

Americas Expo 2022: Global Poultry and Protein Market Outlook

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What is LEAP Market Analytics?

 LEAP Market Analytics

1) As an acronym:

Livestock **E**ggs **A**nd **P**oultry

2) As a statement about organizational goals:

Advancing protein market analysis in a big way.

A Brief Note About Nomenclature

Use of the term “broiler.”

As defined by the United States Department of Agriculture, a broiler is a chicken younger than 10 weeks old of either sex that is tender-meated, has pliable, smooth-textured skin, and flexible breastbone cartilage.

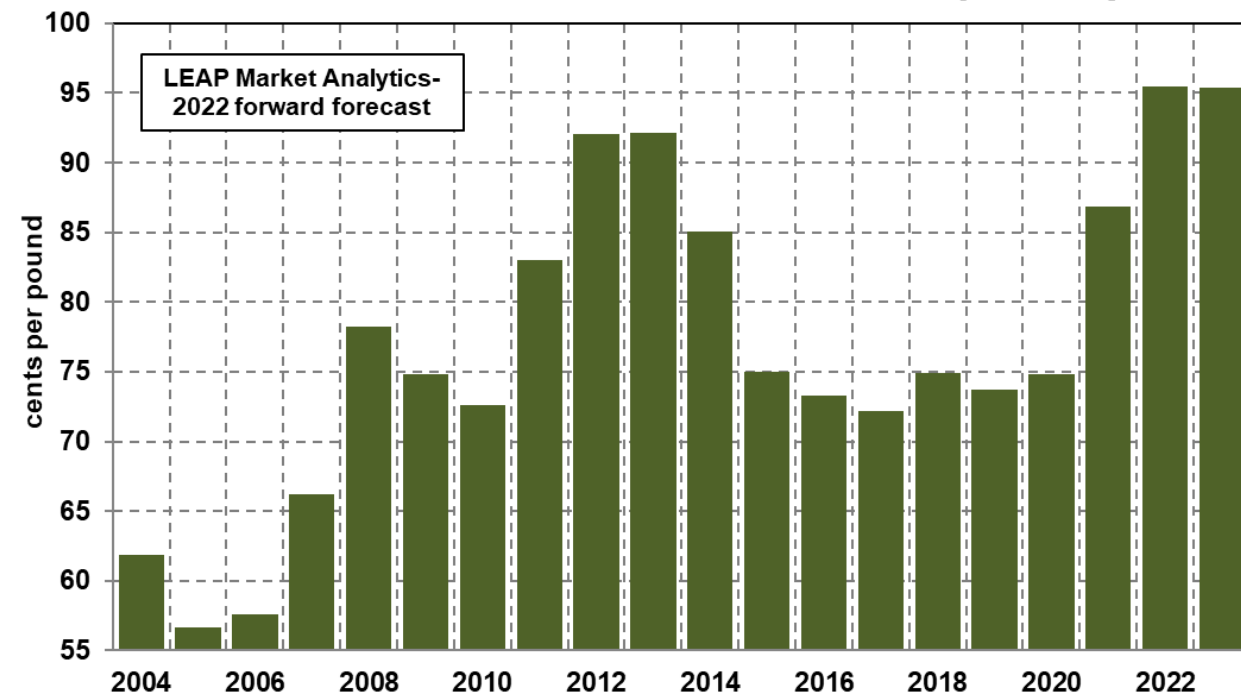
Ultimately, “broiler” = “chicken” or, more specifically, a “young chicken” (pollo joven).

Introductory Market Highlights

- Russia-Ukraine conflict and economic sanctions threaten major geopolitical alignment and continued destabilization.
- The United States faces diminished trade with Russia, China, and countries in their orbit, potentially creating opportunities for more business to be done with trading partners in Latin America.
- Central banks look to tighten monetary policy to combat inflation but are constrained by high debt loads; risk of recession is relatively high.
- Protein demand that has been historically strong is now vulnerable, but possible food shortages global seemingly limit erosion prospects.

