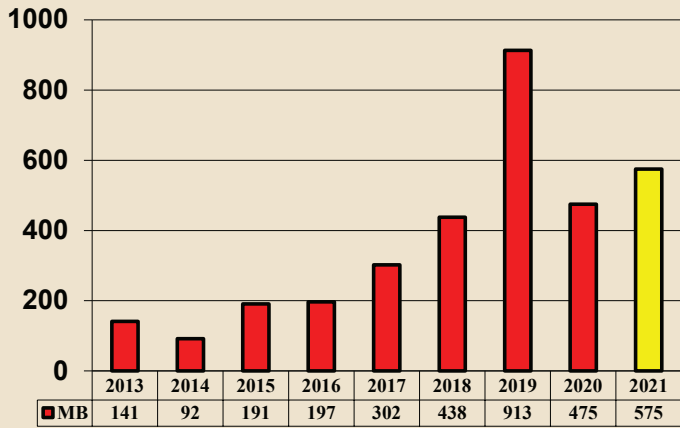
Like corn, soybean production will be down somewhat this year and also like corn, ending stock will drop at the end of this crop year. Like corn, wet fields and early frost reduced yields. However, unlike corn, soybeans are subject to a greater trade uncertainty. The price of soybeans would now be different, with China as a large dependable customer, compared to a few token sales as has been the experience recently. It now appears that China will not be a significant customer of US soybeans in 2020 for two reasons. First, the likelihood of a deal appears slim and second, even with a deal, China does not need a lot of soybeans; the number of hogs in China is down 50% due to African Swine Fever.

As can be seen on the graph and table below, the crop year that just ended had a huge ending stock. This crop had a smaller harvest and exports to China are still extremely low. Putting it all together, the price of SBM could well be much lower than had earlier been expected.

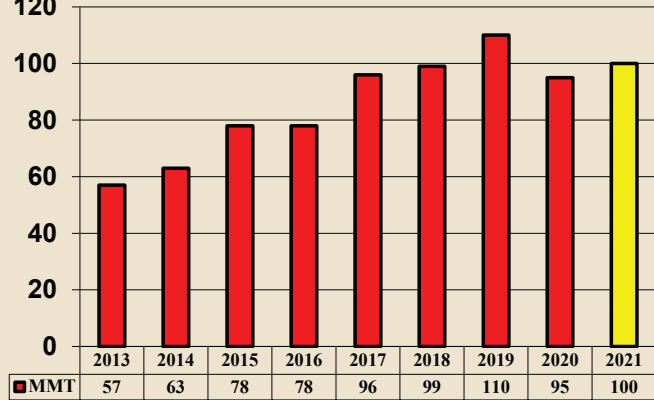
**US Soybeans – USDA to 2019-2020
Billions of Bushels**

	2018-19	2019-20	2020-21
Harvest	4,428	3,550	4,100
Total Supply	4,880	4,483	4,475
Export	1,748	1,775	1,775
Total Use	3,967	4,008	4,000
Ending Stock Inventory	913	475	575
Meal Price Short Ton	\$308	\$310	\$280

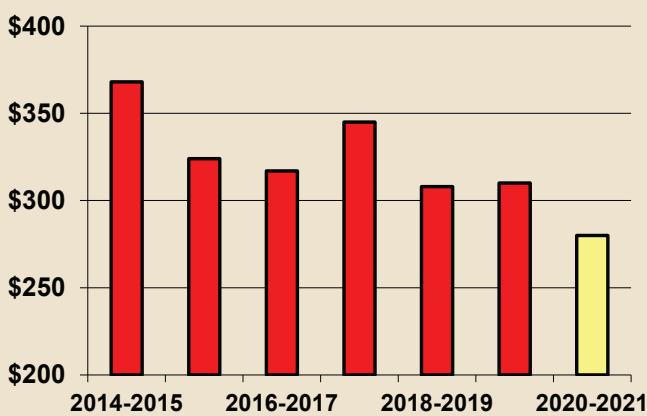
**US Ending Stock of Soybeans
Millions of Bushels - USDA to 2020**



