

Broiler Economics

By Dr. Paul Aho

GROWTH SLOWS AND GRAIN PRICES RETREAT IN 2023

The world economy grew rapidly in 2021 and 2022 while interest rates were extremely low. Rapid growth resulted in rising inflation and supply chain problems. To make matters worse, a war broke out in a grain basket. The resulting supply shortage resulted in inflation in the price of most goods and services, including grain.

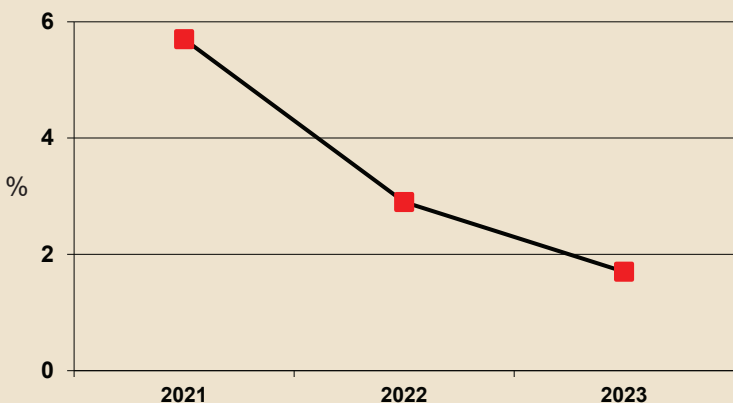
The year 2023 will be different in several ways. First, interest rates are now high not low, the world economy is cooling, and the pace of inflation is slower. Crude oil, for example, started last year at \$75 per barrel, rose to \$130 and then fell back. In a similar fashion, many commodity prices that were high are returning to lower levels including, importantly for agriculture, fertilizer prices.

Unfortunately, grain prices at the beginning of 2023 are still relatively high. In addition, chicken prices are low so the chicken industry has the worst of both worlds, high grain prices and low chicken prices. There is likely to be improvement in both over the course of the year.

The US Federal Reserve, after waiting perhaps too long to increase interest rates, increased them at an unprecedented rate in 2022. In 2023 the rate increases will slow down and then stop. The outcome of this credit tightening is likely to be slower growth accompanied by a reduction in inflation.

Whether it be crude or corn, bull markets do not last forever because high prices stimulate additional production and discourage use. That potent combination eventually brings a bull market to its knees. Despite the current drought in Argentina, grain markets are likely to begin a bear market sometime in 2023 due to falling demand and adequate supply. The world economy is slowing down. In 2021, world growth was a blistering 5.7%. The World Bank projects growth of only 1.7% in 2023.

