

Broiler Economics

By Dr. Paul Aho

THE NEW WORLD OF COVID-19

The world changed dramatically in the last month. Coronavirus changed from primarily an issue in parts of Asia to a game changer worldwide. Restaurants are closed, the world economy is in free fall, air travel is nearly halted and the exit path from this nightmare is highly uncertain. It is no longer probable that the whole thing will blow over in a few months. A more likely scenario is a disruption to normal commerce around the world for at least the rest of this year.

The important question now is how long lasting the damage will be to the world economy. Will the recovery from the coronavirus recession be a “V” shaped one where the world economy recovers as fast as it slid into the recession or will the recovery be “U” shaped or worse, the dreaded “L” shape? The possibility of long lasting and significant effects can not be completely discounted.

The rapid descent into a world recession shook the stock markets and commodity markets. Prices for key raw materials such as oil, copper, iron ore, nickel, aluminum and liquid natural gas plummeted. Manufacturers, mining companies and commodity producers are all in the process of deciding how much to cut back. The problems in the commodity market reflect the reality that the world economy is faltering.

Agriculture is well positioned to ride out this crisis however long it lasts. Within agriculture, chicken is well positioned despite the problems mentioned below. It is interesting to note that during a recent frenzy of hoarding it was not only toilet paper that disappeared from supermarkets but also chicken as well.

The chicken industry faces three immediate problems, supply disruption, food service demand and export prospects. The supply of meat is being disrupted due to COVID-19. Processing plants, by their very nature, must congregate hundreds of people who then run the risk of contracting the disease. The entire meat processing industry will struggle to mitigate this problem for months. Already some poultry plants have been closed temporarily and one of the largest pork plants in the US is now closed indefinitely.

The second immediate problem is the drop off in food service demand. It is estimated that 50% of the demand from food service disappeared overnight in March. The third immediate problem is that of export demand. A worldwide coronavirus recession combined with an usually high value for the US dollar creates a temporary drag on the prospects for US exports of chicken.

There are some bright spots. Sales to supermarkets are higher and sales to China are increasing. Nevertheless, the bright spots come nowhere close to replacing the loss from food service and exports. Even when the country begins to get back to normal, the total market for chicken meat will be smaller than it was just a month ago.

Corn

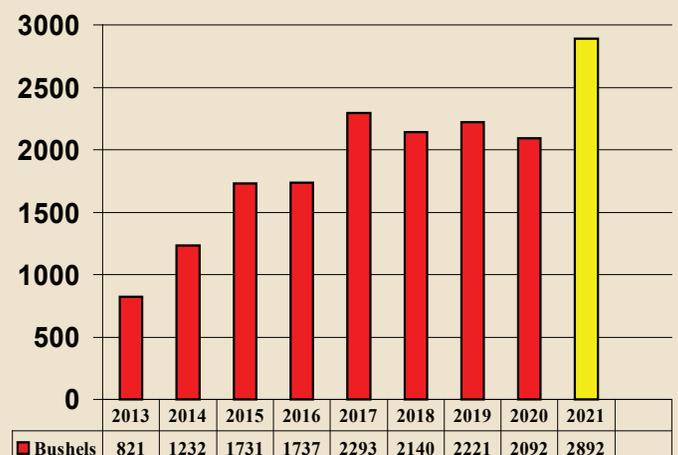
While the 2019 harvest of corn was not great, it was not a disaster either. The USDA now estimates that the final yield of corn was 168 bushels per acre last fall, down from 176 the year before. The ending inventory on August 31, 2020 will be only slightly lower than the ending inventory the year before and the price of corn will be similar during the current crop year compared to last crop year.

The slight reduction in corn-ending inventory this crop year could well be followed by a strong rebound next crop year to a much higher level given more acres and a normal season. The price of corn would fall even absent coronavirus. With the pandemic, demand is unlikely to grow much due to a tepid rise in corn exports, less corn used by livestock than earlier expected and, most importantly, a drop in demand by ethanol plants. The odds are favorable that chicken producers can expect lower corn prices later in 2020.

