

Broiler Economics

By Dr. Paul Aho

GRAIN PRICES MAY HAVE PEAKED

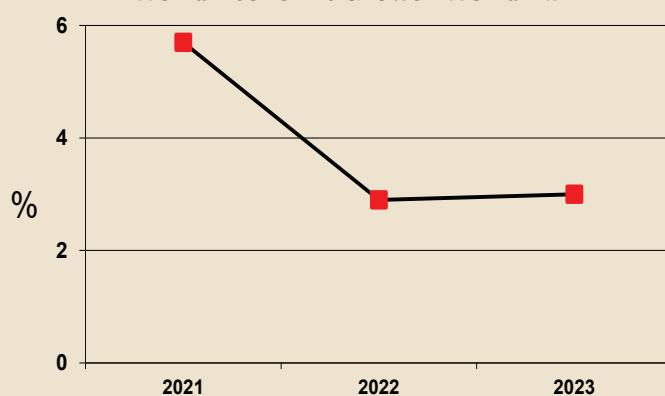
In crop year 2019-2020, the average farm price of corn in the US was \$3.50 per bushel (\$140 per ton). The subsequent bull market brought that price up to \$8.00 per bushel recently (\$320 per ton). Have prices peaked? Although picking the top of a market is notoriously difficult, the market may indeed be close to the top. It is hard to imagine a scenario (other than a drought) where prices go much higher. However, it is possible that the decline will be slow and could take many months to return to lower levels. In addition, "lower levels" may be higher than what was considered low just a few years ago. It may be a relief to get back to \$5 per bushel of corn (\$200 per ton) but that might be a low point in the next cycle.

In any case, bull markets do not last forever because high prices both stimulate additional production and discourage use. That potent combination eventually brings a bull market to its knees. In the late stages of a bull market, our current position in the cycle, prices can rise to ever higher levels only if provided a constant stream of new bullish news.

The most important recent new bullish news is, of course, the war inside breadbasket Ukraine. In February it was feared that an entire crop of wheat and corn might be lost in that country. Now it appears that quite a bit of corn was planted, quite a bit of wheat will be harvested and somehow a portion of those harvests will find their way to the world market.

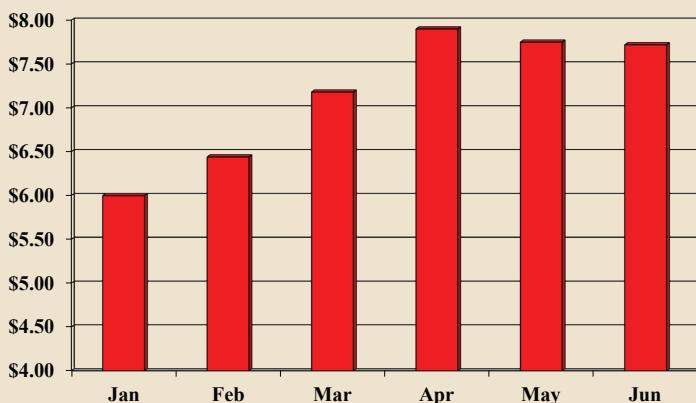
Unusually high prices may well persist for a while, but a long-lasting bear market could also be in the cards. That bear market would be born primarily from falling demand. There are signs that the world economy is slowing down. In 2021, world growth was a robust 5.7%. The World Bank prediction for this year is just 2.9%. The US Federal Reserve is in the process of raising interest rates to tame inflation. If they are successful, inflation will indeed be tamed but the US economy could tip into a recession. Higher interest rates in the US are likely to contribute to slower growth worldwide.

