

Broiler Economics

By Dr. Paul Aho

WAR IN A BREAD BASKET

Ukraine and adjacent parts of Russia are a vital world bread basket. Ukraine alone is responsible for 12% of world corn exports, 10% of world wheat exports and 57% of world sunflower exports. Russia exports 19% of wheat in world trade. All the grain exports that go through the Black Sea from Russia and Ukraine are now disrupted and there is growing worldwide imbalance between supply and demand which, of course, is resolved by price. When there is a shortage of \$5 per bushel corn, there may be plenty of \$10 per bushel corn.



Agriculture in The Ukraine

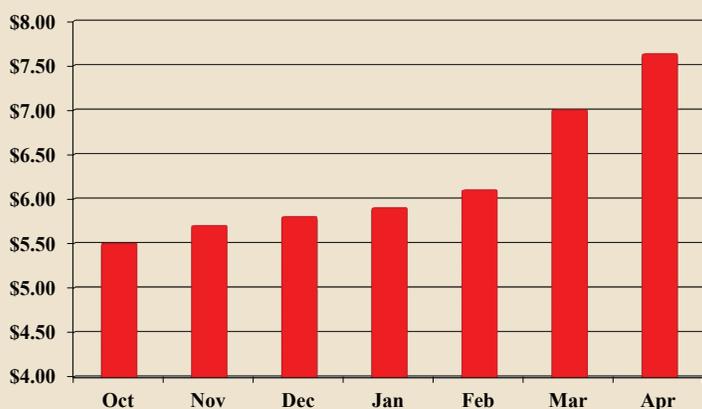
To get an idea of the magnitude of this calamity, this bread basket is of similar importance to world grain production as the Argentine Pampas. They are also similar in both having outstanding soils. The gold standard worldwide for soil quality is the Chernozem (black earth) soils of Ukraine and Russia.

As the war continues, it is anyone's guess as to whether corn will be planted in May in Ukraine or whether winter wheat will be harvested later this summer. In a worst-case scenario, grain exports from both Russia and the Ukraine are much lower this year. If those events are coupled with a drought in the American Corn-Belt, then there will be a food and feed crisis of major proportions.

Worst-case scenarios are, by definition, unlikely. What is more likely is that exports from Russia and the Ukraine are somewhat reduced, some corn gets planted, some wheat gets harvested in Ukraine and there is just a touch of drought in the US. In that case, the effect of the war would be somewhat higher grain prices. Higher grain prices are uncomfortable for the poultry industry but not a disaster. Crop year 2022-2023 could again see high grain prices but relief would be likely to arrive in crop year 2023-2024.

The effect of war can be seen in futures prices. Chicago May 2022 corn futures rose from \$5.50 per bushel (\$225 per ton) in October to \$7.68 (\$310) now. Soybean meal futures rose from \$330 per short ton back in October to \$468 now. It would not be surprising to see corn and soybean meal prices move even higher. However, raging bull markets like this one need to be continually fed with bullish news, an end to the war would bring the price of grains down.

