

## BEAR MARKET

A robust bull market in grain, and indeed in many different commodities, started in August of 2020. Over the next several months the price of corn doubled and soybean meal rose 50%. In May of this year, prices probably reached their peak. Barring a Midwest drought, which appears increasingly unlikely, the highest prices are now in the rear-view mirror and grain prices will continue to moderate.

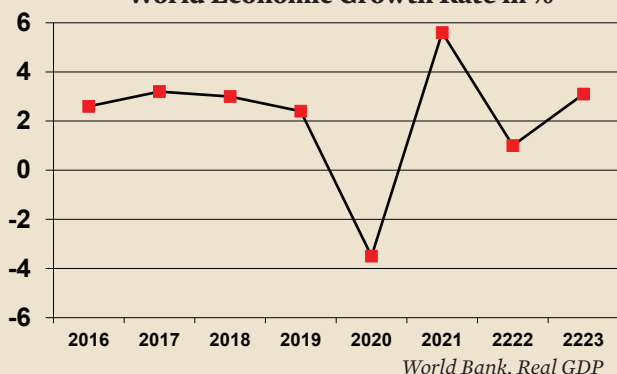
If May was indeed the top of the market, a bear market mood is starting to settle in. Buyers become less anxious about buying and sellers are more anxious to sell. That appears to be the situation in grain at this moment.

Although COVID-19 still casts a dark shadow over economic activity, economic expansion is real. World economic growth is estimated to be 5.6% this year compared to estimates of just 4% a few months ago. Prospects are looking brighter for the world chicken industry as well.

There are still many things that still could go wrong in the chicken industry. The Delta strain of COVID is a setback that could affect the world economic recovery; grain prices could go higher if there is a last-minute drought in the US; and the recent outbreak of avian influenza in Asia and Europe could return with greater impact next fall.

Despite those challenges, the recessionary effects on the world economy of the pandemic should diminish as more people become vaccinated. It now appears that the economic recession and recovery will be an odd shaped "W". The downturn last year was followed by a large percentage increase this year when compared to last year; the world economic growth rate will then diminish in 2022 as the easy comparisons end and finally take off in 2023.

World Economic Growth Rate in %



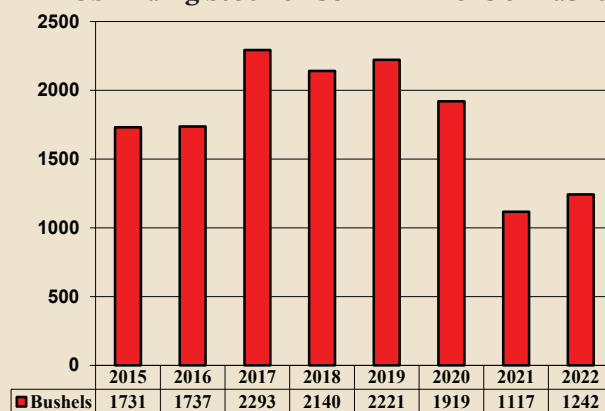
The demand for animal protein is normally diminished during periods of economic recession since meat is a luxury for most of the world's population. In the case of this recession, the negative effects on protein demand were somewhat mitigated by massive efforts by many governments to prop up consumer income. As a result, the meat recession was milder than would have been expected and demand is strengthening in many countries.

The poultry industry was well positioned to ride out this crisis. In a recession there is a shift in demand from more expensive meats toward poultry. In addition, the recent slow expansion of poultry production last year because of the COVID recession brought about a chicken shortage this year in the face of renewed demand with a resulting increase in the price of chicken.