World Economic Growth World Bank

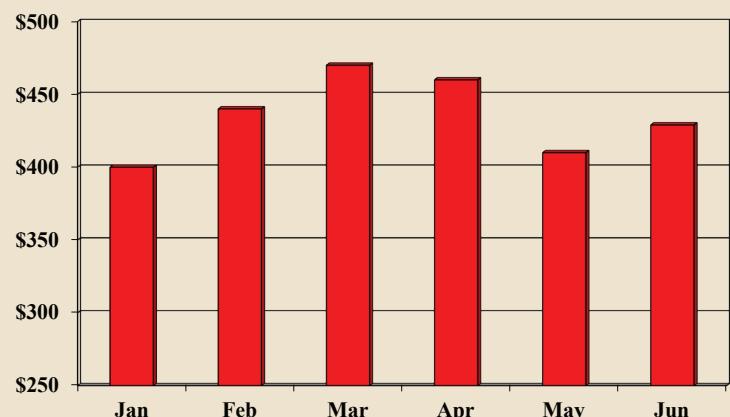


The effect of war in the Ukraine can be seen in futures prices. Chicago July 2022 corn futures rose from \$6.00 per bushel (\$240 per ton) in January to \$8.00 (\$320) in April. Soybean meal futures rose from \$400 per short ton back in January to \$460 in March. Those prices in March and April could possibly represent the top of the bull market.

Corn Futures July 2022 US \$ / Bushels



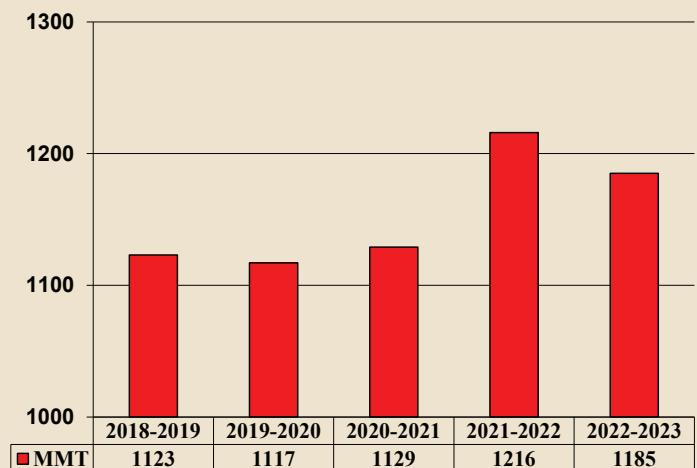
Soybean Meal July 2022 Futures US \$ / Short Ton



Corn

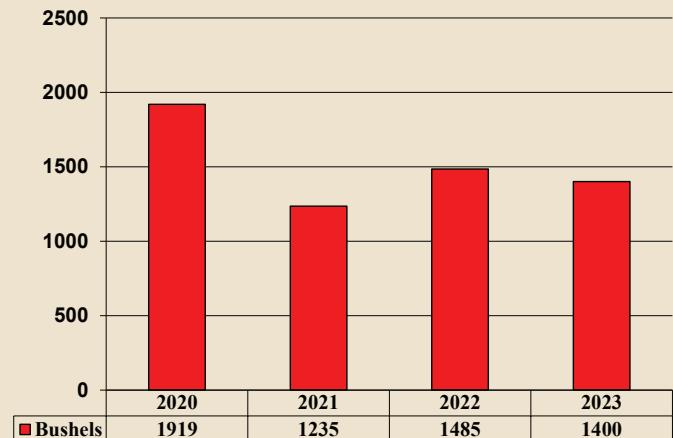
Corn prices have been rising for two years now. Before the war it was widely expected that prices would soon begin to moderate. Thanks to the war, corn prices rose even further. World production of corn was higher this crop year, but that is not enough to offset the effects of the war in the Ukraine.

