



# Broiler Economics

By Dr. Paul Aho

## GRAIN PRICES WILL EVENTUALLY RETREAT

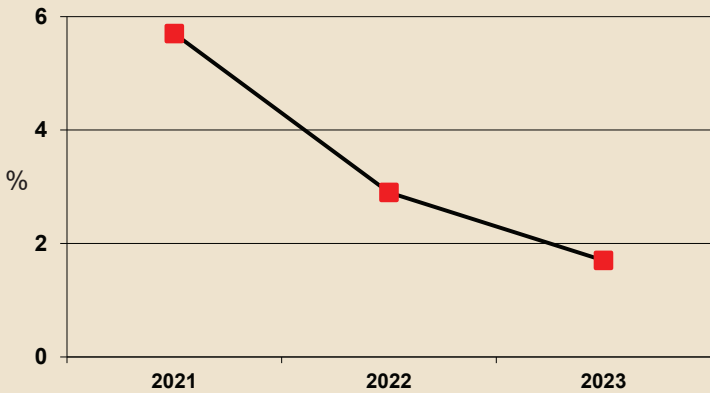
High grain prices in crop year 2022-2023 have been a huge burden for the poultry industry. When will grain prices settle down to more normal levels? Although no one can say for sure what will be the direction of grain prices, it seems increasingly likely that relief in the form of lower grain prices will arrive no later than crop year 2023-2024 (Crop years start in September).

For commodities in general, the year 2023 is likely to be different from 2022 in several ways. First, interest rates are now higher, 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.

Grain prices were supported during the last crop year in part by the worst drought in decades in Argentina and a war that broke out in a breadbasket. With the shift from “La Niña” to El Niño in the Pacific, a bumper crop is expected a year from now in Argentina. As for the war, predictions are bound to be wrong, but it is possible that the situation will be no worse this year than last year. With a relatively good harvest in the Northern Hemisphere this year, grain prices would fall from their current high levels.

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. Given that underlying economic fact of life, grain markets are likely to begin a bear market sometime in 2023. Use of grain will also be tempered by a slowing world economy. In 2021 world growth was a blistering 5.7%. The World Bank projects growth of only 1.7% in 2023.