Feed and Other Input Costs Represent Growing Burden

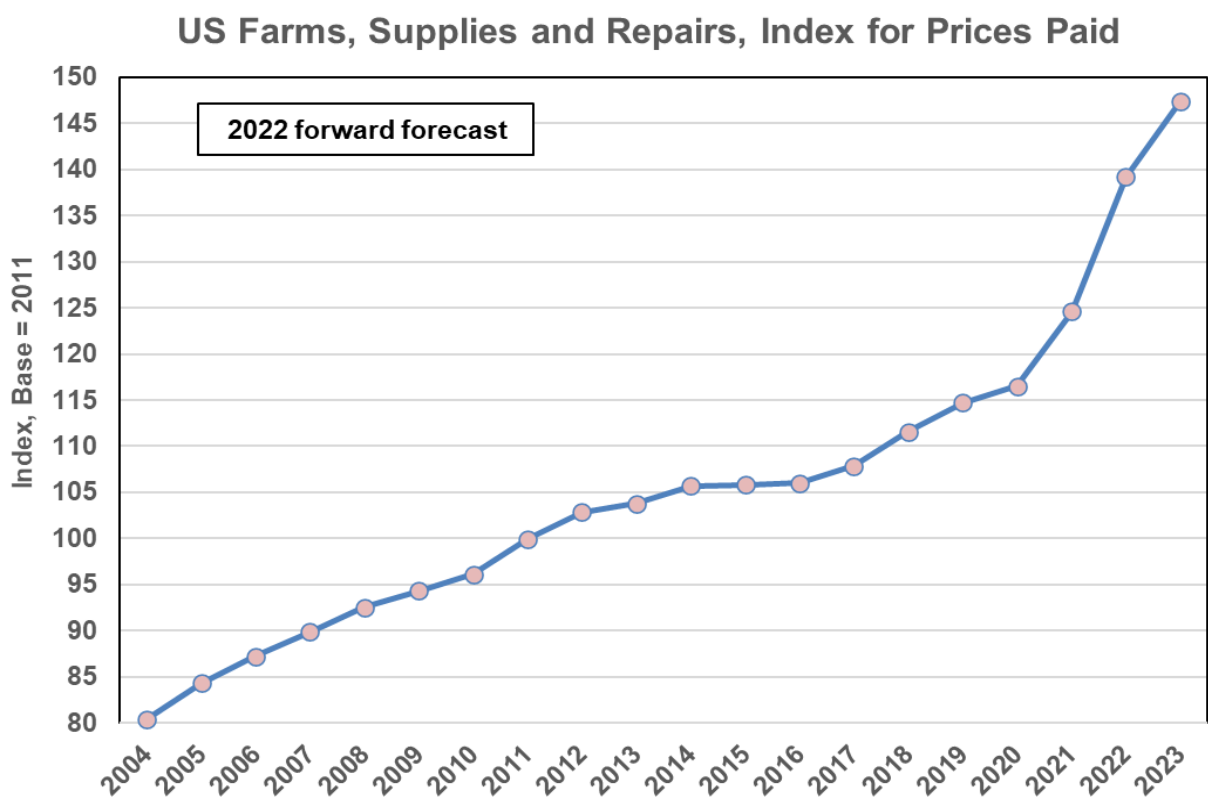
Total Broiler Cost Of Production, Industry Average