World Production of Corn Million Metric Tons

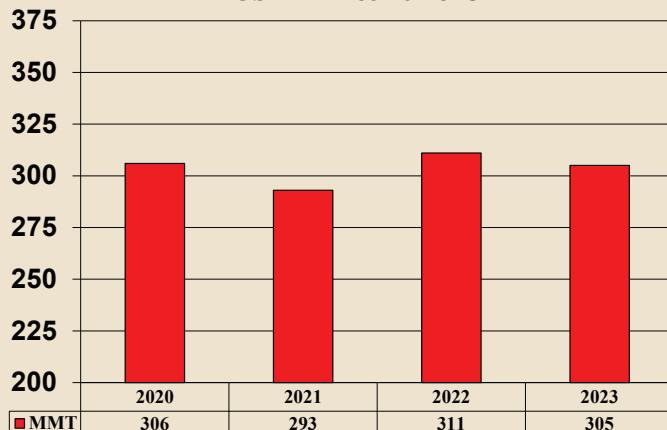


Next crop year is expected to show an increase in production in Argentina and Brazil and, of course, a decrease in Ukraine. Imports by China, which surged last crop year, are expected to be lower this crop year and next. US production is expected to be slightly lower. Overall world production will be slightly lower. However, projections of ending US and world corn inventory numbers for next year are steady, not extremely bullish.

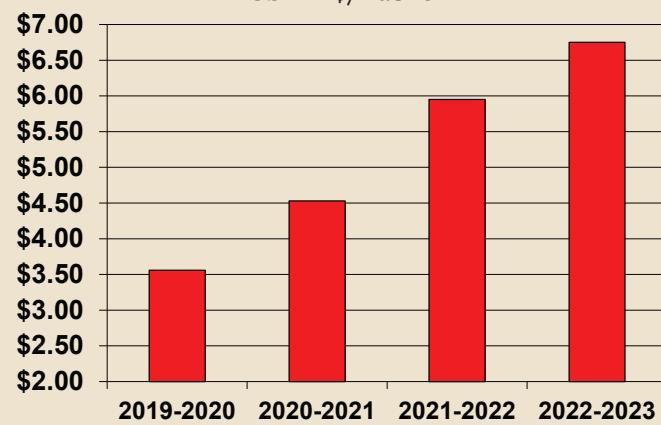
US Ending Stock of Corn Millions of Bushels



World Ending Stock of Corn USDA - Metric Tons



Average US Farm Price of Corn USDA \$/Bushel



Argentina Corn Supply and Demand WASDE June 2022 Metric Tons

| | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|-----------|-----------|-----------|
| Harvest | 52 | 53 | 55 |
| Imports | 0 | 0 | 0 |
| Exports | 41 | 39 | 41 |
| Ending Inventory | 1 | 1 | 1 |

Brazil Corn Supply and Demand WASDE June 2022 Metric Tons

| | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|-----------|-----------|-----------|
| Harvest | 87 | 116 | 126 |
| Imports | 4 | 2 | 1 |
| Exports | 21 | 45 | 47 |
| Ending Inventory | 5 | 5 | 8 |

Ukraine Corn Supply and Demand WASDE April 2022 Metric Tons

| | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|-----------|-----------|-----------|
| Harvest | 30 | 42 | 25 |
| Imports | 0 | 0 | 0 |
| Exports | 24 | 23 | 9 |
| Ending Inventory | 1 | 6 | 12 |

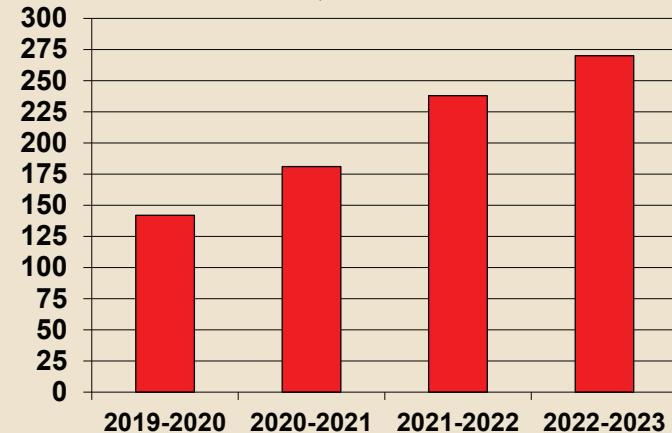
China Corn Supply and Demand WASDE June 2022 Metric Tons

| | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|-----------|-----------|-----------|
| Harvest | 260 | 273 | 271 |
| Imports | 28 | 23 | 18 |
| Exports | 0 | 0 | 0 |
| Ending Inventory | 204 | 210 | 204 |