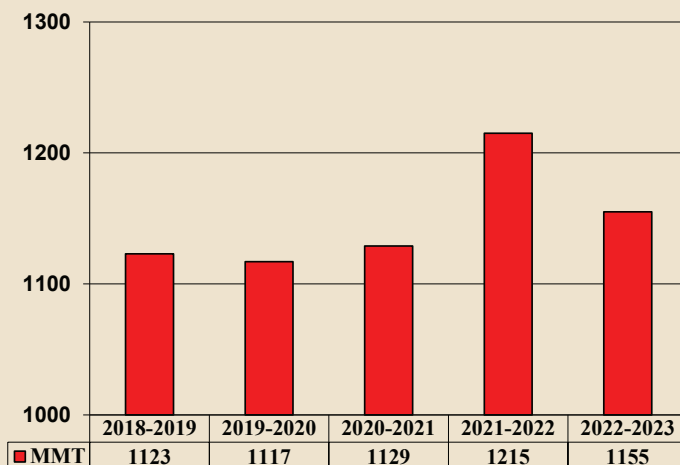
World Economic Growth - World Bank



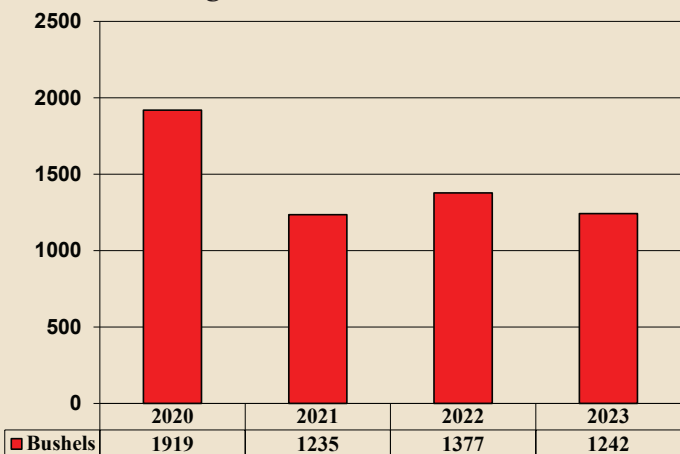
Corn

World corn production is expected to fall somewhat this crop year (crop years run from September to August) due to decreases in the US, Ukraine and Argentina. Overall, world production will be lower. That would normally point to higher prices. However, projections of ending corn inventory numbers for next year are down only slightly which indicates that demand is projected to be falling along with supply. Since corn prices are already relatively high, this situation of falling supply and demand could result in prices that at least stop rising. The recent news of a worsening drought in Argentina will delay, but not end, prospects for falling prices next crop year. If the prospects for the 2023-2024 harvest are good, a likely if not certain scenario, a bear market will develop.

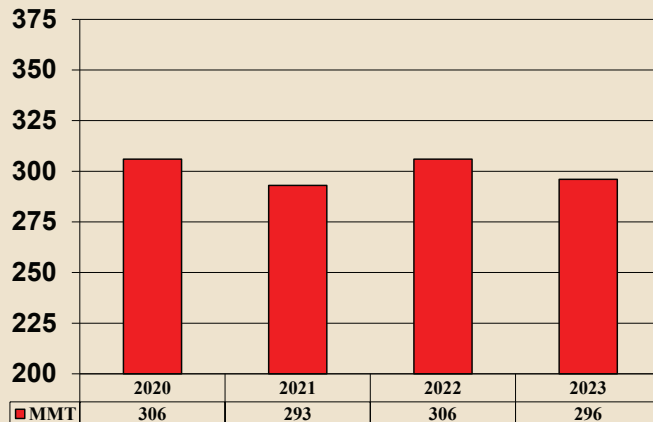
World Production of Corn - MMT



US Ending Stock of Corn - Millions of Bushels



World Ending Stock of Corn
USDA - Metric Tons



Argentina Corn Supply and Demand
WASDE January 2023 - Million Metric Tons

	2020-2021	2021-2022	2022-2023
Harvest	52	50	52
Imports	0	0	0
Exports	41	36	38
Ending Inventory	1	1	1

Note: Many estimates of production in Argentina are lower due to drought.

**Brazil Corn Supply and Demand
WASDE January 2023 - Million Metric Tons**

	2020-2021	2021-2022	2022-2023
Harvest	87	116	125
Imports	4	2	1
Exports	21	47	47
Ending Inventory	5	4	7

**Ukraine Corn Supply and Demand
WASDE January 2023 - Million Metric Tons**

	2020-2021	2021-2022	2022-2023
Harvest	30	42	27
Imports	0	0	0
Exports	24	27	21
Ending Inventory	1	5	5

**China Corn Supply and Demand
WASDE January 2023 Million Metric Tons**

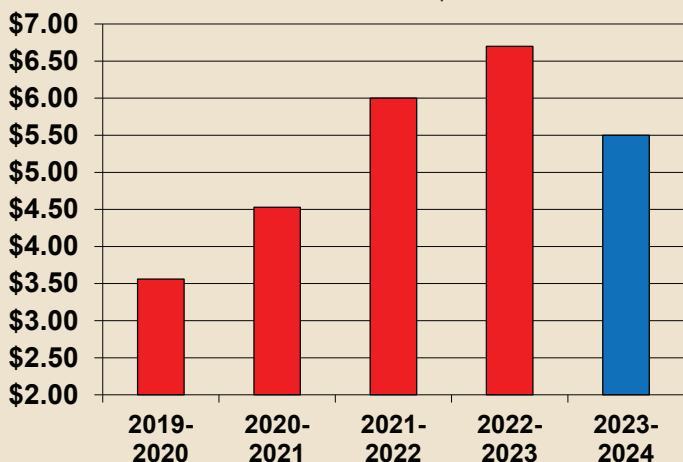
	2020-2021	2021-2022	2022-2023
Harvest	260	273	277
Imports	30	22	18
Exports	0	0	0
Ending Inventory	206	209	207