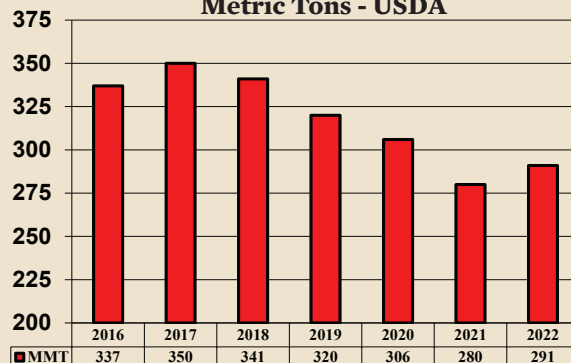
### Corn

After a peak in May, the price of corn moved down and then sideways. Ending stock is low for this year and next. Last crop year, 2019-2020, ended with an inventory in the US of 1.9 billion bushels. This crop year, 2020-2021, ending inventory will be only 1.1 billion bushels. A big part of the reason for that drop was the sudden increase in exports to China. For next year, ending stock is projected to only rise slightly to 1.2 billion bushels which is a bullish number. However, other numbers indicate moderation in prices. Most importantly, world-ending stock numbers are ample and are expected to rise next crop year. In addition, there are no grave issues in the rest of the world that would indicate a resurgent bull market. Exports from Argentina and Brazil are steady and while imports by China will be high next crop year, they are projected to be no higher than this crop year.

US Ending Stock of Corn - Millions of Bushels



World Ending Stock of Corn  
Metric Tons - USDA



Argentina Corn Supply and Demand  
WASDE August 2021 - Metric Tons

	2019-2020	2020-2021	2021-2022
Harvest	51	49	51
Imports	0	0	0
Exports	36	35	36
Ending Inventory	3	2	3

Brazil Corn Supply and Demand  
WASDE August 2021 - Metric Tons

	2019-2020	2020-2021	2021-2022
Harvest	102	93	118
Imports	2	4	2
Exports	35	28	43
Ending Inventory	5	2	9

China Corn Supply and Demand  
WASDE August 2021 - Metric Tons

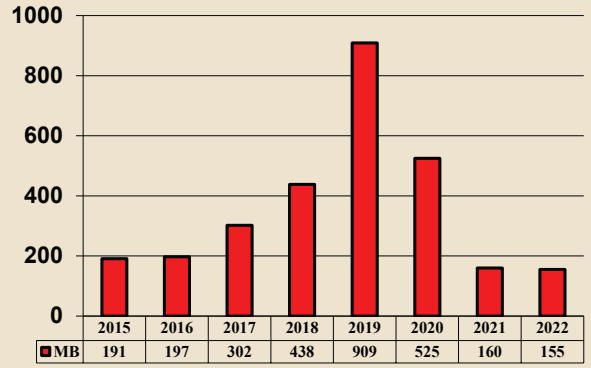
	2019-2020	2020-2021	2021-2022
Harvest	260	260	268
Imports	8	26	26
Exports	0	0	0
Ending Inventory	200	198	198

For the bull market to come back, new news will be required. Barring a drought, there does not appear to be any important new bullish news. As can be seen on the WASDE report, US corn exports are expected to moderate next crop year while feed numbers are steady to falling and the crop is expected to be higher than last year. Farm prices are notably expected to rise in the next crop year. This is not because the peak price is yet to come but rather that the average over the next crop year is likely to exceed the average over this crop year. In addition, the USDA projection for average farm price may prove to be too high. The average price in crop year 2022-2023 is highly likely to return to lower levels.

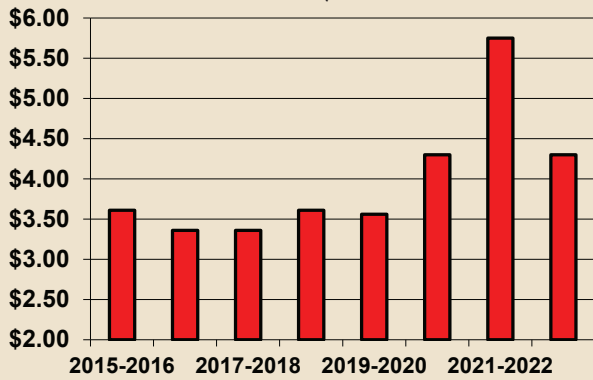
**US Corn Supply and Demand – WASDE August 2021  
USDA to 2020-2021 - Millions of Bushels**