US Corn Supply and Demand WASDE June 2022 Millions of Bushels

| | 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|-----------|-----------|-----------|-----------|
| Harvest | 13,620 | 14,111 | 15,115 | 14,460 |
| Supply Total | 15,883 | 16,055 | 16,375 | 15,970 |
| Ethanol | 4,852 | 5,033 | 5,375 | 5,375 |
| Exports | 1,778 | 2,753 | 2,450 | 2,400 |
| Feed | 5,903 | 5,598 | 5,625 | 5,350 |
| Total Use | 13,963 | 14,821 | 14,935 | 14,570 |
| Ending Inventory | 1,919 | 1,235 | 1,485 | 1,400 |
| Farm Price | \$3.56 | \$4.53 | \$5.95 | \$6.74 |

Average US Farm Price of Corn USDA \$/Metric Ton



Although the average price next crop year in the US is projected to be higher than this crop year, the next crop year may be the opposite of this crop year; prices may start high and end lower instead of starting lower and ending higher. The stage will be set for lower average prices in 2023-2024.

Soybeans

Soybean prices were less affected by the war and more affected by a moderate drought that recently 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. The rapid increase in the production of "renewable" diesel fuel made from soybean oil will begin to have an effect next crop year. The effect is likely to be favorable for soybean meal, the by-product of the now more highly desirable soybean oil.

Argentina Soybean Supply and Demand WASDE June 2022 Metric Tons

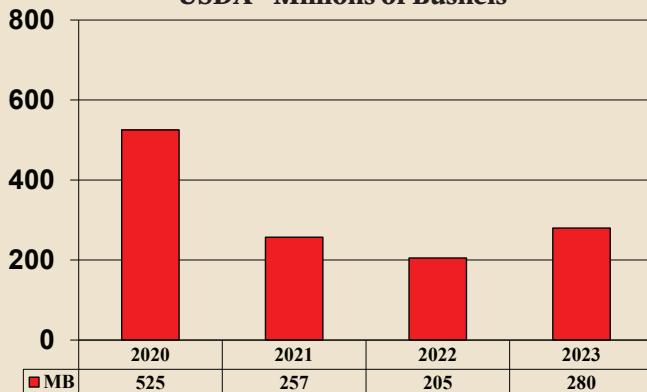
| | 2020-2021 | 2021-2022 | 2022-2023 |
|----------------------|-----------|-----------|-----------|
| Harvest | 46 | 43 | 51 |
| Imports | 5 | 3 | 5 |
| Exports Beans + Meal | 33 | 31 | 33 |
| Ending Inventory | 26 | 21 | 22 |

Brazil Soybean Supply and Demand WASDE June 2022 Metric Tons

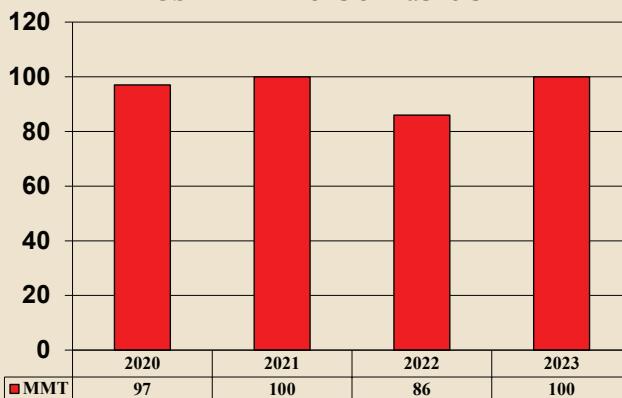
| | 2020-2021 | 2021-2022 | 2022-2023 |
|----------------------|-----------|-----------|-----------|
| Harvest | 137 | 125 | 149 |
| Imports | 1 | 1 | 1 |
| Exports Beans + Meal | 97 | 100 | 106 |
| Ending Inventory | 27 | 21 | 30 |

World and US ending stocks of soybeans fell this year but are expected to rise next year. Like corn, the average price of soybean meal this crop year was higher than last year. However, unlike corn, the average price next year is expected to drop.