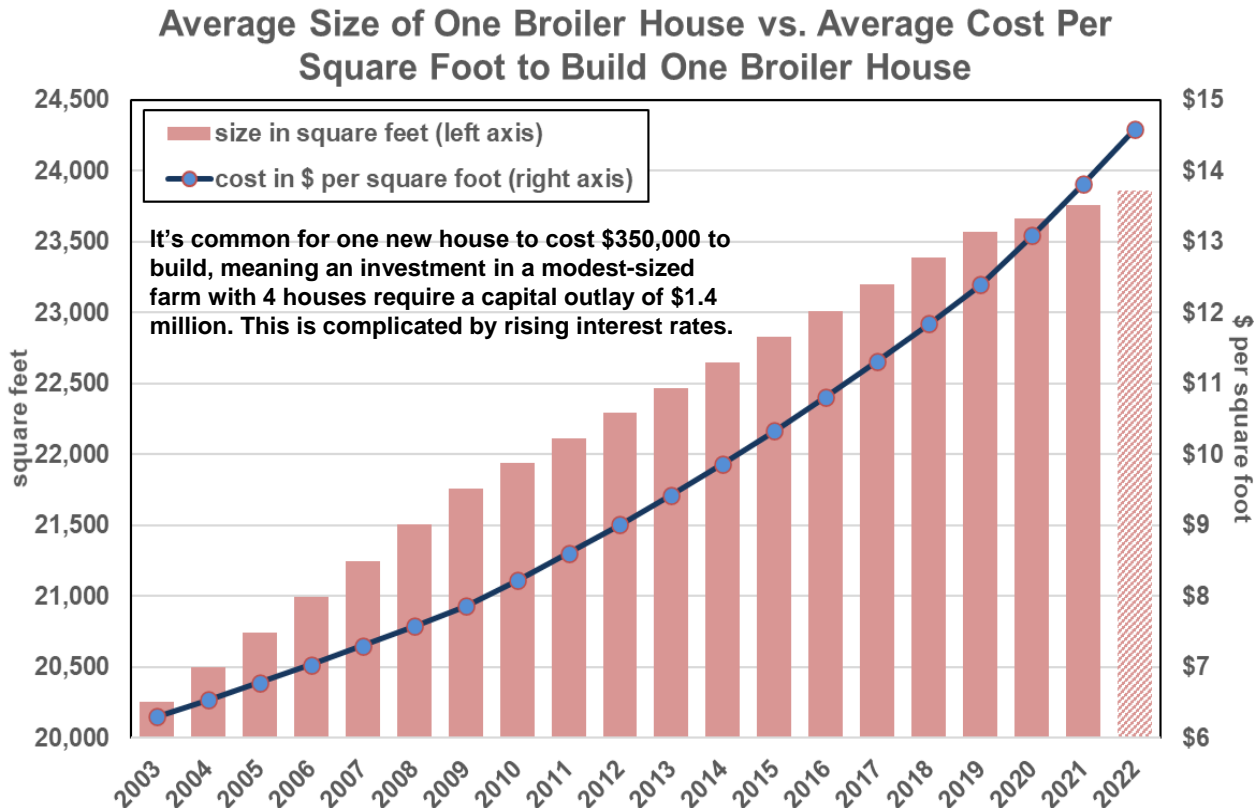
Source: LEAP Market Analytics

- Industry faces record input costs this year that have clear potential to worsen in 2023.
- The Russia-Ukraine conflict will limit wheat availability, boosting demand for substitute grains.
- Additionally, fertilizer use is likely to be reduced noticeably, reducing yield potential for the 2022 crop season.
- Total production costs illustrated at left represent only the integrators' share, but contract growers are getting slammed by elevated costs as well.