	2019-2020	2020-2021	2021-2022
Harvest	13,620	14,182	14,750
Supply Total	15,883	16,127	15,892
Ethanol	4,852	5,050	5,200
Exports	1,778	2,750	2,400
Feed	5,903	5,725	5,625
Total Use	13,963	15,010	14,650
Ending Inventory	1,919	1,117	1,242
Farm Price	\$3.56	\$4.35	\$5.70

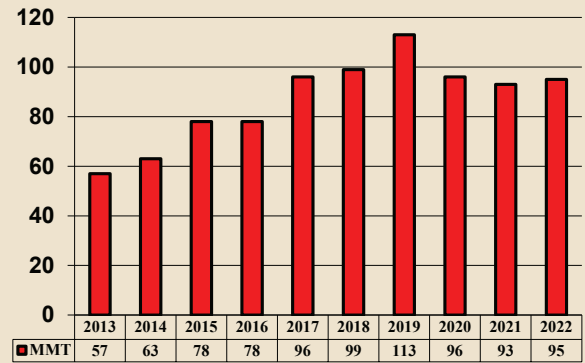
**US Ending Stock of Soybeans  
USDA - Millions of Bushels**



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



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



**Soybeans**

As with corn, a big part of the reason for higher prices was increased exports to China to feed a growing hog population returning after African Swine Fever. That one-time increase is over and soybean meal prices are down from their peak levels earlier this year. The fall in prices was helped by high soybean oil prices and by good crops in the southern hemisphere. When soybean oil prices are high, meal tends to drop as more soybeans are crushed for the oil. In addition, Brazil and Argentina produce far more soybeans than the US so a good crop in the southern hemisphere ensures that there is a limit to how high soybean prices can rise. This crop year, Argentina and Brazil produced a combined 183 million metric tons (MMT) compared to 112 MMT produced by the US. For the next crop year Argentina and Brazil are expected to produce 196 MMT. More importantly, exports from the two countries are expected to rise from 131 MMT to 146 MMT (+15 MMT) next crop year.

**US Soybeans – USDA to 2020-2021  
WASDE August 2021 - Millions of Bushels**

	2019-2020	2020-2021	2021-2022
Harvest	3,552	4,135	4,339
Total Supply	4,476	4,680	4,533
Export	1,682	2,260	2,055
Total Use	3,952	4,520	4,379
Ending Stock Inventory	525	160	155
Meal Price short ton	\$299	\$395	\$385

**Argentina Soybean Supply and Demand  
WASDE August 2021 - Metric Tons**

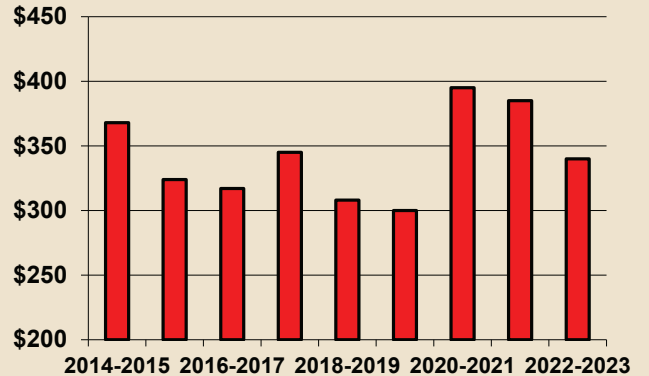
	2019-2020	2020-2021	2021-2022
Harvest	49	46	52
Imports	5	5	5
Exports Beans + Meal	37	32	36
Ending Inventory	27	25	27

**Brazil Soybean Supply and Demand  
WASDE August 2021 - Metric Tons**

	2019-2020	2020-2021	2021-2022
Harvest	128	137	144
Imports	1	1	1
Exports Beans + Meal	110	99	110
Ending Inventory	20	26	27

Although the US does not dominate world soybean production, low ending stock numbers in the US have raised concern. Ending stock will fall to the bare minimum of pipeline levels at the end of this month (the end of the crop year) and hardly recover next year. Meanwhile, world ending stock is relatively high and stable. The average price of soybean meal this crop year is \$100 higher than last crop year. However, unlike corn, the average price next crop year is not expected to rise but rather remain at current levels. Finally, in 2022-2023, prices are expected to fall to more normal levels.