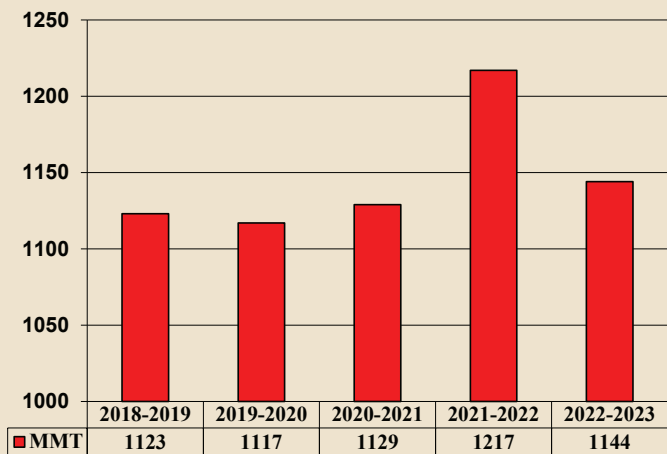
World Economic Growth - World Bank



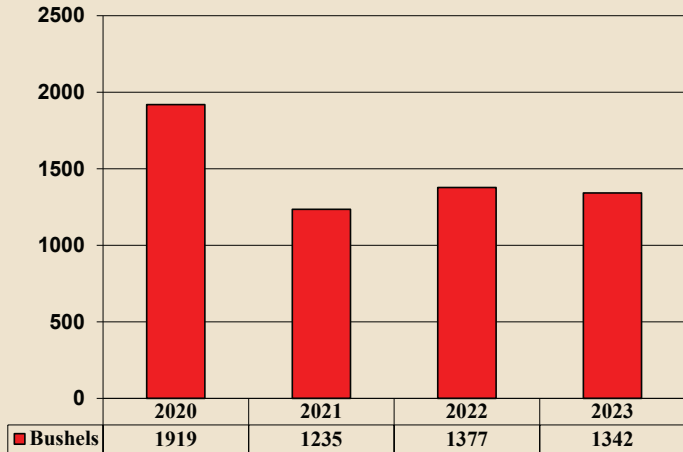
### Corn

World corn production fell this crop year due to decreases in the US, Ukraine, and Argentina. Despite lower production both US and world ending corn inventory numbers for this crop year are down only slightly which indicates that demand is falling along with supply. If the 2023-2024 world harvest rebounds, a likely if not certain scenario, a bear market will develop.

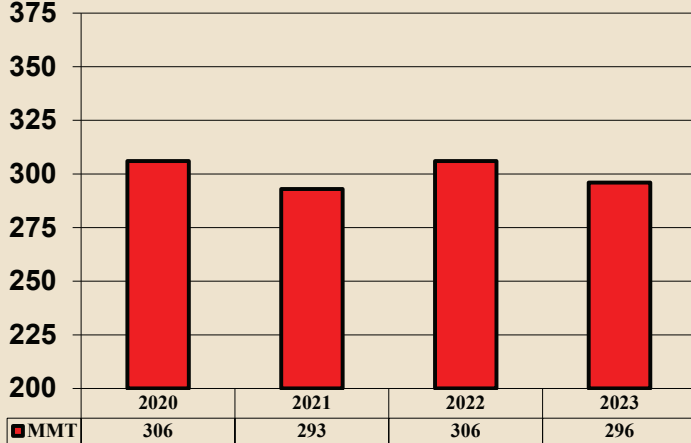
World Production of Corn - Million Metric Tons



US Ending Stock of Corn - Millions of Bushels



World Ending Stock of Corn  
USDA - Metric Tons



Argentina Corn Supply and Demand  
WASDE April 2023 Million Metric Tons

	2020-2021	2021-2022	2022-2023
Harvest	52	50	37
Imports	0	0	0
Exports	41	36	25
Ending Inventory	1	1	1

Note: Production in Argentina is lower due to drought.

Brazil Corn Supply and Demand  
WASDE April 2023 Million Metric Tons

	2020-2021	2021-2022	2022-2023
Harvest	87	116	125
Imports	4	2	1
Exports	21	47	50
Ending Inventory	5	4	7

Ukraine Corn Supply and Demand  
WASDE April 2023 Million Metric Tons

	2020-2021	2021-2022	2022-2023
Harvest	30	42	27
Imports	0	0	0
Exports	24	27	25
Ending Inventory	1	5	1

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

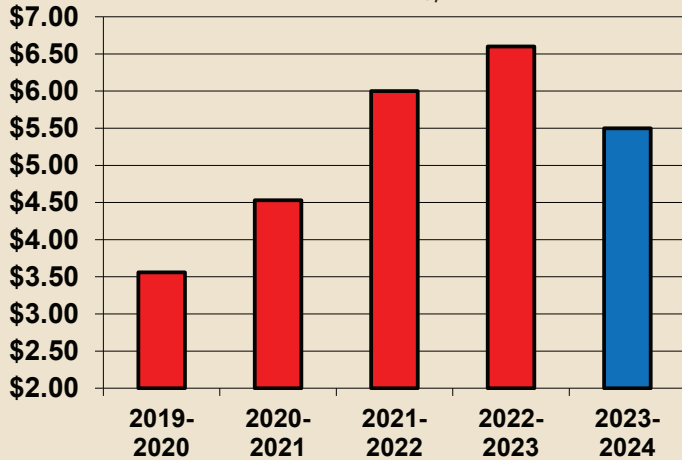
	2020-2021	2021-2022	2022-2023
Harvest	260	273	277
Imports	30	22	18
Exports	0	0	0
Ending Inventory	206	209	207