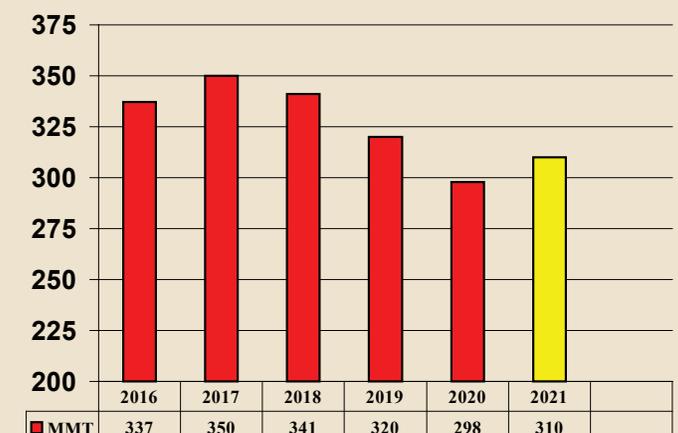
**US Corn Supply and Demand – WASDE April 2020
USDA to 2019-2020 - Billions of Bushels**

	2018-2019	2019-2020	2020-2021
Harvest	14,340	13,692	15,000
Supply Total	16,509	15,957	17,092
Ethanol	5,378	5,050	
Exports	2,065	1,725	
Feed	5,430	5,675	
Total Use	14,288	13,865	14,200
Ending Inventory	2,221	2,092	2,892
Farm Price	\$3.61	\$3.60	\$3.25

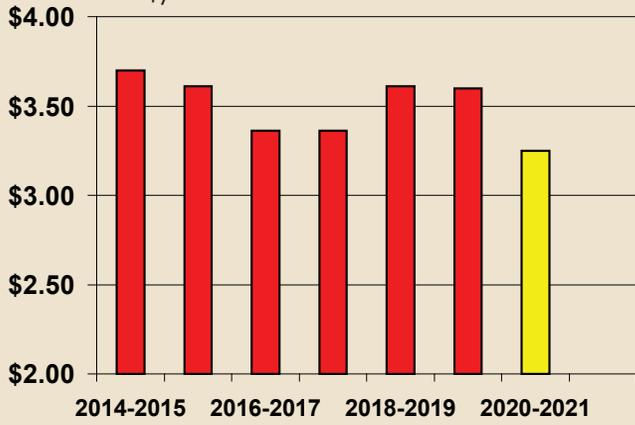
**US Ending Stock of Corn
Millions of Bushels**



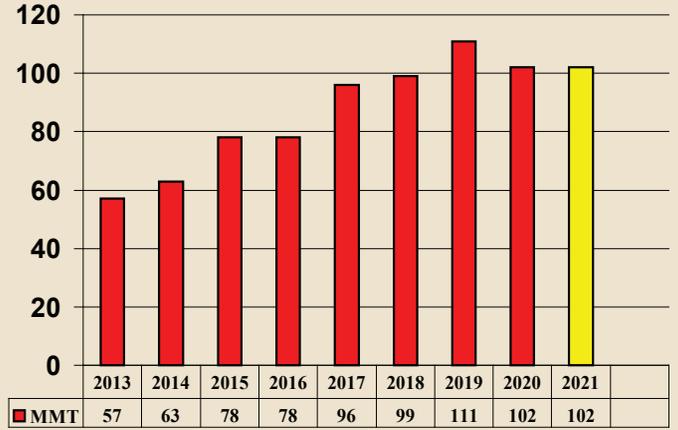
**World Ending Stock of Corn
Millions Metric Tons - USDA to 2020**