Contract Grower Costs Appreciating Exponentially



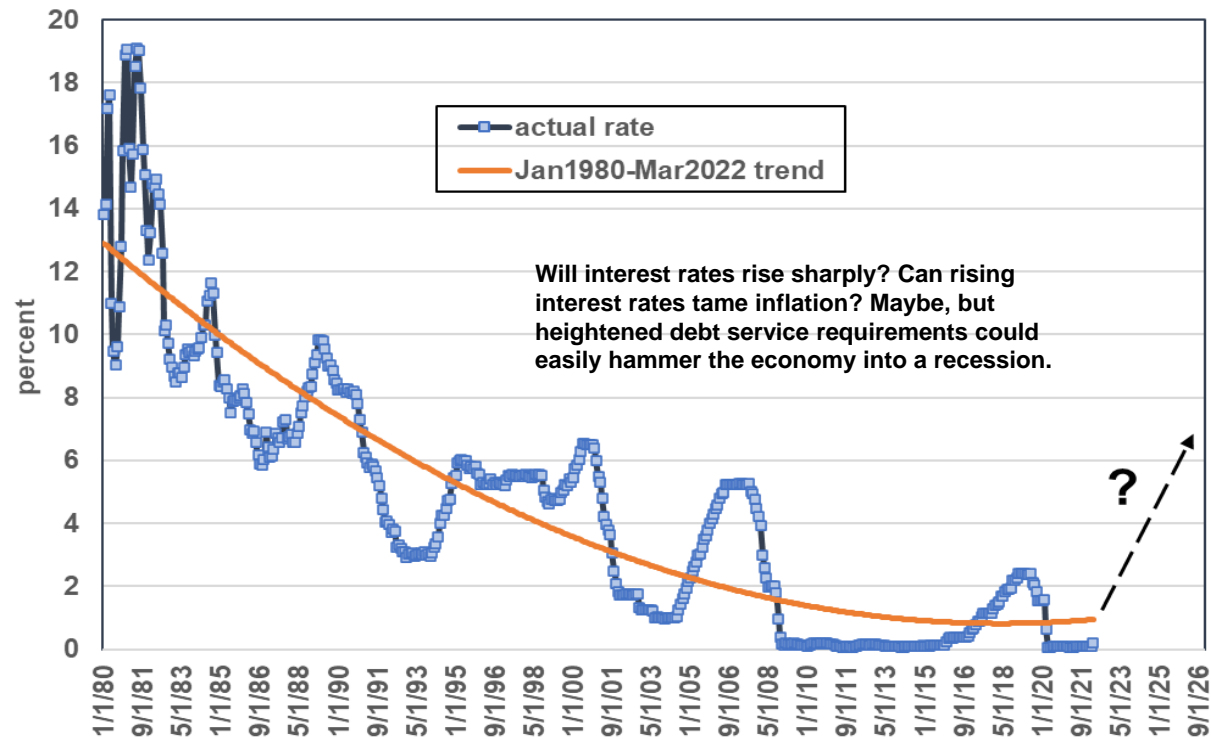
Sources: USDA, LEAP Market Analytics



Source: LEAP Market Analytics

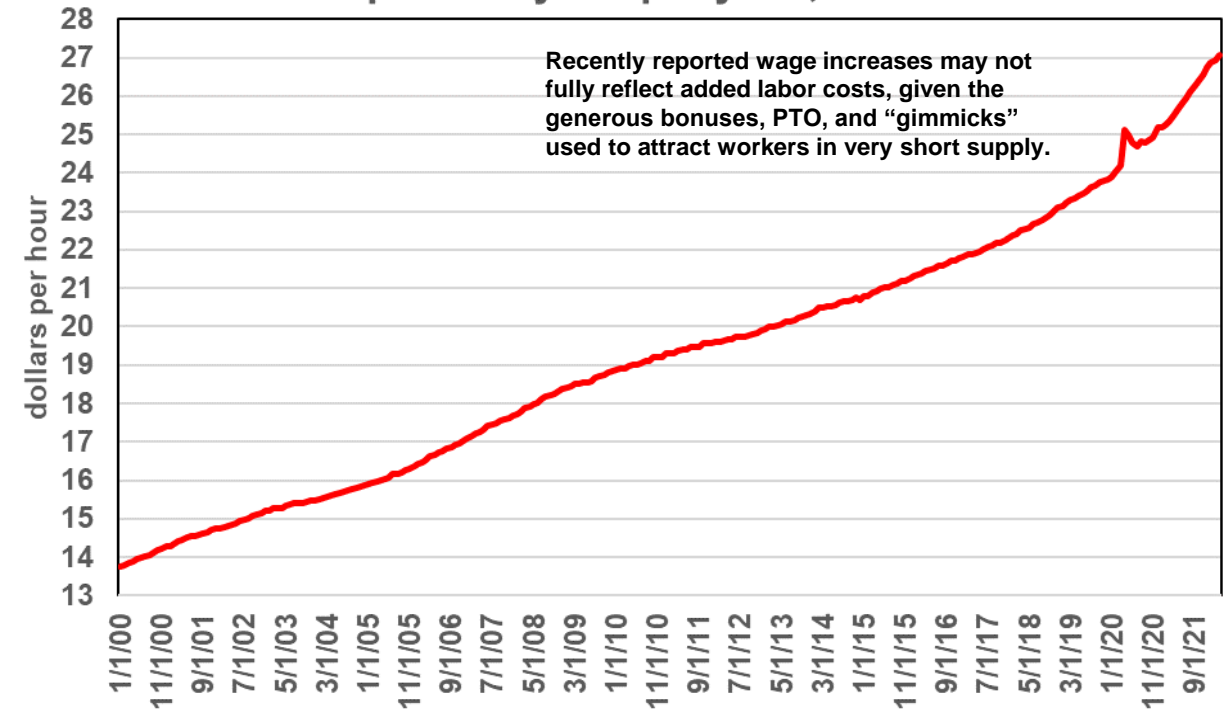
Cost of Money Increasing; Labor Market Explodes