**World Ending Stock of Soybean
MMT - USDA to 2020**



**Average US Crop Year Price of SBM
USDA to 2019-20**



US Chicken Industry

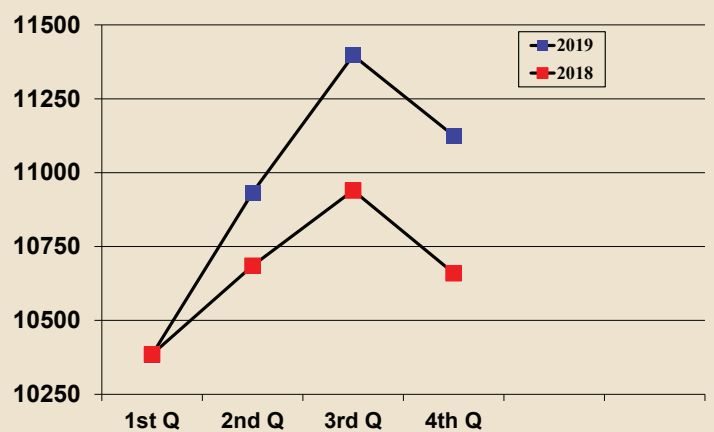
China, as well as other Asian countries, are suffering a major decline in pork production due to African Swine Fever (ASF). Pork production is expected to fall 20 million metric tons in China alone between 2018 and 2020. Most of the effects of the decline will occur in 2020. There will be a shortage of meat protein in China next year and meat prices there will be much higher.

China recently opened their market to US chicken (with a 35% tariff). The 35% tariff will not be a barrier to trade particularly at this moment of unusually high prices in China. The opening had an immediate effect on the price of chicken in the US as the market is expecting a significant increase in exports.

Assuming the market opening really happens, exports to China are sure to consist of a lot of paws and potentially a lot of legs (not leg quarters) as well. The potential is huge. It could be \$600 million worth of paws and \$400 million worth of legs. The expectation of a large potential new market led to a robust increase in the price of all chicken parts in the last few weeks. The increase seen in the last few weeks may eventually be tempered by the fact that the supply of chicken, at least in the short run, is increasing at a rapid rate.

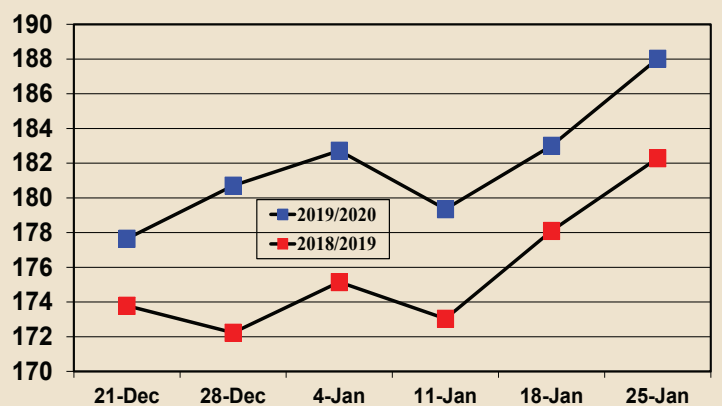
The USDA expects chicken production to rise 2.8% this year and 3.2% next year. That is a lot of additional production even with strong domestic demand and more exports. As can be seen on the graph below, chicken production growth accelerated to 4% the 3rd quarter of this year and continued expanding at a 4% rate in the 4th quarter.

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



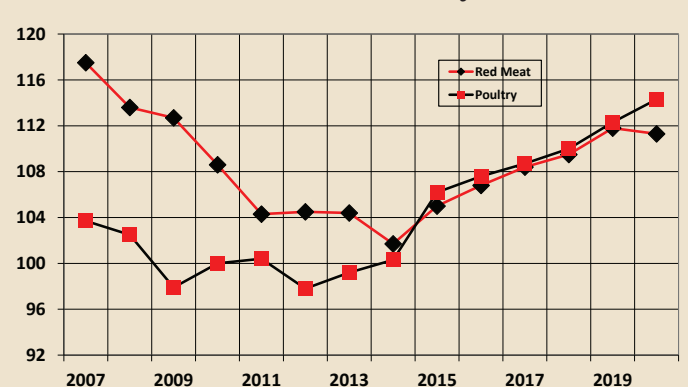
Recent chick placement numbers show how rapidly chicken production is rising. Taking the chicken placement numbers forward by 7 weeks, an increase of 4% is baked in the cake for December of this year and January of next year. If increased weight is added on to increased numbers, the total production increase may be close to 5% at least for the next several weeks.

**Weekly Chick Placement - Millions
7 Weeks Forward - 2019 versus 2018**



From 2014 to 2020, US meat consumption of both red meat and poultry rose steadily year after year. However, per capita consumption may be near the top of the cycle. At the top of the last cycle, consumption reached 220 pounds in 2006, then fell to 201 pounds during the great recession. Now, at what may well be the top of the current cycle, consumption is expected to reach 226 pounds in 2020. It is interesting to note that since 2015, poultry has just barely surpassed red meat. That gap will widen in 2020 as beef and pork production increases slowly while chicken continues to expand rapidly.