Corn Futures - May 2022
US \$/Bushel



Soybean Meal - May 2022
US\$ Short Ton

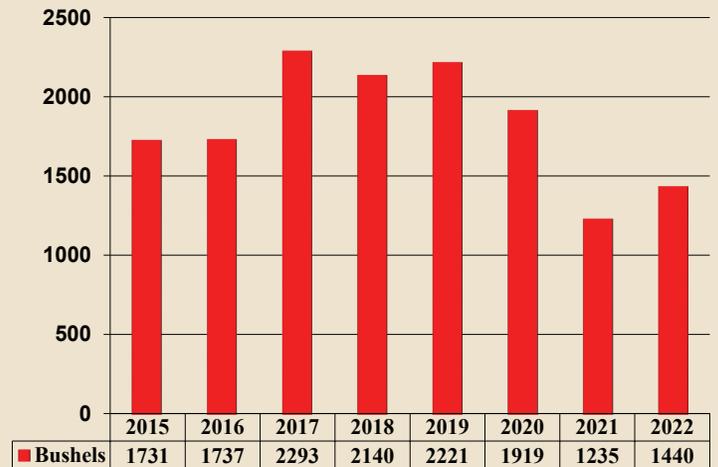


Corn

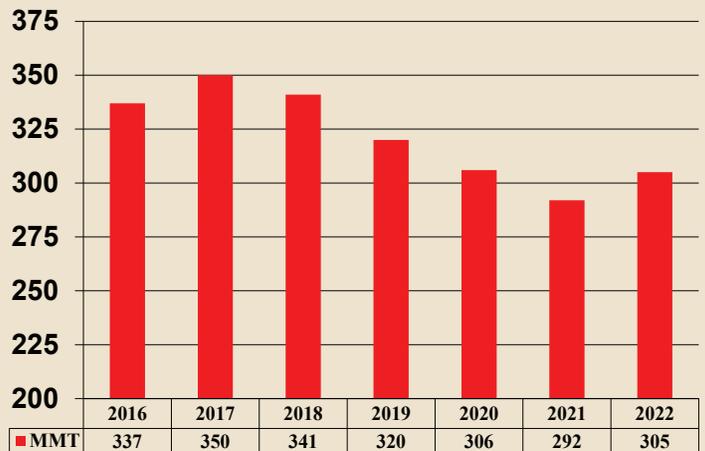
Corn prices have been rising for two years now and before the war it was widely expected that prices would soon begin to moderate. However, with the war, corn prices have been rising instead of falling. The harvest in the US was excellent and projections by the USDA are for higher ending stock this year but that is not enough. World ending stock numbers are also expected to rise but those numbers are suspect because of the war in the Ukraine.

This crop year compared to last shows no major change in Argentina, an improvement in Brazil and, of course, fewer exports from Ukraine and more corn held back. Imports by China, which surged last crop year, are expected to be lower this crop year.

US Ending Stock of Corn
Millions of Bushels



World Ending Stock of Corn
USDA - Metric Tons



**Argentina Corn Supply and Demand
WASDE April 2022 Metric Tons**

	2019-2020	2020-2021	2021-2022
Harvest	51	52	53
Imports	0	0	0
Exports	36	41	39
Ending Inventory	3	1	1

**Brazil Corn Supply and Demand
WASDE February 2022 Metric Tons**

	2019-2020	2020-2021	2021-2022
Harvest	102	87	116
Imports	2	4	2
Exports	35	21	45
Ending Inventory	5	5	5

**Ukraine Corn Supply and Demand
WASDE April 2022 Metric Tons**

	2019-2020	2020-2021	2021-2022
Harvest	35	30	42
Imports	0	0	0
Exports	29	24	23
Ending Inventory	1	1	6

**China Corn Supply and Demand
WASDE February 2022 Metric Tons**

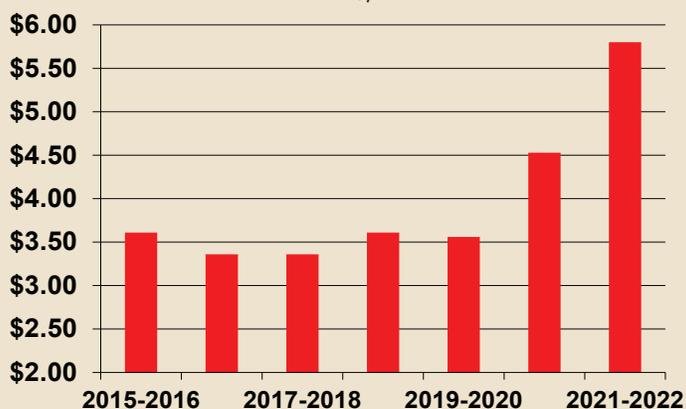
	2019-2020	2020-2021	2021-2022
Harvest	260	260	273
Imports	8	28	23
Exports	0	0	0
Ending Inventory	200	204	210

The current price of corn is up by nearly \$2 per bushel this year. Good news from Ukraine could knock a dollar off that price while continued bad news will keep the price at these lofty levels. Eventually the price will fall but it might take a year.