Federal Funds Effective Rate



Source: Board of Governors of the US Federal Reserve System

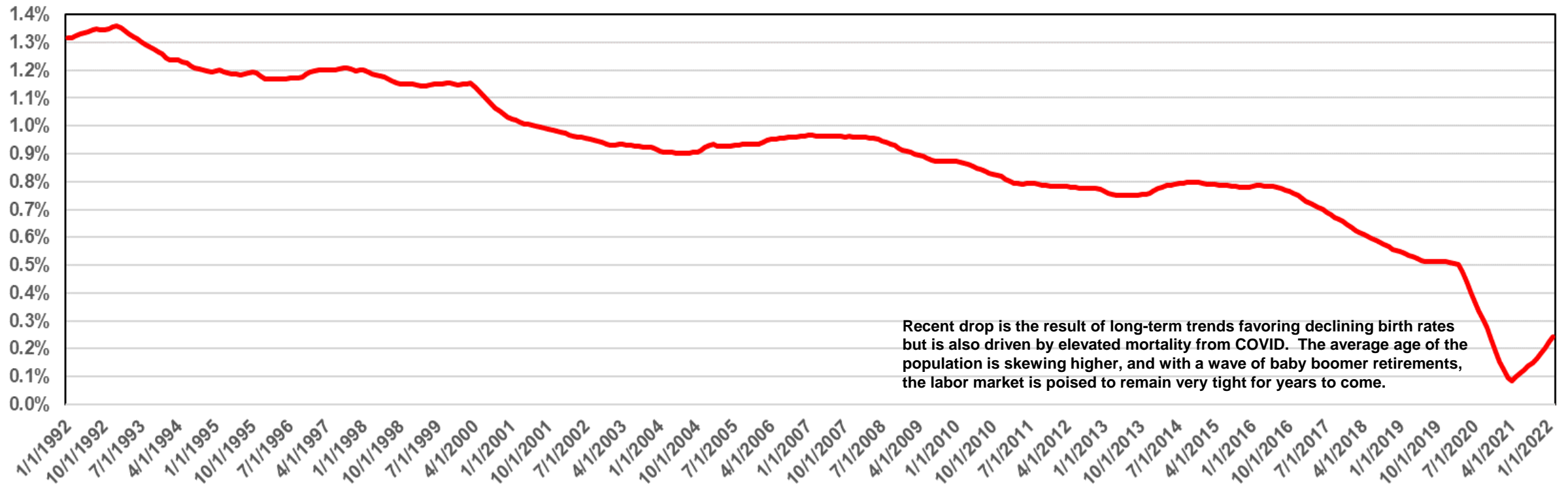
Average Hourly Earnings of Production and Non-Supervisory Employees, Total Private



Source: US Bureau of Labor Statistics

Population Growth in the US Stalls

Yr/Yr Change in Monthly Average Population of the United States



Source: US Census Bureau

Corn Faces Uphill Battle Meeting Yield Potential

US Corn Supply and Demand (Million Acres / Million Bushels)