**Average US Crop Year Price of Soybean Meal  
USDA to 2020-2021**



**US Chicken Industry**

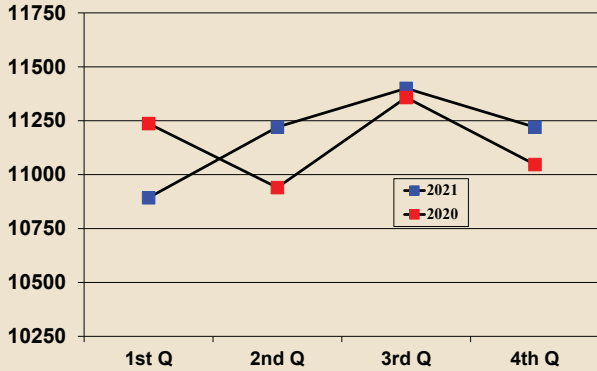
The US chicken industry, like a lot of industries, was reluctant to expand production last year in the teeth of the COVID-19 recession. In addition, production was constrained by the effects of the disease itself on processing plants. When the economy and meat demand started recovering faster than imagined this year, the supply of chicken turned out to be surprisingly short. All chicken prices rose, especially wing prices. Deboned breast also climbed as sandwich wars broke out between fast food companies that offered new chicken sandwich products this year.

High prices are, of course, the cure for high prices and chicken is no exception. Chicken prices can be expected to moderate over the next year as labor shortages are sorted out and production increases return.

Last year, China opened their market to US chicken and became the second largest market for US chicken after Mexico. The market is not just for paws, which can be worth as much as \$2 per pound, but also large amounts of leg quarters. Although exports of leg quarters to China slowed in the last few months as prices rose, exports for the entire year can be expected to at least equal that of last year.

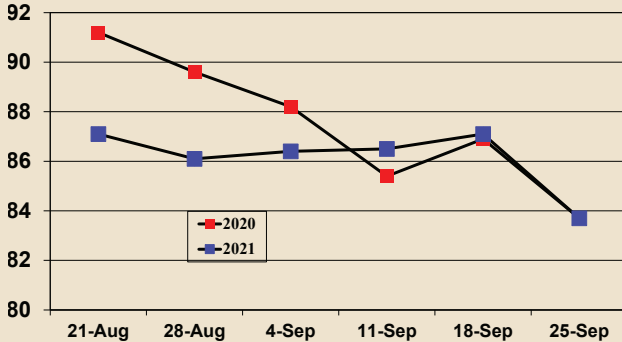
The USDA (August WASDE) expects chicken production to be only 0.3% higher this year. As can be seen on the graph below, chicken production was lower in the first quarter, higher in the second quarter and then is projected to be only slightly higher in every other quarter this year. Next year production is expected to accelerate slightly to a 1.3% gain and surely will increase more rapidly in 2023.

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



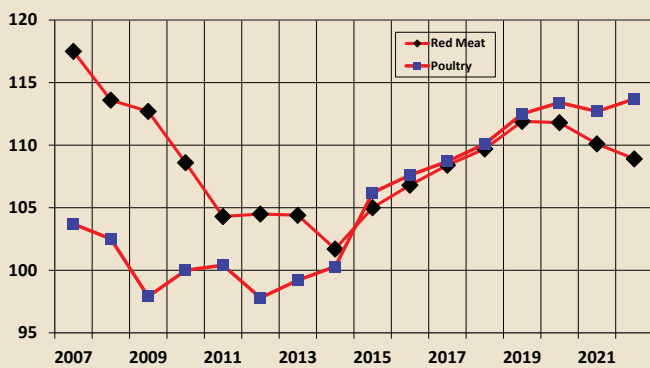
The chick placements graph below, moved 7 weeks forward to show the processing date, indicates that production at this moment is temporarily lower than last year. Going forward over the next month, production will be similar with very little increase over 2020.