**US Corn Supply and Demand  
WASDE April 2023 Millions of Bushels**

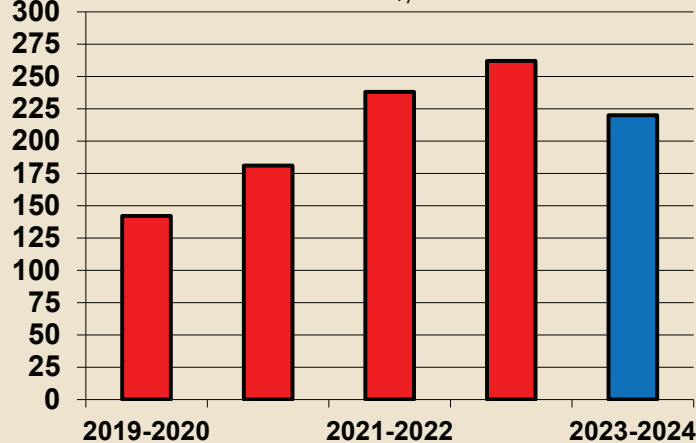
	2019-20	2020-21	2021-22	2022-23
Harvest	13,620	14,111	15,074	13,730
Supply Total	15,883	16,055	16,333	15,147
Ethanol	4,852	5,033	5,328	5,275
Exports	1,778	2,753	2,471	1,925
Feed	5,903	5,598	5,717	5,250
Total Use	13,963	14,821	14,956	13,805
Ending Inventory	1,919	1,235	1,377	1,342
Farm Price	\$3.56	\$4.53	\$6.00	\$6.60

The average price of corn this crop year in the US is higher than last crop year. Prices rose 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 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 15 MMT last crop year but will bounce back 10 MMT this crop year. The enormous capacity for Brazil to increase soybean production (mostly) negated the effect of a serious drought in Argentina this year and puts a long term cap on prices in the future.

**Argentina Soybean Supply and Demand  
WASDE April 2023 Million Metric Tons**

	2020-2021	2021-2022	2022-2023
Harvest	46	44	27
Imports	5	3	8
Exports Beans + Meal	33	31	25
Ending Inventory	26	24	18

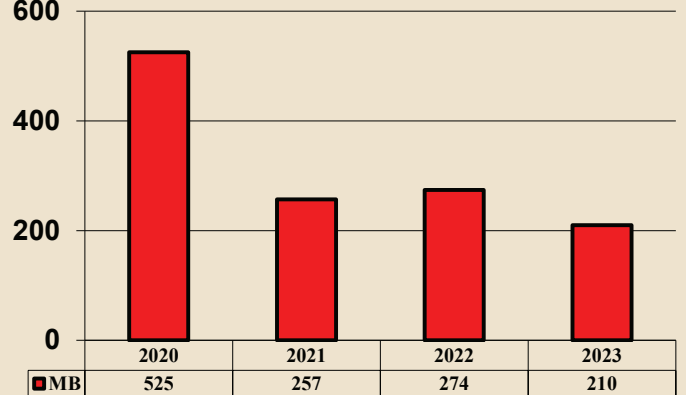
Note: Production in Argentina is lower due to drought

**Brazil Soybean Supply and Demand  
WASDE April 2023 Million Metric Tons**

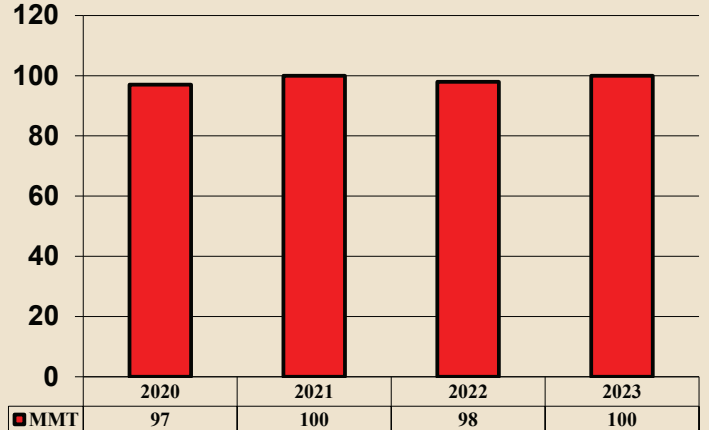
	2020-2021	2021-2022	2022-2023
Harvest	137	125	154
Imports	1	1	1
Exports Beans + Meal	97	100	114
Ending Inventory	27	21	33