US Ending Stock of Soybeans USDA - Millions of Bushels



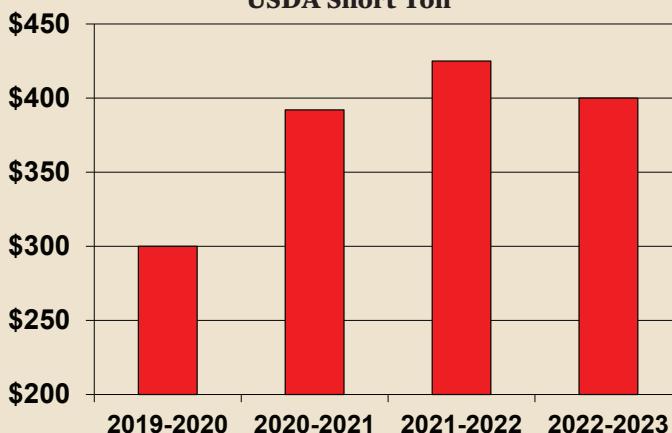
World Ending Stock of Soybeans USDA - Millions of Bushels



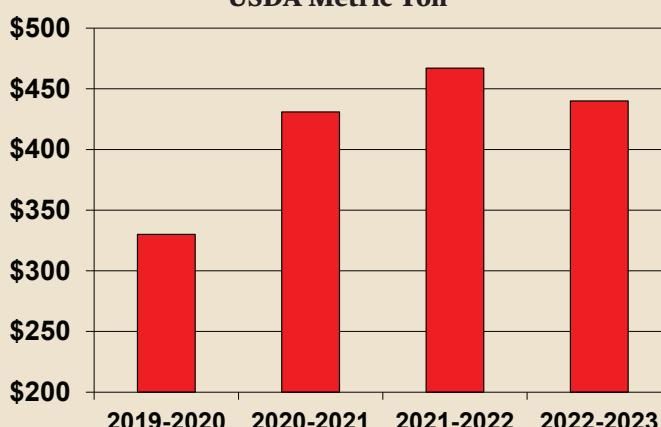
US Soybeans – USDA WASDE June 2022 Millions of Bushels

| | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------------|-----------|-----------|-----------|
| Harvest | 4,216 | 4,435 | 4,640 |
| Total Supply | 4,761 | 4,707 | 4,860 |
| Export | 2,265 | 2,170 | 2,200 |
| Total Use | 4,505 | 4,502 | 4,580 |
| Ending Stock Inventory | 257 | 205 | 280 |
| Meal Price short ton | \$392 | \$425 | \$400 |

Average US Crop Year Price of Soybean Meal USDA Short Ton



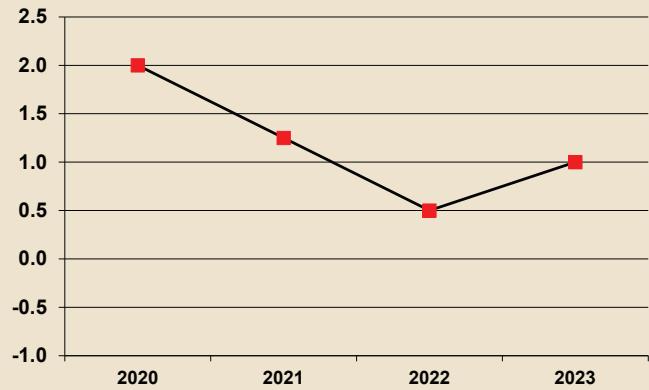
Average US Crop Year Price of Soybean Meal USDA Metric Ton