**Weekly Chick Placement - Millions  
7 Weeks Forward - 2021 versus 2020**



After a decline from 2007 to 2013 (the great recession) US consumption of both red meat and poultry per capita rose steadily year after year until 2019. Last year, beef and pork started to fall while chicken consumption leveled out a trend that continues this year and next. As a result, total meat consumption per capita is falling. With supply and therefore consumption falling while demand rises, it is no wonder that prices are high for all meats.

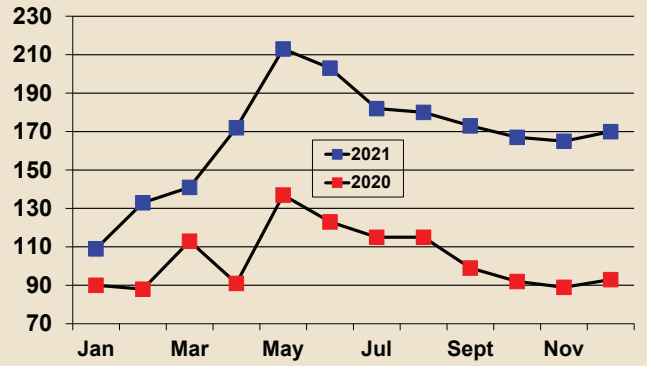
**US Per Capita Consumption of Red Meat and Poultry  
USDA to 2021 - lbs**



Deboned Breast

The price of deboned breast was on a roller coaster last year. Prices rose during the supermarket hoarding phase, fell due to the fall off in food service, rose when some plants closed and then fell when the plants reopened. At the end of the year, breast meat prices fell to their lowest price. This year, breast meat rose steadily month after month until May thanks in part to new fast food chicken sandwiches and the opening of more food service outlets. Prices are likely to remain relatively high for the rest of the year.

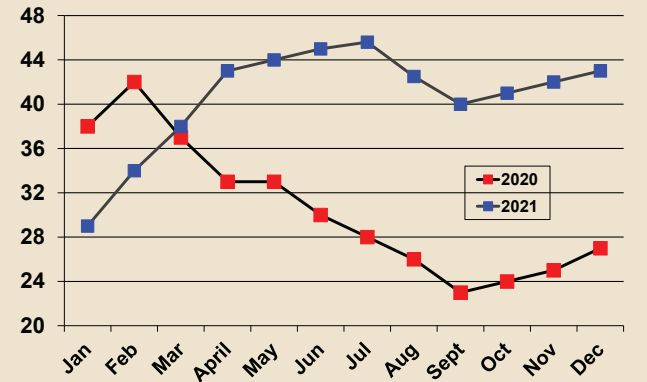
**Deboned Breast 2020-2021  
USDA Northeast Price - Cents/lb**



Leg Quarters

Leg quarter prices are highly dependent on the export market. Exports to China fell in the last few months but other countries have taken up the slack. Total exports will be higher this year than last year. If the world shakes off COVID-19, the outlook for exports will be even better. In addition to strong exports, increasing domestic demand for leg quarters, and in particular deboned thigh, is providing a new floor for leg quarter prices. It is possible that the Northeast prices will continue to linger above 40 cents for the rest of the year. The new floor is about \$1000 per metric ton. There also appears to be a ceiling of around \$1000 per metric ton. International demand falls off above that number.

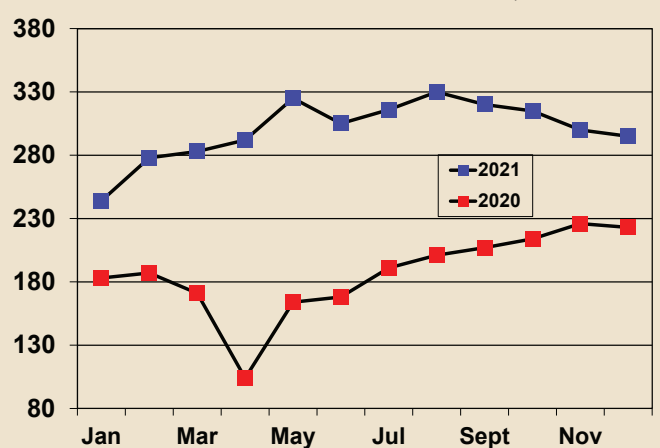
**Leg Quarter Price 2020-2021  
USDA Northeast Price - Cents/lb**