**US Corn Supply and Demand
WASDE January 2023 - Millions of Bushels**

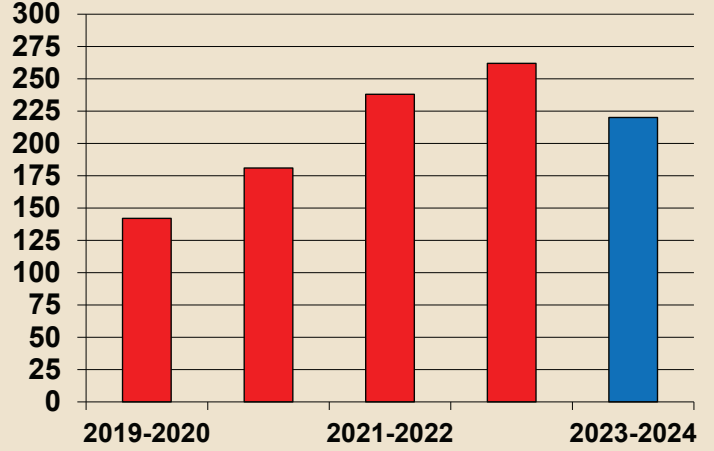
	2019-2020	2020-2021	2021-2022	2022-2023
Harvest	13,620	14,111	15,074	13,730
Supply Total	15,883	16,055	16,333	15,157
Ethanol	4,852	5,033	5,328	5,275
Exports	1,778	2,753	2,471	1,925
Feed	5,903	5,598	5,717	5,275
Total Use	13,963	14,821	14,956	13,915
Ending Inventory	1,919	1,235	1,377	1,242
Farm Price	\$3.56	\$4.53	\$6.00	\$6.70

The average price of corn this crop year in the US is projected to be higher than last crop year. Prices have remained high due in part to uncertain prospects for the harvest in Argentina and, of course, the Ukraine. After this crop year, a bear market, and lower average prices in crop year 2023-2024 can be expected to follow this long bull market. A regression to the mean is inevitable particularly considering the expected development of “El Niño” conditions in the Pacific Ocean which generally affect crops favorably.

**Average US Farm Price of Corn
USDA to 2022-2023 - \$/Bushel**



**Average US Farm Price of Corn
USDA to 2022-2023 - \$/Metric Ton**



Soybeans

Soybean meal prices were, and are, less affected by the war and more affected by drought and floods in Argentina and Brazil last crop year and a continuing drought in Argentina this crop year. Production in South America dropped by 17 MMT last crop year but is projected to bounce back 30 MMT this crop year although lower production in Argentina might reduce that increase somewhat. The enormous capacity for Brazil to increase soybean production not only negates the effect of a serious drought in Argentina this year but also puts a long-term cap on future prices.

**Argentina Soybean Supply and Demand
WASDE January 2023 - Million Metric Tons**

	2020-2021	2021-2022	2022-2023
Harvest	46	44	45
Imports	5	3	5
Exports Beans + Meal	33	31	32
Ending Inventory	26	24	24

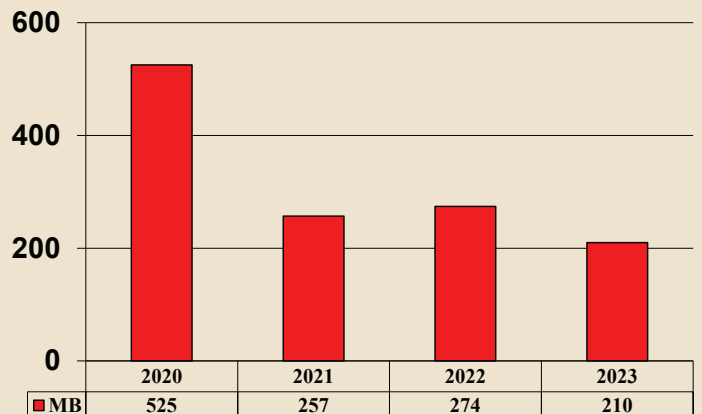
Note: Some estimates of production in Argentina are lower than the USDA due to drought.