US ending stock will fall somewhat this crop year while world ending stocks are remarkably stable in the light of the severe drought in Argentina. A bear market next crop year 2023-2024 is a reasonable expectation given the likelihood of increased production in the US, Brazil and Argentina.

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



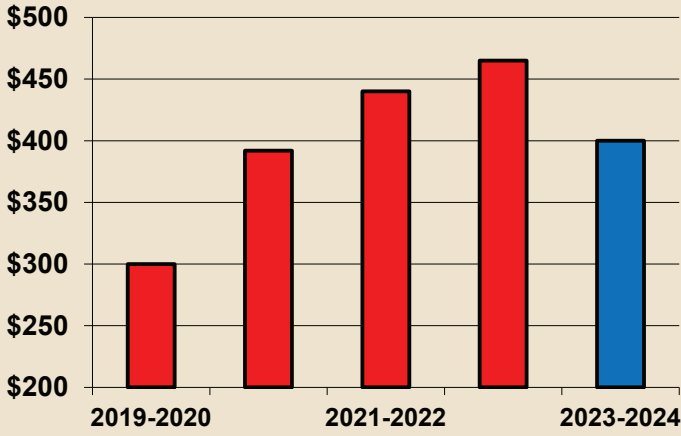
**World Ending Stock of Soybeans  
USDA - Million Metric Tons**



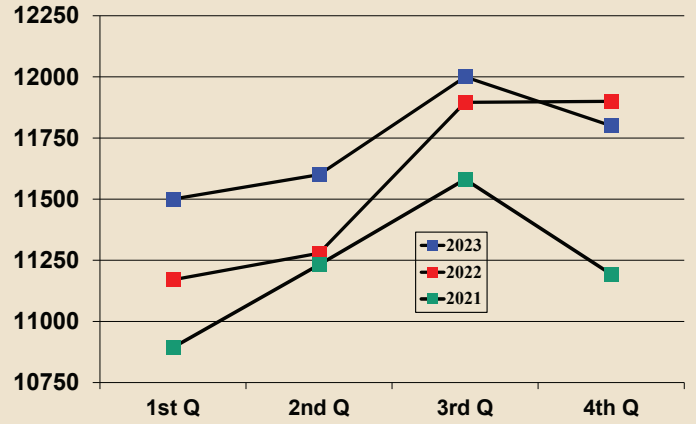
**US Soybeans – USDA  
WASDE April 2023 Millions of Bushels**

	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	2,015
Total Use	4,505	4,465	4,355
Ending Stock Inventory	257	274	210
Meal Price short ton	\$392	\$440	\$465

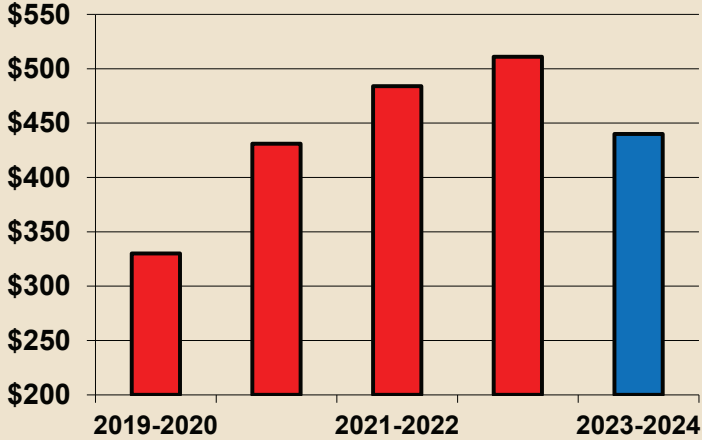
**Average US Crop Year Price of Soybean Meal  
USDA to 2022-2023 - Short Ton**