	2017/18	2018/19	2019/20	2020/21	2021/22		2022/23	
					USDA	LEAP	USDA	LEAP
Planted Acres	90.2	88.9	89.7	90.7	93.4	93.4	89.5	90.2
Harvested Acres	82.7	81.3	81.3	82.3	85.4	85.4	81.7	82.6
Yield	176.6	176.4	167.5	171.4	177.0	177.0	177.0	171.6
Beginning Stocks (September 1st)	2,293	2,140	2,221	1,919	1,235	1,235	1,440	1,400
Production	14,609	14,340	13,620	14,111	15,115	15,115	14,460	14,174
Imports	36	28	42	24	25	25	25	25
Total Supply	16,939	16,509	15,883	16,055	16,375	16,375	15,925	15,599
Feed & Residual	5,304	5,429	5,900	5,598	5,625	5,575	5,350	5,300
Food, Seed, and Industrial	7,057	6,793	6,286	6,470	6,810	6,800	6,815	6,750
Domestic Usage	12,361	12,222	12,186	12,068	12,435	12,375	12,165	12,050
Exports	2,438	2,066	1,777	2,753	2,500	2,600	2,400	2,500
Total Usage	14,798	14,288	13,963	14,821	14,935	14,975	14,565	14,550
Ending Stocks (August 31st)	2,140	2,221	1,919	1,235	1,440	1,400	1,360	1,049
Stocks/Use Ratio	14.5%	15.5%	13.7%	8.3%	9.6%	9.3%	9.3%	7.2%
Corn Price, US Average	3.40	3.65	3.52	4.86		6.39		7.32

Sources: USDA, LEAP Market Analytics

Soybean Prices to Remain Elevated Despite Acreage Boost

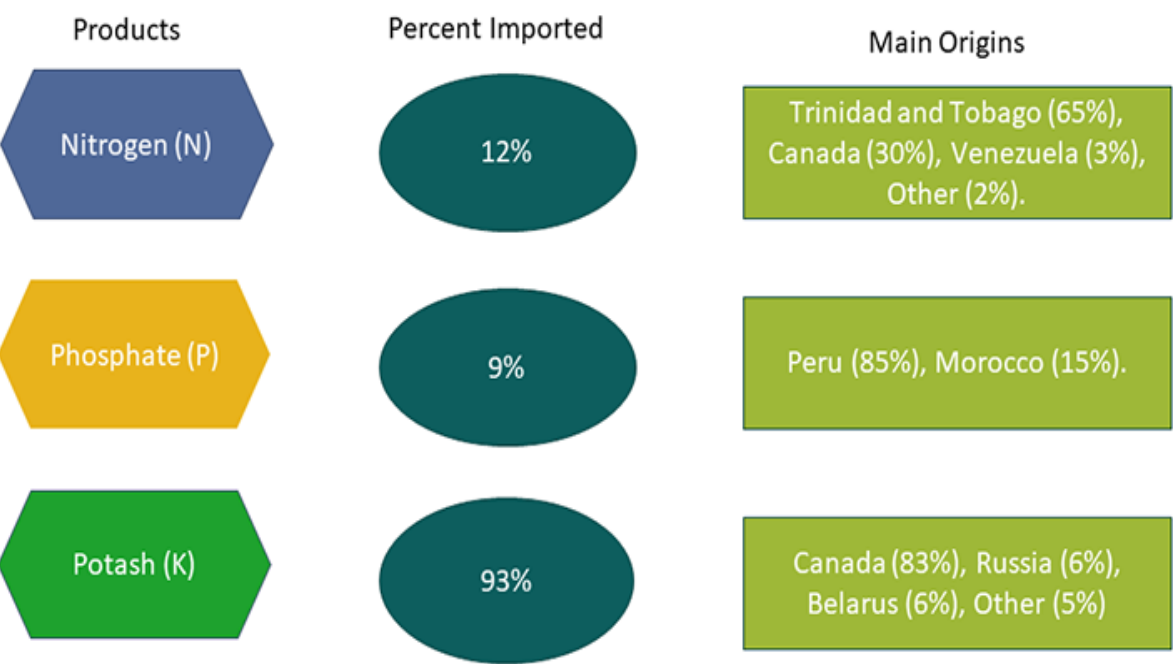
US Soybean Supply and Demand (Million Acres / Million Bushels)