**Brazil Soybean Supply and Demand
WASDE January 2023 - Million Metric Tons**

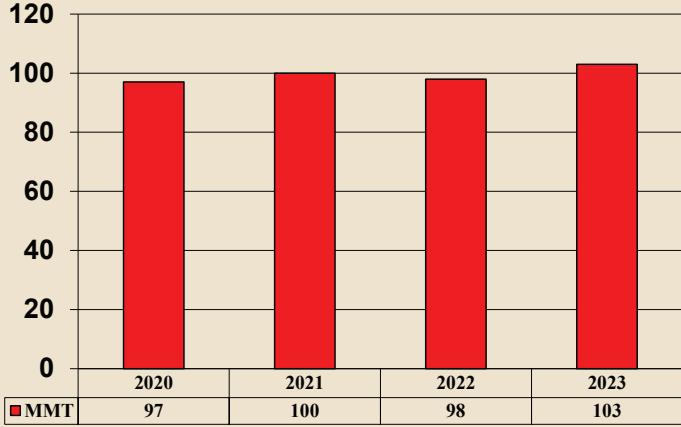
	2020-2021	2021-2022	2022-2023
Harvest	137	125	153
Imports	1	1	1
Exports Beans + Meal	97	100	112
Ending Inventory	27	21	31

US ending stock is expected to fall this crop year. World ending stocks could fall as well depending on how much damage was done to the crops in Argentina (if the drought in Argentina turns out to be serious). Soybean meal prices in this crop year may be higher than last crop year. However, in crop year 2023-2024 a bear market with lower prices is a reasonable expectation given increased production in both Brazil and Argentina.

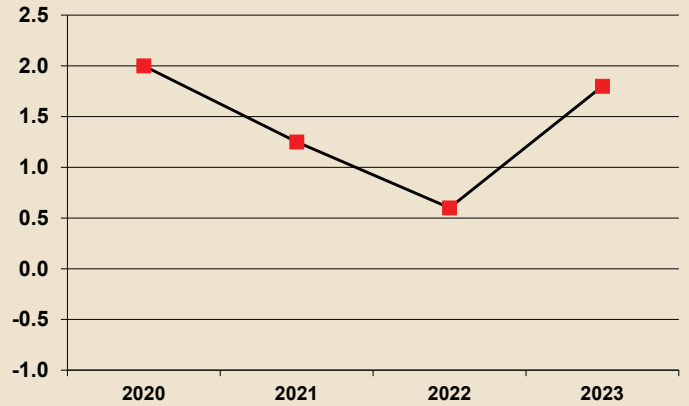
**US Ending Stock of Soybeans
USDA - Millions of Bushels**



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



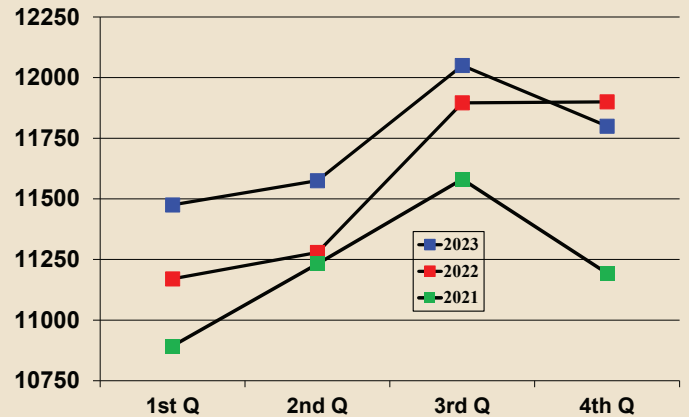
**Increase in World Broiler Chicken Production
USDA - %**



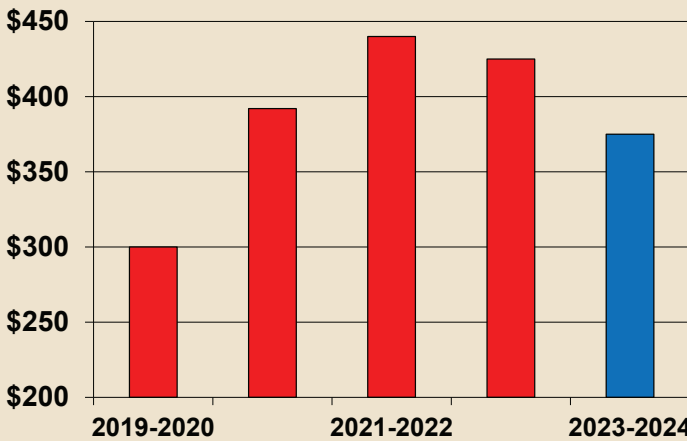
**US Soybeans - USDA
WASDE January 2023 - Millions of Bushels**

	2020-2021	2021-2022	2022-2023
Harvest	4,216	4,465	4,276
Total Supply	4,761	4,738	4,566
Export	2,265	2,158	2,045
Total Use	4,505	4,465	4,355
Ending Stock Inventory	257	274	210
Meal Price short ton	\$392	\$440	\$425