**Average US Farm Price of Corn
\$/Bushel - USDA to 2019-2020**



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

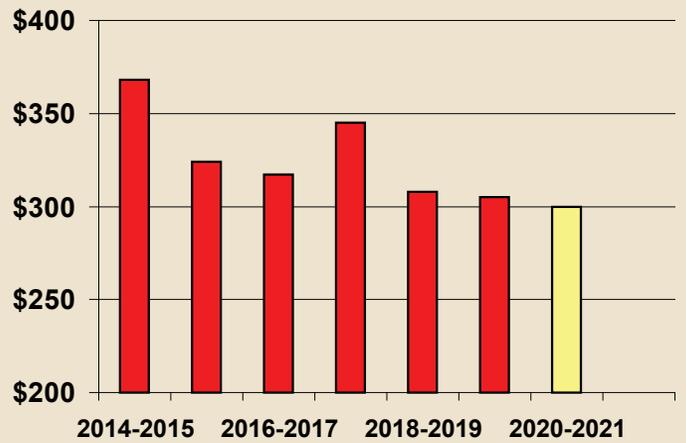


Soybeans

Like corn, soybean production was down last fall and is likely to recover next crop year. However, unlike corn, soybeans are subject to much greater trade uncertainty. China agreed to purchase a lot more US soybeans. However, their purchases may be lower than agreed upon due to the fall in the Brazilian Real compared to the dollar. Cheap Brazilian and Argentine currencies give a powerful incentive for China to purchase South American soybeans. With a normal harvest this year, it appears that soybean meal (SBM) prices will be lower next crop year compared to this crop year due to the heavy competition from South America.

As can be seen on the graph and table below, this crop year had a smaller harvest and a lower ending inventory. In the coming months, soybean meal will be getting a boost from the lack of DDG's from ethanol plants but exports may be disappointing. In addition, US livestock production may begin to fall. Putting it all together, the price of SBM, like corn, could well be lower next crop year. This is a contrarian position. Many analysts are predicting higher SBM prices due to increased sales to China.

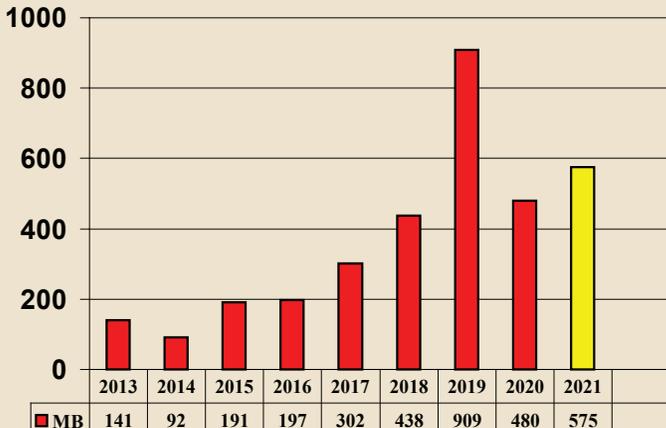
**Average US Crop Year Price of Soybean Meal
USDA to 2019-2020**



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

	2018-2019	2019-2020	2020-2021
Harvest	4,428	3,558	4,100
Total Supply	4,880	4,482	4,575
Export	1,748	1,775	1,775
Total Use	3,971	4,002	4,000
Ending Stock Inventory	909	480	575
Meal Price - short ton	\$308	\$305	\$300

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



US Chicken Industry

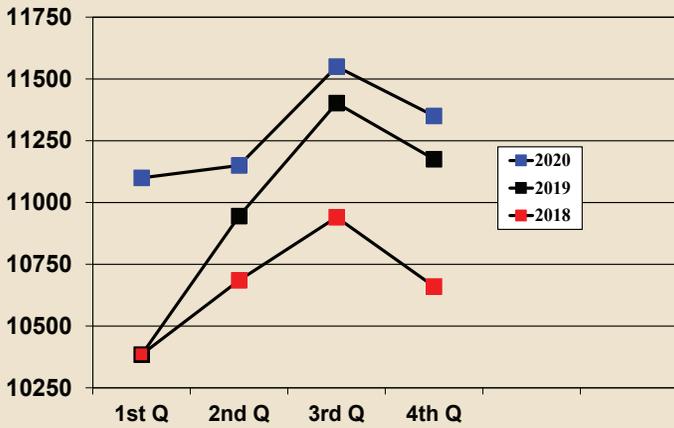
A major upheaval is underway in the US chicken industry. In the last few weeks, food service demand plummeted by 50% while supermarket demand increased. This can be seen clearly in the price of deboned breast and wings.

The industry was caught flat-footed as unimaginable events changed the market overnight. In the short run, the industry will struggle to adjust and reduce supply to the new demand reality. Although chicken is wildly popular in supermarkets these days, the loss of so much food service demand means that there is too much chicken supply chasing a now smaller total market. Eventually the chicken market will move back to something closer to “normal”. However, the timing of that return to normal is very much in doubt and the new normal may look different from the old normal. Food service sales may rebound to a level below that of the world before coronavirus for a considerable length of time.