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

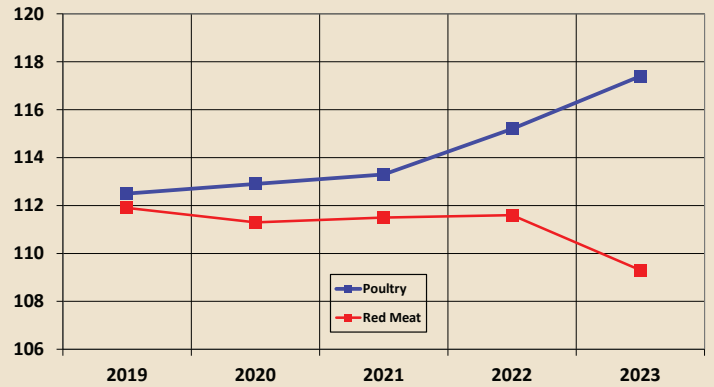


**Average US Crop Year Price of Soybean Meal  
USDA to 2022-2023 - Metric Ton**



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 for red meat will help poultry prices recover.

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

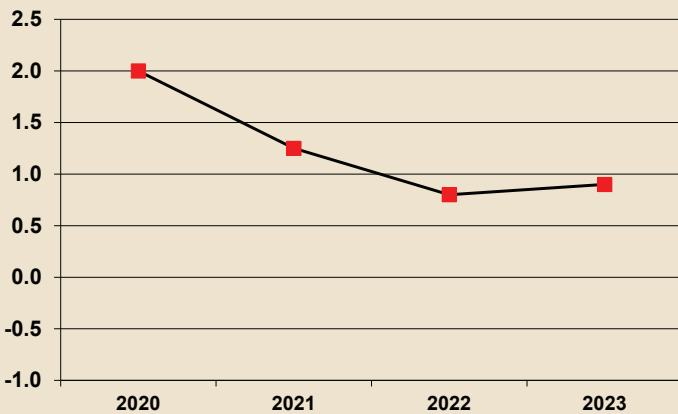


**Chicken Industry**

The world chicken industry expanded just 0.8% last year and slow growth is projected to continue this year. The latest USDA estimate puts world chicken growth at just 0.9% this year. The slow acceleration in production growth is due to a looming recession and continued relatively high grain prices. Normal growth in the world chicken industry should be about 2% per year.

In the US, production rose 3% last year and is expected to rise 1.6% this year. Production accelerated in the last half of 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. The comparison of the same months this year (August to November 2023 versus August to November 2022) is likely to show a much smaller percentage increase.

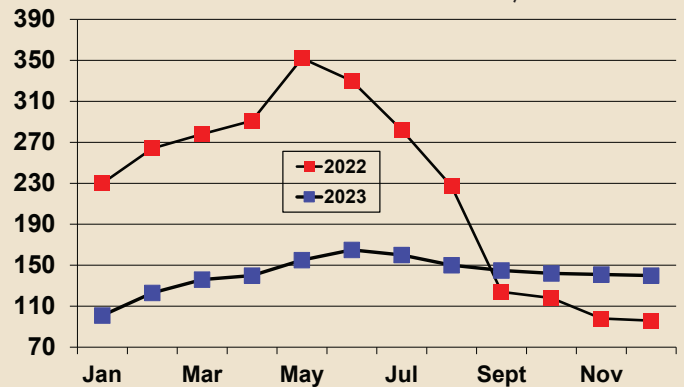
**Increase in World Broiler Chicken Production  
USDA - %**



Deboned Breast

Deboned breast meat prices fell sharply in the last half of last year with increased supply but have recovered somewhat in recent months. Prices are now around \$1.30 per pound (\$2.90 per kilo) down sharply from \$3.50 per pound (\$7.70 per kilo) a year ago. In 2023, prices are rising seasonally but are likely to average significantly less than in 2022.