**US Per Capita Consumption of
Red Meat and Poultry - lbs**



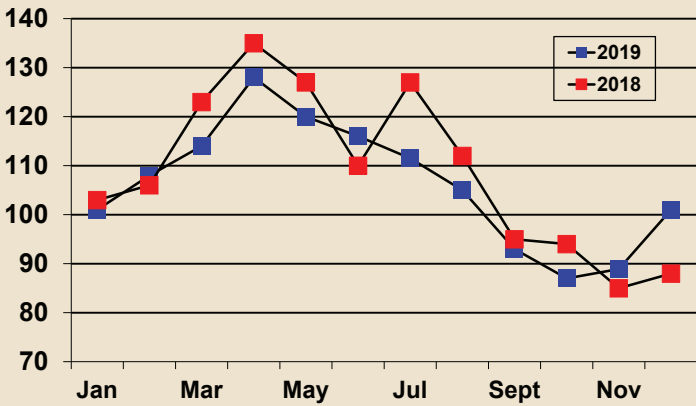
Per Capita Consumption in Pounds - US

Year	Pork	Beef	Chicken	Turkey	Total
Top of the Cycle					
2006	49	66	87	18	220
Bottom of the Cycle					
2013	47	56	82	16	201
Top of the Cycle?					
2020	53	57	97	16	226
Bottom of the Cycle?					
2027?	51	50	95	16	212

Deboned Breast

For decades the price of US skinless boneless breast, SBB, was much higher than the rest of the world. Last year the price of US SBB fell, astonishingly, to below the world price. This year prices once again fell to surprising low levels late in the year. However, after the China market opened up, SBB increased in price even though it is unlikely that any SBB will be exported to China. The increase in SBB prices is in part due to relatively high prices for competing meats and a strong economy that fuels demand.

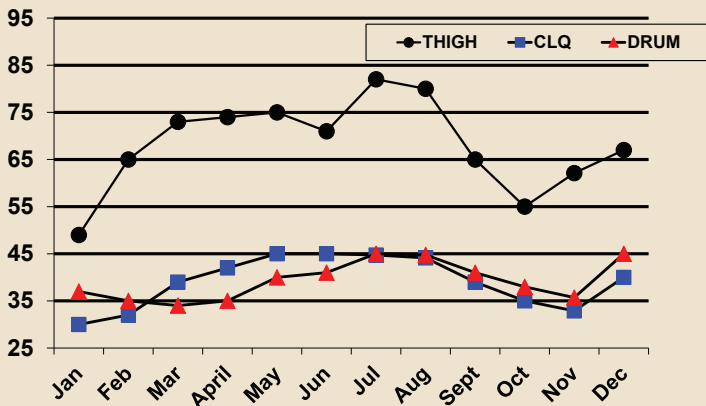
Deboned Breast - 2018-2019
USDA - Northeast Price - Cents/lb



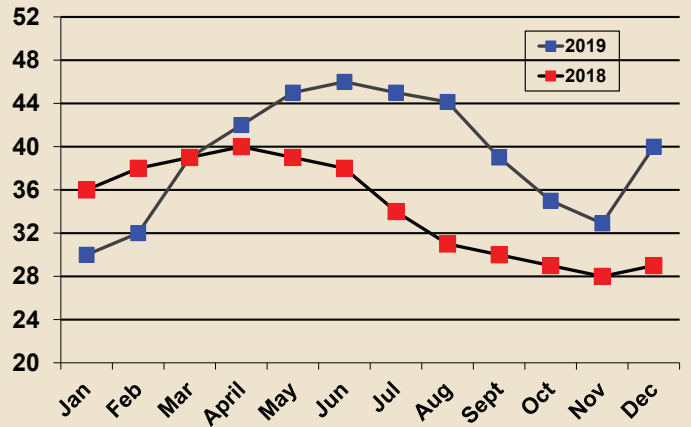
Leg Quarters

With the opening to China and a trade deal in sight with Mexico, leg quarter prices have responded positively. China is likely to become a significant buyer of legs (and paws). Another important positive factor going forward is the recent trade deal with Japan. This trade deal opens a market for deboned thigh meat. As labor issues are sorted out in the US, it can be expected that deboned thigh exports to Japan will expand.