**US Corn Supply and Demand – April 2022
WASDE - Millions of Bushels**

	2019-2020	2020-2021	2021-2022
Harvest	13,620	14,111	15,115
Supply Total	15,883	16,055	16,375
Ethanol	4,852	5,033	5,375
Exports	1,778	2,753	2,425
Feed	5,903	5,598	5,625
Total Use	13,963	14,821	14,935
Ending Inventory	1,919	1,235	1,440
Farm Price	\$3.56	\$4.53	\$5.80

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



Soybeans

Soybean prices are less affected by the war and more affected by a moderate drought that took place in Argentina and Brazil. For this crop year, South America was once expected to produce 206 MMT. However, drought in some areas and floods in other areas reduced that number by 32 MMT. There are some indirect effects from the war. For example, high priced wheat and corn could reduce the acreage devoted to soybeans and therefore increase the price.

**Argentina Soybean Supply and Demand
WASDE April 2022 Metric Tons**

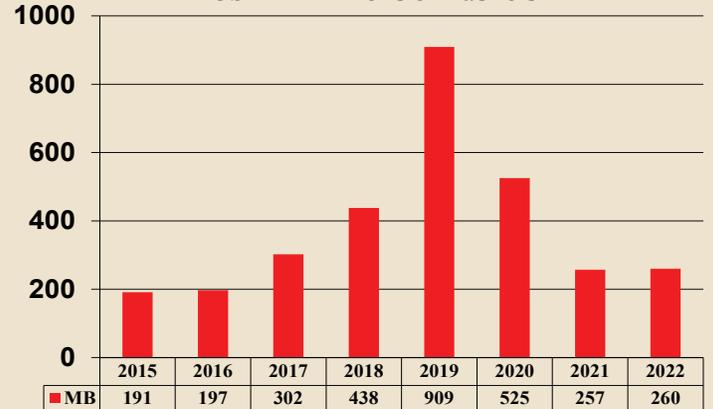
	2019-2020	2020-2021	2021-2022
Harvest	49	46	43
Imports	5	5	3
Exports Beans + Meal	37	33	31
Ending Inventory	27	26	21

**Brazil Soybean Supply and Demand
WASDE April 2022 Metric Tons**

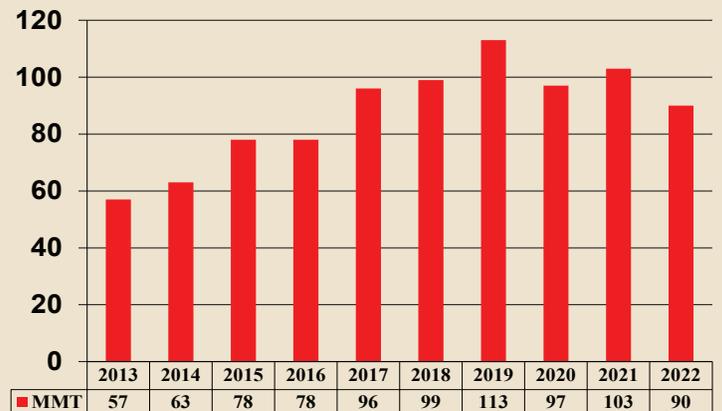
	2019-2020	2020-2021	2021-2022
Harvest	128	137	125
Imports	1	1	1
Exports Beans + Meal	109	97	100
Ending Inventory	20	27	21

Estimates of world ending stocks have been lowered recently and could fall further. US stocks were extremely low in 2021 and are about the same this crop year. Like corn, the average price of soybean meal this crop year will be higher than last year. In the short run, prices could rise even higher depending on events in Ukraine. Like corn, prices will eventually drop from these high levels.