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

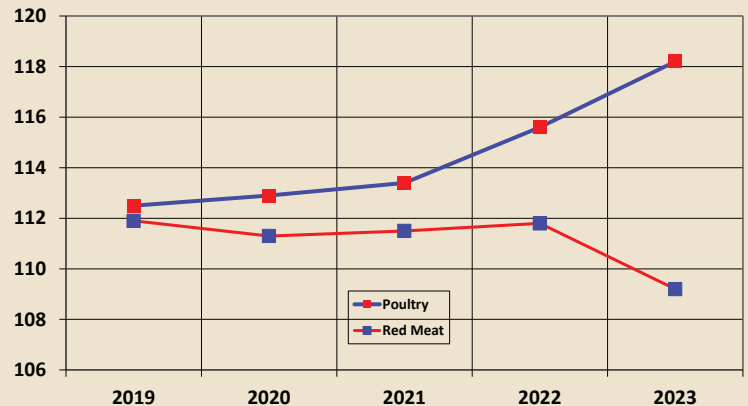


**Average US Crop Year Price of Soybean Meal
USDA to 2022-2023 - Short Ton**

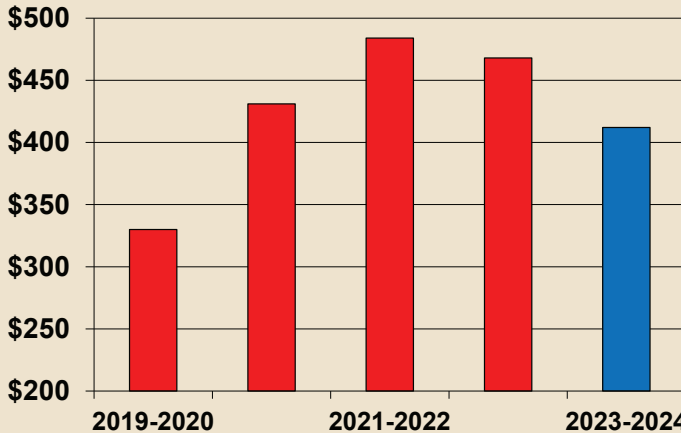


Between 2019 and 2023 poultry per capita consumption in the US increased while red meat per capita consumption declined. This year red meat per capita consumption is expected to fall by two pounds (one kilo) while poultry consumption rises by two pounds (one kilo). The relative scarcity of red meat this year and the resulting higher prices might help poultry prices recover from their current low levels.

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



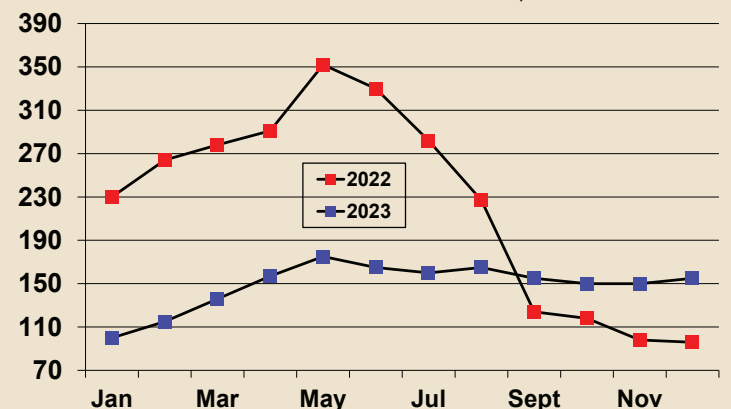
**Average US Crop Year Price of Soybean Meal
USDA to 2022-2023 - Metric Ton**



Deboned Breast

Deboned breast meat prices fell sharply in the last half of last year. Prices are now around \$1.10 per pound (\$2.20 per kilo) down from \$3.50 per pound (\$7.70 per kilo) nine months ago. Prices dropped as more supply became available (in particular, more deboning). In 2023, prices can be expected to rise seasonally but average less than in 2022.

**Deboned Breast - National Price
USDA 2022 to 2023 - Cents/lb**



Chicken Industry

The world chicken industry expanded just 0.6% last year but is expected to accelerate to 1.8% in 2023. Production is projected to accelerate despite a looming recession and relatively high grain prices. Part of the ability of the world chicken industry to expand despite high cost is the even higher cost of producing competing meats.