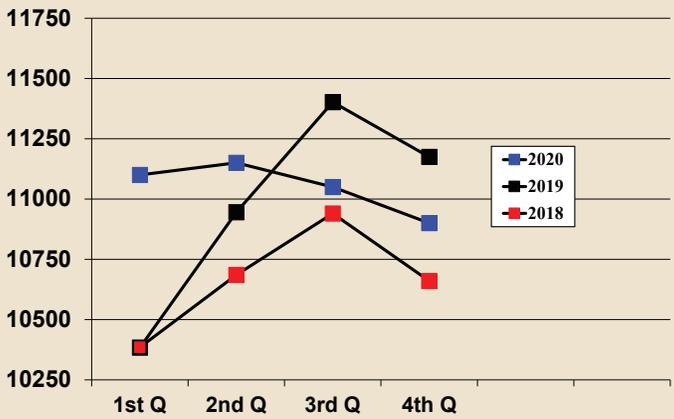
China recently opened their market to US chicken. Sales of chicken, especially paws, got off to a great start until coronavirus slowed trade temporarily due to problems in Chinese ports. The China market could eventually become an important one for the US. Exports to China are sure to consist of paws and potentially a lot of leg quarters as well. The potential is huge. It could be \$600 million worth of paws and \$400 million worth of legs. However, for the short term, sales to China do not overcome the decline in the demand for US leg quarters elsewhere. A strong dollar compared to other currencies, as well as the effect of a worldwide drop in demand, reduces the demand for US leg quarters.

The USDA (April WASDE) now expects chicken production to rise 3% this year. That is a lot of additional production given current realities. As can be seen on the graph below, chicken production growth accelerated to 7% year over year during the 1st quarter of this year and is projected, by the USDA, to continue expanding. Those numbers may be too optimistic. When all is said and done, production may fall below year earlier levels at times this year as is shown on the second graph. Unless there is a rapid increase in the demand for food service chicken in the US, one way or another production may fall to a level lower than that of 2019.

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

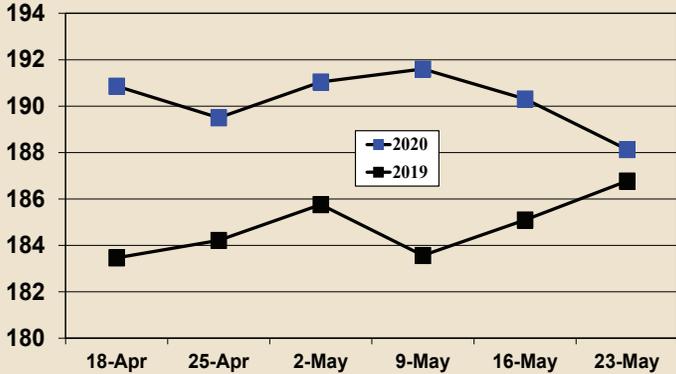


**US Quarterly Broiler Production
Million Pounds - USDA to 2019**



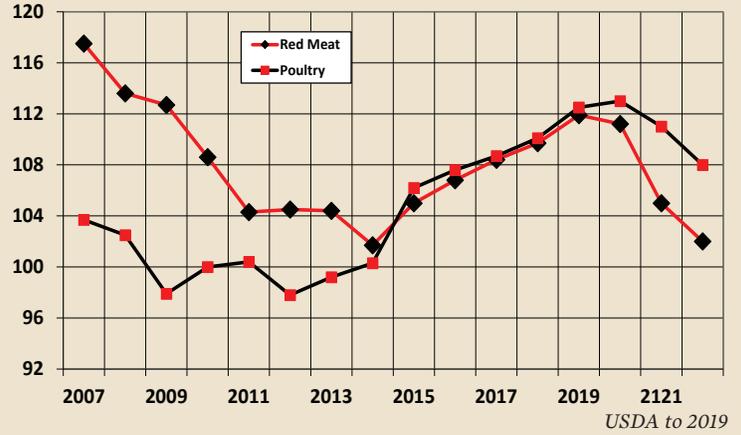
Recent chick placement numbers show a continuing rise in chicken production. Taking the chicken placement numbers forward by 7 weeks, an increase of 4% is baked in the cake for April and part of May. If the effects of coronavirus on food service are prolonged, chick placements will eventually fall below year earlier numbers.