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



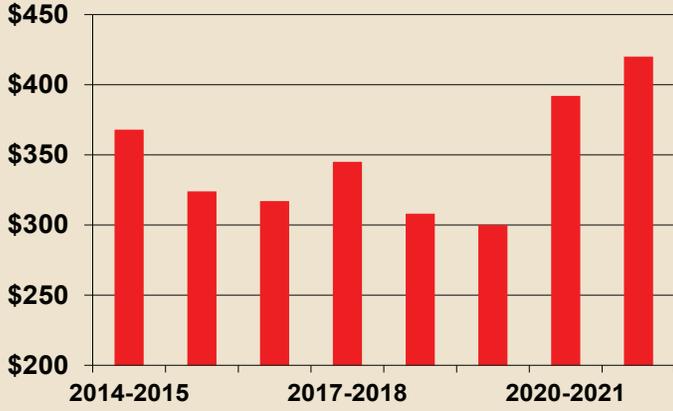
**World Ending Stock of Soybeans
USDA - Million Metric Tons**



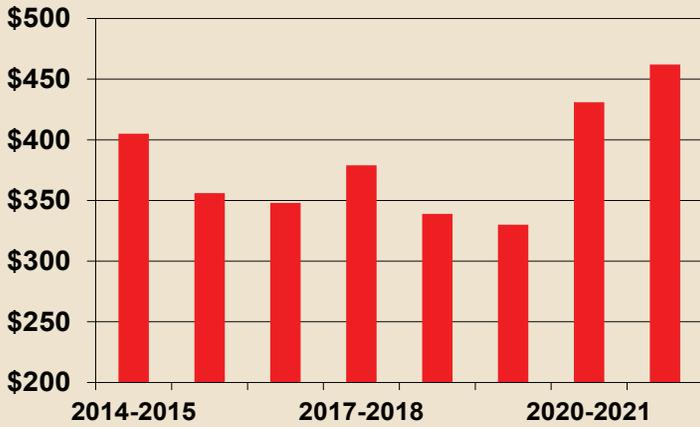
**US Soybeans – USDA - WASDE April 2022
Millions of Bushels**

	2019-2020	2020-2021	2021-2022
Harvest	3,552	4,216	4,435
Total Supply	4,476	4,761	4,707
Export	1,679	2,265	2,115
Total Use	3,952	4,505	4,447
Ending Stock Inventory	525	257	260
Meal Price short ton	\$299	\$392	\$420

**Average US Crop Year Price of Soybean Meal
USDA - Short Ton**



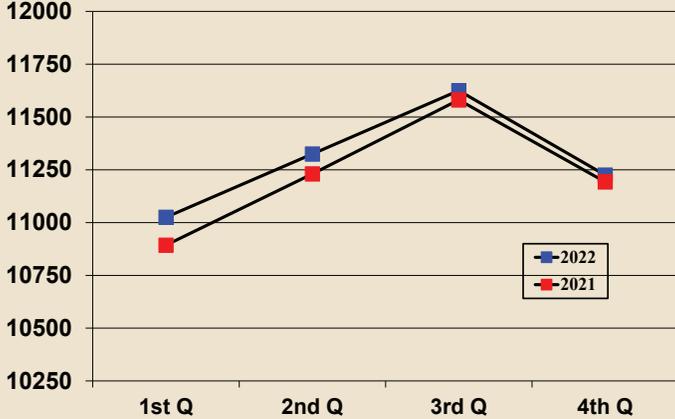
**Average US Crop Year Price of Soybean Meal
USDA - Metric Ton**



US Chicken Industry

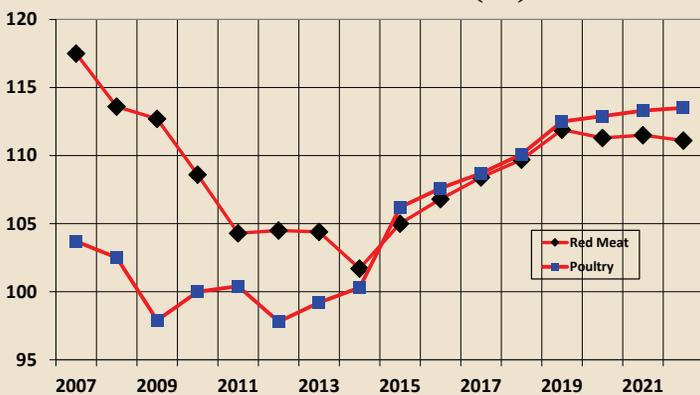
The US chicken industry has not been expanding recently because of COVID-19 and the accompanying problems with labor and raw materials. Other factors include high prices of lumber to build complexes and, of course, the sky-high price of grain. In 2021, production rose only 0.3%. The USDA (April WASDE) expects chicken production to again increase very slowly in 2022, only 0.6%.