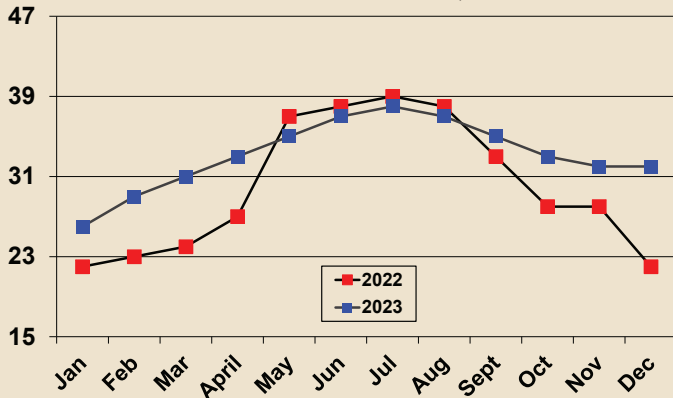
In the US, the opposite is happening. Production rose 3% last year but will rise only 1.4% this year. Production accelerated in the last half of the 2022 leading to a decline in wholesale prices. The increase over year earlier numbers between August and November of 2022 reached 5.8%, an unusually high number. Given the impact that increase had on wholesale prices, it can be expected that production increases will moderate in 2023.

Frozen Leg Quarters for Export

Leg quarter prices were also higher last year and then fell back significantly. From 40 cents per pound in July (\$0.88 per kilo) the price fell back to 30 cents recently (66 cents per kilo). The higher production of leg quarters as more chickens were deboned for breast meat helped to increase the supply faster than the increase in demand. A seasonal increase in price can be expected this year. Overall, the average price in 2023 may be similar to that of 2022.

Chicken production in the US is now unprofitable thanks to continued high feed cost and low product prices. The industry may return to profitability soon if grain prices begin to fall as expected and as chicken prices rise seasonally.

**Leg Quarter Price - USDA Frozen Bulk Export
2022 to 2023 - Cents/lb**



Note: Price series started by USDA in October of 2022, previous and future numbers are estimates.

Wings

The falling price of wings last year was a harbinger of declines in the other chicken parts that came later. The wholesale price is now less than 40% of what it was earlier last year. At this point, the price of wings is likely to increase during the late winter and spring.

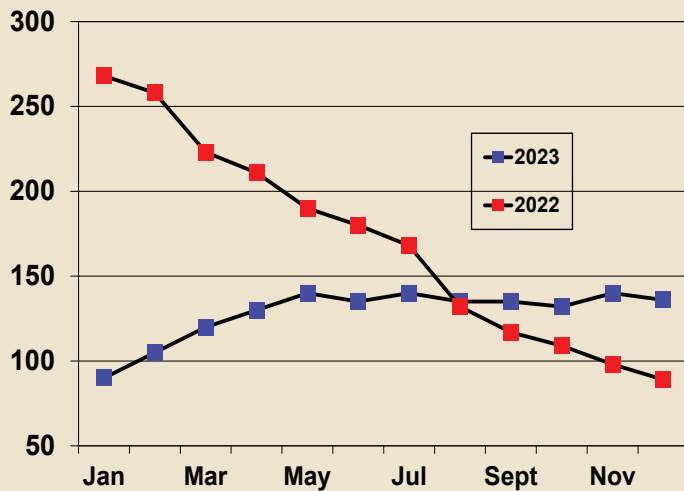
January 2023 US Measure

Frozen Leg Quarters	\$ 0.27 per pound
Deboned Breast	\$ 1.00 /lb
Wings	\$ 0.91 per pound
Chicago Corn	\$ 6.75 per bushel
Soybean Meal	\$ 475/Short Ton
Total Wholesale Cost per pound	\$ 1.08
Revenue per pound	\$ 0.98
Gain (Loss) per pound	\$ (0.10)

January 2023 Metric Measure

Frozen Leg Quarters	\$ 0,59 per kilo
Deboned Breast	\$ 2.20 /kilo
Wings	\$ 2.00 per kilo
Chicago Corn	\$ 266 per ton
Soybean Meal	\$ 524 per ton
Total Wholesale Cost per kilo	\$ 2.38
Revenue per kilo	\$ 2.15
Gain (Loss) per kilo	\$ (0.22)

**Whole Wing Prices - USDA National Price
2022 to 2023 - Cents/lb**



About the Author - Paul W. Aho, Ph.D.
email: PaulAho@PaulAho.com

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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