Wings

Nowhere was the collapse of food service demand last year more evident than in the wing market. Suddenly higher unemployment, falling wages, sports being cancelled, and restaurants and bars being closed were a major but temporary blow to wing prices. Wing prices bounced right back and continued higher the rest of last year and all this year so far. Part of the reason for rising prices was lower supply as large bird deboning production dropped. With food service reopening, wings soared to above \$3 per pound wholesale (Northeast Price). Although wing prices may have peaked, they are likely to remain high for the rest of the year.

**Whole Wing Prices 2020-2021  
USDA Northeast Price - Cents/lb**



Chicken production in the US is very profitable thanks to high wing, leg quarter and breast meat prices. Prices are likely to remain high this year instead of dropping as they normally would after a seasonal peak in the late spring thanks in part to the high price of competing meats. It appears that the industry will remain highly profitable throughout the year despite high grain prices.

**August 2021 US Measure**

Leg Quarters	\$0.42 per pound
Deboned Breast	\$1.82 per pound
Wings	\$3.26
Chicago Corn	\$ 5.71 per bushel
Soybean Meal	\$357/Ton
Cost of Eviscerated Chicken	\$0.82
Revenue	\$1.01
Gain (Loss) per pound	\$0.19

**August 2021 Metric Measure**

Leg Quarters	\$0.92 per kilo
Deboned Breast	\$4.00 per kilo
Wings	\$7.17 per kilo
Chicago Corn	\$224 per ton
Soybean Meal	\$393 per ton
Cost of Eviscerated Chicken	\$1.81
Revenue	\$2.23
Gain (Loss) per kilo	\$0.42

**December 2021 US Measure**

Leg Quarters	\$0.42 per pound
Deboned Breast	\$1.70 per pound
Wings	\$2.90
Chicago Corn	\$5.00 per bushel
Soybean Meal	\$350/Ton
Cost of Eviscerated Chicken	\$0.80
Revenue	\$0.95
Gain (Loss) per pound	\$0.15

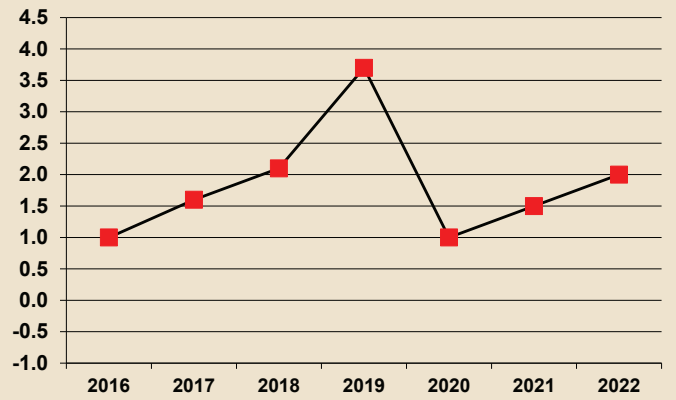
**December 2021 Metric Measure**

Leg Quarters	\$0.92 per kilo
Deboned Breast	\$3.74 per kilo
Wings	\$6.38 per kilo
Chicago Corn	\$197 per ton
Soybean Meal	\$385 per ton
Cost of Eviscerated Chicken	\$1.76
Revenue	\$2.09
Gain (Loss) per kilo	\$0.33

**World Chicken Growth Rate**

World chicken production grew only 1% last year because of COVID-19. This year, growth will be 1.5% according to the USDA as production lags the recovery in demand. Growth is expected to accelerate to 2% in 2022.

**World Chicken Growth Rate in %**



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