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



The total per capita domestic meat supply of red meat and poultry will be nearly the same in 2022 as it was in 2020, 224 pounds. This year, red meat per capita consumption is expected to fall slightly while poultry consumption rises slightly. Total meat supply per capita is expected to fall which would indicate continued relatively high prices for all meat, including poultry.

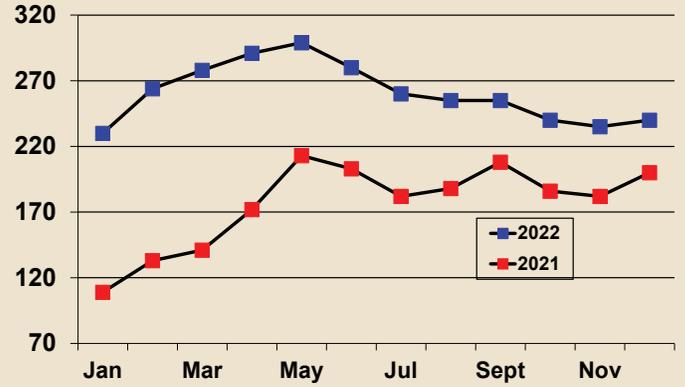
**US Per Capita Consumption of Red Meat and Poultry
USDA to 2022 - Pounds (lbs)**



Deboned Breast

Deboned breast meat prices are sharply higher this year compared to last. This year the price did not drop seasonally, as it normally does, remaining above \$2.20 per pound (\$4.82 per kilo). Prices are now nearing \$3.00 per pound (\$6.60 per kilo). The shortage of supply combined with high prices for competing meats would suggest continued relatively high prices during the entire year.

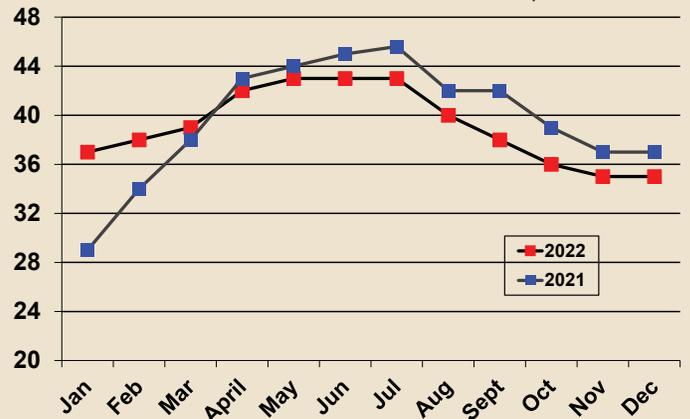
**Deboned Breast - 2021-2022
USDA Northeast Price - Cents/lb**



Leg Quarters

Total US exports of leg quarters remained steady in 2021 while the value was 25% higher. The prices of all meat, domestic and foreign, rose last year helping to lift the value of leg quarters. However, leg quarters have risen sufficiently to call into question the continued willingness of international buyers to pay the price, particularly if the dollar continues to rise. Avian flu also creates some logistical problems that are so far manageable. The Northeast price appears likely to average 40 cents per pound (88 cents per kilo).