Leg Quarter, Thigh, Drum Price 2019
USDA - Northeast Price - Cents/lb



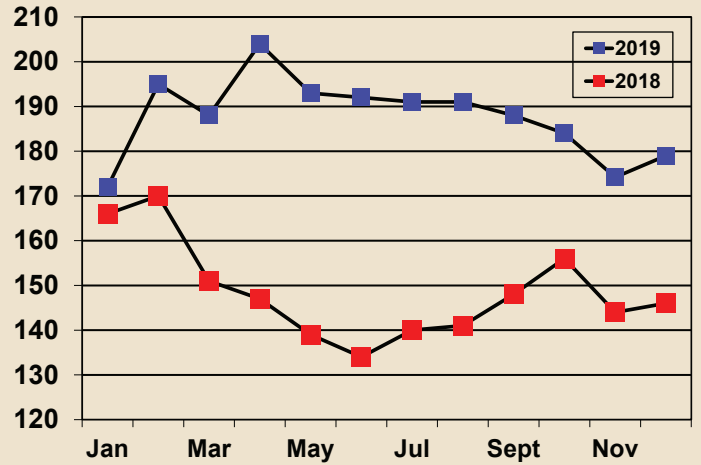
Leg Quarter Price - 2019-2019
USDA - Northeast Price - Cents/lb



Wings

Wings continue to be a bright spot for chicken producers and prices can be expected to remain high. Low unemployment and rising wages create the perfect conditions for high wing prices.

Whole Wing Prices - 2018-2019
USDA - Northeast Price - Cents/lb



Thanks to a strong economy, high prices for competing meats, and the opening of exports to China, the production of chicken in the US is profitable. With grain prices relatively low, profitability should continue. Prices may moderate in 2020 if exports to China don't reach the hoped-for levels or if the US economy should falter.

December 2019

Leg Quarters	\$0.40 per pound
Deboned Breast	\$1.00 per pound
Wings	\$1.80
Chicago Corn	\$3.50 per bushel
Soybean Meal	\$294 per Ton
Total Cost of Wholesale Chicken	\$0.73
Revenue	\$0.77
Gain (Loss) per pound	\$0.04

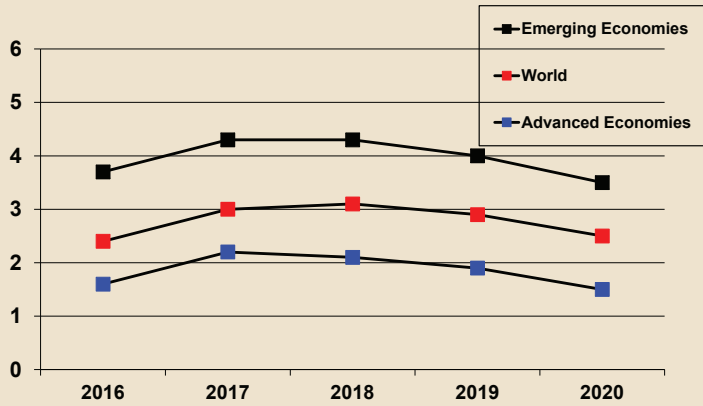
April 2020

Leg Quarters	\$0.40 per pound
Deboned Breast	\$1.15 per pound
Wings	\$1.80
Chicago Corn	\$3.40 per bushel
Soybean Meal	\$280 per Ton
Total Cost of Wholesale Chicken	\$0.72
Revenue	\$0.80
Gain (Loss) per pound	\$0.08

World Chicken Growth Rate

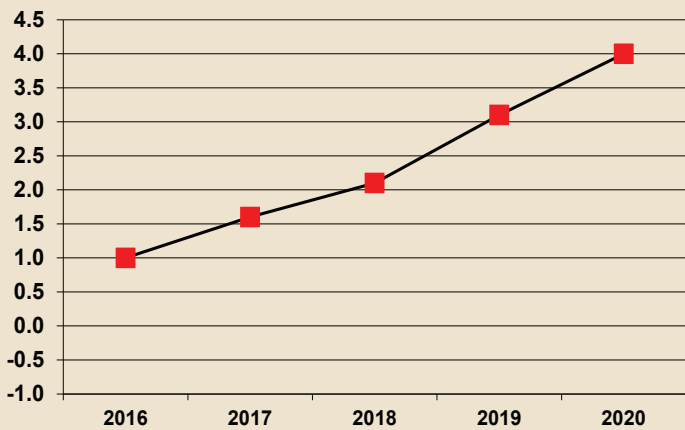
World economic growth was rising in 2017 but started to slow down in 2018. It is likely that world economic growth will decline in the next few years. Declining world economic growth usually restricts the ability of the world chicken industry to grow. However, given sharply declining world pork production, chicken production growth should rise against the economic trend to 4% in 2020 because of the shortage of pork.

Economic Growth Rate



World Bank Real GDP to 2019

World Chicken Growth Rate in %



FAS - USDA to 2020

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Dr. Paul Aho is an international agribusiness economist specializing in projects related to the poultry industry and has been a prolific writer in trade journals in both the United States and in Latin America. Dr. Aho now operates his own consulting company called "Poultry Perspective". In this role, he works around the world with poultry managers and government policy makers.

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