**Weekly Chick Placement - Millions
7 Weeks Forward - 2020 versus 2019**



After a decline from 2007 to 2013 (the great recession) US consumption of both red meat and poultry rose steadily year after year until 2019. That year may well have been the top of the cycle at 224 pounds of total meat consumption per capita. This year, beef and pork per capita consumption will fall while chicken rises slightly. Per capita consumption of all meats is likely to fall for the duration of the coronavirus recession with red meats falling faster than chicken.

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



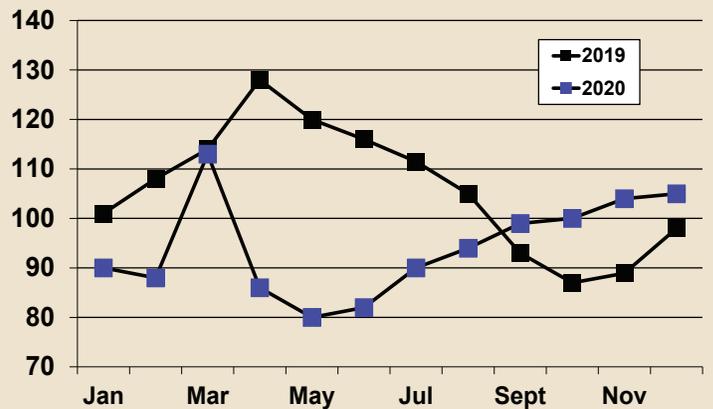
Per Capita Consumption in Pounds - US

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?					
2019	52	58	95	16	221
Bottom of the Cycle?					
2022?	48	52	92	15	207

Deboned Breast

For deboned breast things looked OK until March when the restaurants closed and the bottom fell out of the market. Breast meat prices are likely to remain low until demand returns.

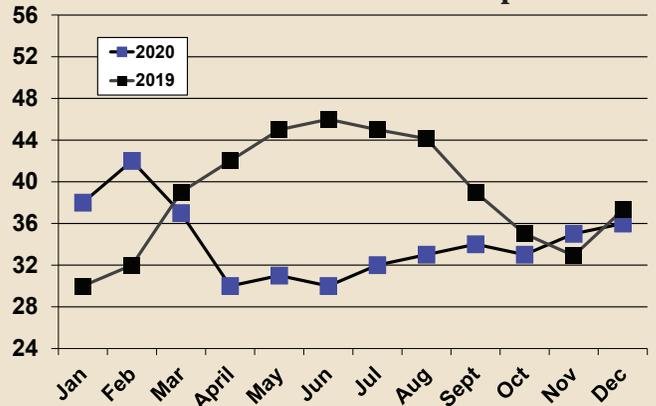
**Deboned Breast - 2019-2020
Northeast Price - USDA - Cents/lb**



Leg Quarters

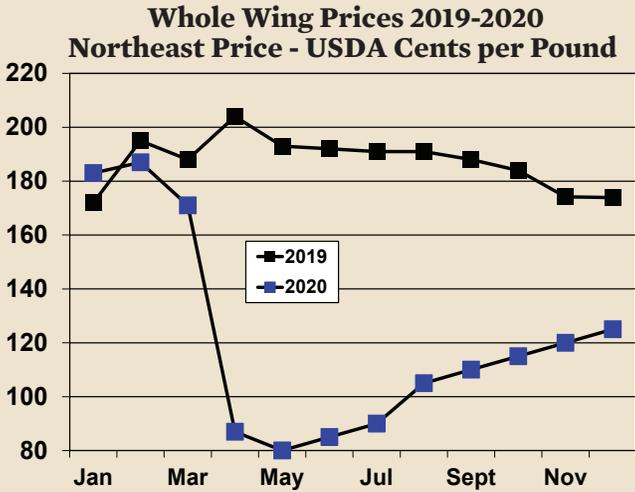
Leg quarter (LQ) prices are highly dependent on the export market. Like deboned breast, LQ prices also plummeted recently due to the strong dollar and the generally weakening economic prospects worldwide. A bright spot is the increasing sale of chicken to China as trade restrictions were lifted. Another important positive factor going forward is the recent trade deal with Japan. That trade deal opens a market for deboned thigh meat. In addition, deboned thigh is becoming more popular in the US.