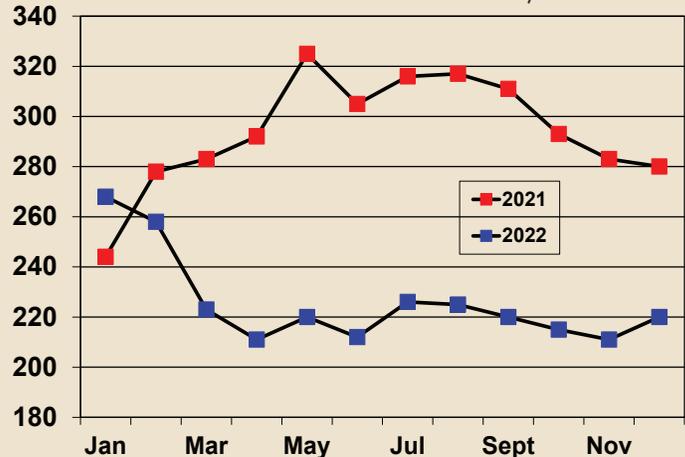
**Leg Quarter Price - 2021-2022
USDA Northeast Price - Cents/lb**



Wings

Wings present a totally different situation. After a year of extremely high prices, wing price did not have any further room to rise and has already come down substantially. Over the years there has been an interesting negative correlation between wing prices and the price of gasoline. When gasoline is high, wings are low. This pattern is repeating itself in 2022. It now appears that wings will average just \$2.00 per pound (\$4.40 per kilo) wholesale (Northeast Price) throughout 2022, down nearly a dollar from 2021.

**Whole Wing Price - 2021-2022
USDA Northeast Price - Cents/lb**



Chicken production in the US is currently profitable despite labor shortages and rising input costs. The year 2022 should be profitable in the US especially if grain prices drop and labor shortages begin to ease.

April 2022 US Measure

Leg Quarters	\$0.42 per pound
Deboned Breast	\$ 2.91 per pound
Wings	\$ 2.11 per pound
Chicago Corn	\$ 7.68 per bushel
Soybean Meal	\$468/Short Ton
Total Wholesale Cost per pound	\$1.01
Revenue per pound	\$1.15
Gain (Loss) per pound	\$0.14

April 2022 Metric Measure

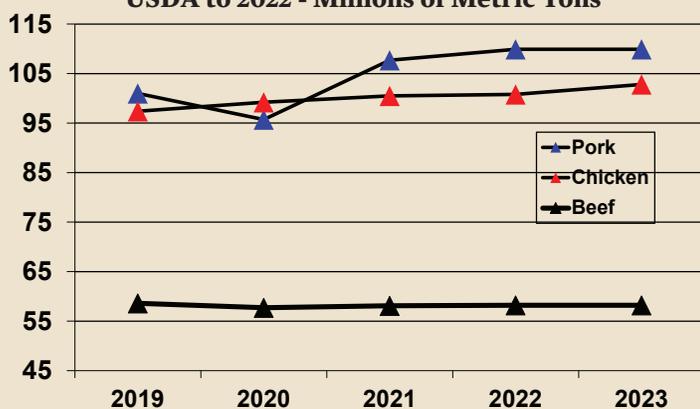
Leg Quarters	\$0.92 per kilo
Deboned Breast	\$6.40 per kilo
Wings	\$4.64 per kilo
Chicago Corn	\$302 per ton
Soybean Meal	\$468 per ton
Total Wholesale Cost per kilo	\$2.22
Revenue per kilo	\$2.53
Gain (Loss) per kilo	\$0.31

World Meat Production

Despite a robust world economic expansion recently, world meat production is growing at an unusually slow rate in 2022. Beef production is projected to be just 1% higher and pork production, which is recovering from African Swine Fever, is expected to grow 3%, down from 7% last year. Beef and pork production increases are both likely to slow further as high grain prices work through to consumer prices and the world economy cools.

In a highly unusual development, no growth at all is expected in world chicken production this year. Declines in Ukraine and China, in addition to the headwinds of bird flu, high grain prices and the problems associated with COVID-19, have all slowed growth. The long-term growth rate of chicken production is 2%. Growth that is closer to that number can be expected to return to the world chicken industry in 2023.

**World Production of Pork, Beef and Chicken
USDA to 2022 - Millions of Metric Tons**



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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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