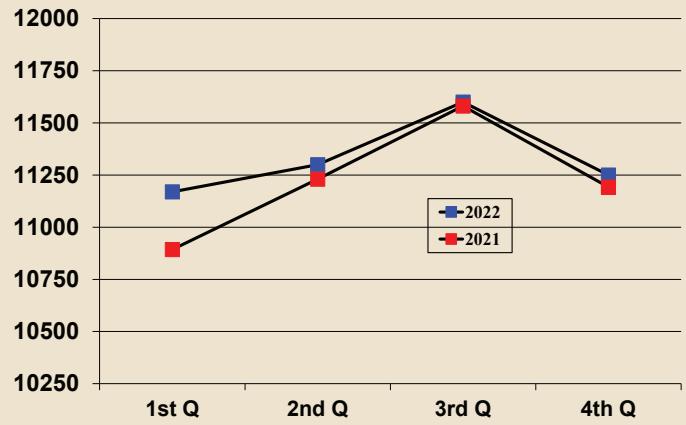
Chicken Industry

The world and US chicken industry have not been expanding recently because of COVID-19 and the accompanying problems with labor, the supply chain and raw materials. Other factors include high prices of lumber to build complexes and, of course, the sky-high price of grain. World chicken production will increase only 0.5% this year according to the USDA. US production will increase just 1%. By 2023 production should begin to accelerate.

Increase in World Broiler Chicken Production %

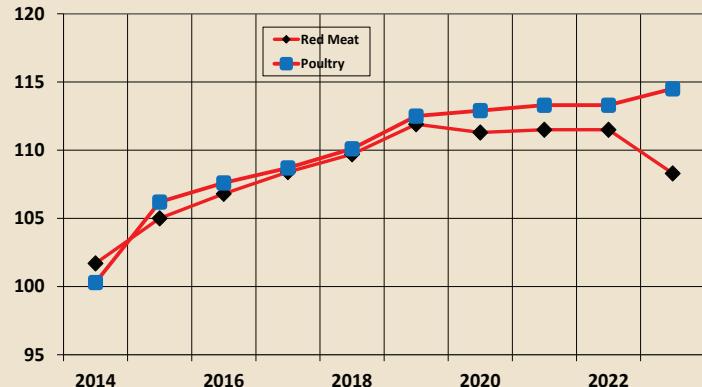


US Quarterly Broiler Production USDA Million Pounds



The total US per capita domestic supply of red meat and poultry will be lower in 2023 than it is this year. Next year, red meat per capita consumption is expected to fall significantly while poultry consumption rises only slightly. Total meat supply per capita will fall which would indicate continued relatively high prices for all meat, including poultry, through this year and next.

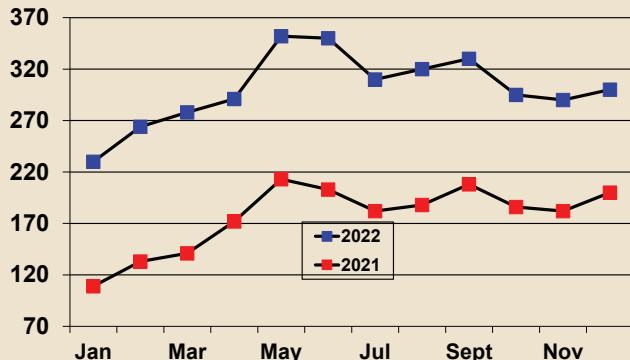
US Per Capita Consumption of Red Meat and Poultry USDA to 2023 - Pounds