**Leg Quarter Price - 2019-2020
Northeast Price - USDA Cents per Pound**



Wings

Nowhere is the collapse of food service demand more evident than in the wing market. High unemployment, falling wages, sports being cancelled, and restaurants and bars being closed created the perfect storm for wing prices. When economic conditions improve, wing prices will rebound. In the case of wings, supply is almost irrelevant, it is all about the demand.



At the beginning of this calendar year, the production of chicken in the US was slightly profitable. Now the industry is suffering significant (and hopefully temporary) losses. Several scenarios can be imagined for the rest of the year. A likely one is where the economy manages to pull out of its current free fall but is still weak while chicken companies reorganize production in order to adapt to the new reality.

February 2020

Leg Quarters	\$0.42 per pound
Deboned Breast	\$0.88 per pound
Wings	\$1.89
Chicago Corn	\$3.82 per bushel
Soybean Meal	\$291/Ton
Total Cost of Wholesale Chicken	\$0.74
Revenue	\$0.75
Gain (Loss) per pound	\$0.01

April 2020

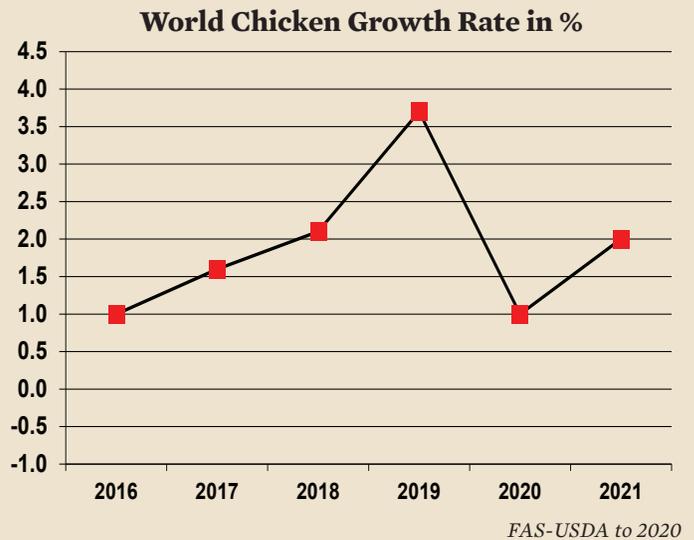
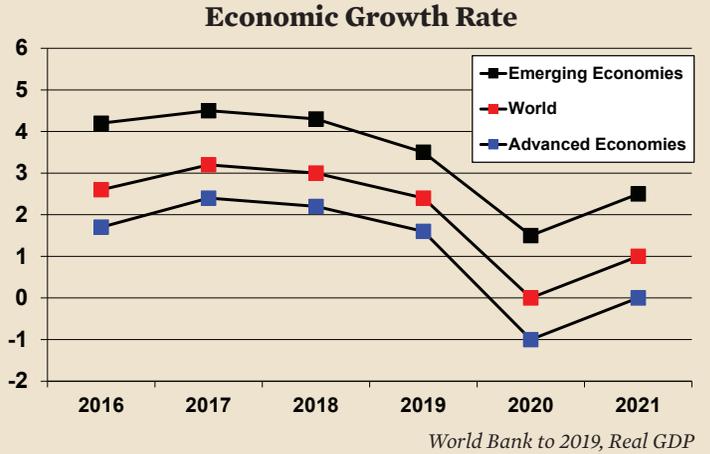
Leg Quarters	\$0.31 per pound
Deboned Breast	\$0.86 per pound
Wings	\$0.87
Chicago Corn	\$3.32 per bushel
Soybean Meal	\$293/Ton
Total Cost of Wholesale Chicken	\$0.72
Revenue	\$0.60
Gain (Loss) per pound	\$(0.12)

October 2020

Leg Quarters	\$0.33 per pound
Deboned Breast	\$1.00 per pound
Wings	\$1.10
Chicago Corn	\$3.00 per bushel
Soybean Meal	\$293/Ton
Total Cost of Wholesale Chicken	\$0.71
Revenue	\$0.66
Gain (Loss) per pound	\$(0.05)

World Chicken Growth Rate

World economic growth started to slow in 2018 and will take a dive in 2020. Declining world economic growth restricts the ability of the world chicken industry to grow even with the shortage of pork due to African Swine Fever.



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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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