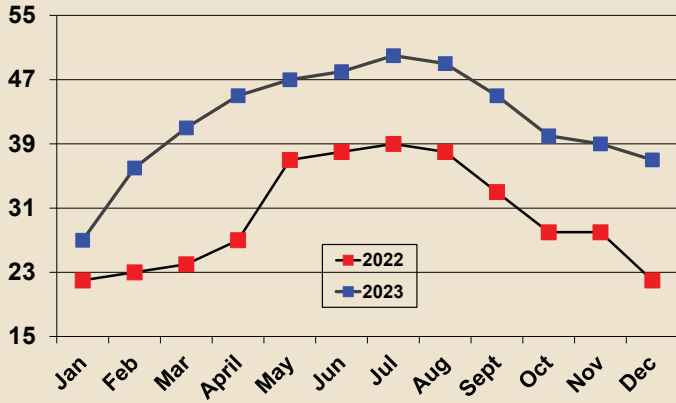
**Deboned Breast - National Price  
USDA to 2022-2023 - Cents/lb**



Frozen Leg Quarters for Export

In marked contrast to deboned breast, leg quarter prices are higher than last year. One year ago, frozen leg quarters for export were just 25 cents (\$0.55 per kilo). Now the price is nearly double at 48 cents (105 cents per kilo). Robust domestic demand for fresh leg quarters and international demand for frozen leg quarters sent prices higher. Overall, the average price in 2023 can be expected to be higher than that of 2022.

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

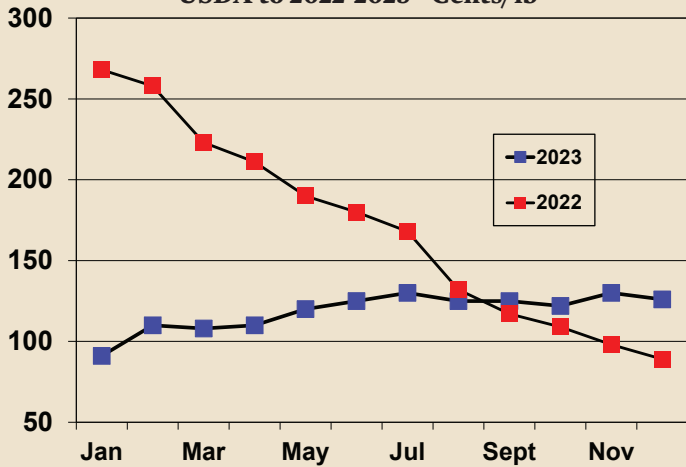


Price series started by USDA in October of 2022, previous and future numbers are estimates.

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 50% of what it was at this time last year. The year-to-year comparisons are likely to show wings exceeding last year's price by the end of the year. Overall, the average price of wings, like deboned breast is likely to be lower this year compared to last year.

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



Chicken production in the US is now profitable thanks to the recent seasonal increase in chicken prices. The industry is likely to remain profitable as grain prices fall and competing meats continue to remain scarce.

**April 2023 US Measure**

Frozen Leg Quarters	\$ 0.48 per pound
Deboned Breast	\$ 1.32/lb
Wings	\$ 1.02 per pound
Chicago Corn	\$ 6.56 per bushel
Soybean Meal	\$ 460/Short Ton
Total Wholesale Cost per pound	\$ 1.07
Revenue per pound	\$ 1.10
Gain (Loss) per pound	<b>\$ 0.03</b>

**April 2023 Metric Measure**

Frozen Leg Quarters	\$ 1.06 per kilo
Deboned Breast	\$ 2.90/kilo
Wings	\$ 2.24 per kilo
Chicago Corn	\$ 258 per ton
Soybean Meal	\$ 507 per ton
Total Wholesale Cost per kilo	\$ 2.36
Revenue per kilo	\$ 2.41
Gain (Loss) per kilo	<b>\$ 0.06</b>

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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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