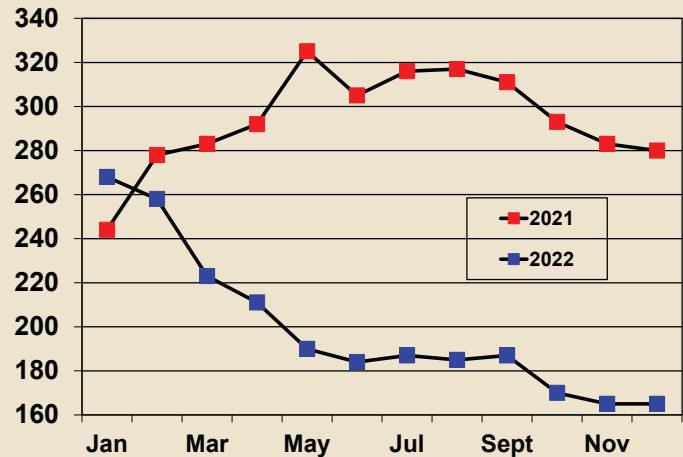
Deboned Breast

Deboned breast meat prices are sharply higher this year compared to last. Prices are now at \$3.50 per pound (\$7.70 per kilo). The shortage of supply combined with high prices for competing meats would suggest continued relatively high prices during the rest of the year.

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



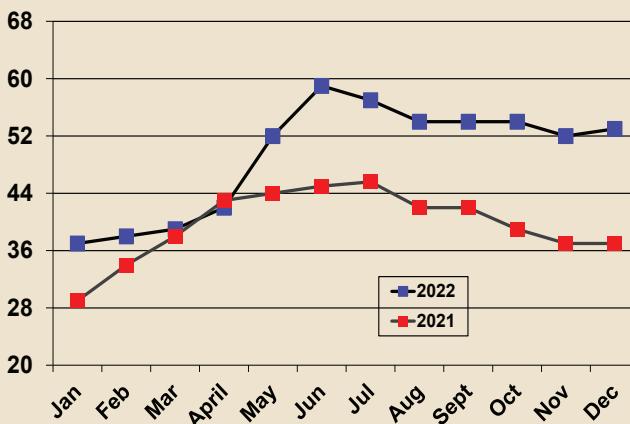
Whole Wing Prices - 2021-2022
USDA - Northeast Price - Cents/lb



Leg Quarters

Leg quarter prices have also increased substantially this year. From just 36 cents per pound in January (80 cents per kilo) the price rose to 60 cents recently (\$1.30 per kilo). Although normally the export market dictates the price of leg quarters, it appears that domestic demand is the prime driver this year. As other meats and deboned chicken breast moved out of reach for many consumers, the demand for deboned thigh meat and bone-in drums and thighs soared. So far, international customers are also willing to pay up but the high price calls into question the continued willingness of international buyers to pay the price. The Northeast price appears likely to average 50 cents per pound (1.10 cents per kilo) this year.

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



Wings

Wings are the sole exception to the upward movement of prices. The high price of wings last year created demand destruction this year. Wings came down substantially because consumers could no longer afford to buy as much. It now appears that wings will average just \$2.20 per pound (\$4.80 per kilo) wholesale (Northeast Price) throughout 2022, down significantly from 2021. Even at the current relatively lower prices, the wholesale price of wings is 300% higher than leg quarters.

Chicken production in the US is currently highly profitable despite labor shortages and rising input costs. The entire year 2022 should be a profitable one in the US, especially if grain prices begin to drop and labor shortages begin to ease. If the economy retreats as expected, margins will shrink in 2023.

June 2022 US Measure

| | |
|---------------------------------|-------------------|
| Leg Quarters | \$0.59 per pound |
| Deboned Breast \$3.50 per pound | |
| Wings | \$1.82 per pound |
| Chicago Corn | \$7.68 per bushel |
| Soybean Meal | \$468/Short Ton |
| Total Wholesale Cost per pound | \$1.09 |
| Revenue per pound | \$1.32 |
| Gain (Loss) per pound | \$0.23 |

June 2022 Metric Measure

| | |
|---------------------------------|------------------|
| Leg Quarters | \$ 1.30 per kilo |
| Deboned Breast \$ 7.70 per kilo | |
| Wings | \$ 4.00 per kilo |
| Chicago Corn | \$ 304 per ton |
| Soybean Meal | \$473 per ton |
| Total Wholesale Cost per kilo | \$2.41 |
| Revenue per kilo | \$2.91 |
| Gain (Loss) per kilo | \$0.50 |

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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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