	2017/18	2018/19	2019/20	2020/21	2021/22		2022/23	
					USDA	LEAP	USDA	LEAP
Planted Acres	90.2	89.2	76.1	83.4	87.2	87.2	91.0	90.7
Harvested Acres	89.5	87.6	74.9	82.6	86.3	86.3	90.1	89.8
Yield	49.3	50.6	47.4	51.0	51.4	51.4	51.5	49.6
Beginning Stocks (September 1st)	302	438	909	525	257	257	235	189
Production	4,412	4,428	3,552	4,216	4,435	4,435	4,640	4,454
Imports	22	14	15	20	15	15	15	25
Total Supply	4,735	4,880	4,476	4,761	4,707	4,707	4,890	4,668
Crush	2,055	2,092	2,165	2,141	2,215	2,225	2,255	2,225
Exports	2,134	1,752	1,679	2,261	2,140	2,175	2,200	2,200
Seed	104	88	97	101	106	106	102	100
Residual	5	39	11	1	12	12	23	20
Total Usage	4,297	3,971	3,952	4,504	4,472	4,518	4,580	4,545
Ending Stocks (August 31st)	438	909	525	257	235	189	310	123
Stocks/Use Ratio	10.2%	22.9%	13.3%	5.7%	5.3%	4.2%	6.8%	2.7%
Soybean Price, US Average	9.38	8.43	8.52	12.30		14.10		14.54

Sources: USDA, LEAP Market Analytics

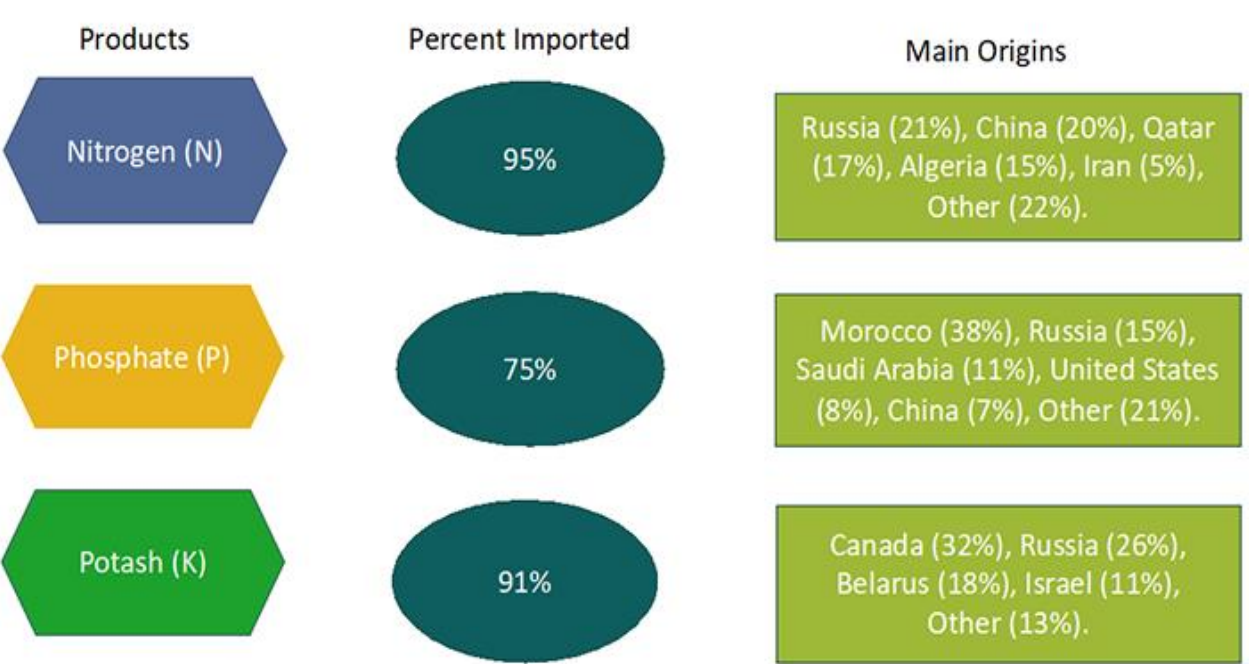
Brazil's High Dependence on Imported Fertilizer

Dependence on Imported Fertilizers – United States



Source: US Geological Survey

Dependence on Imported Fertilizers – Brazil

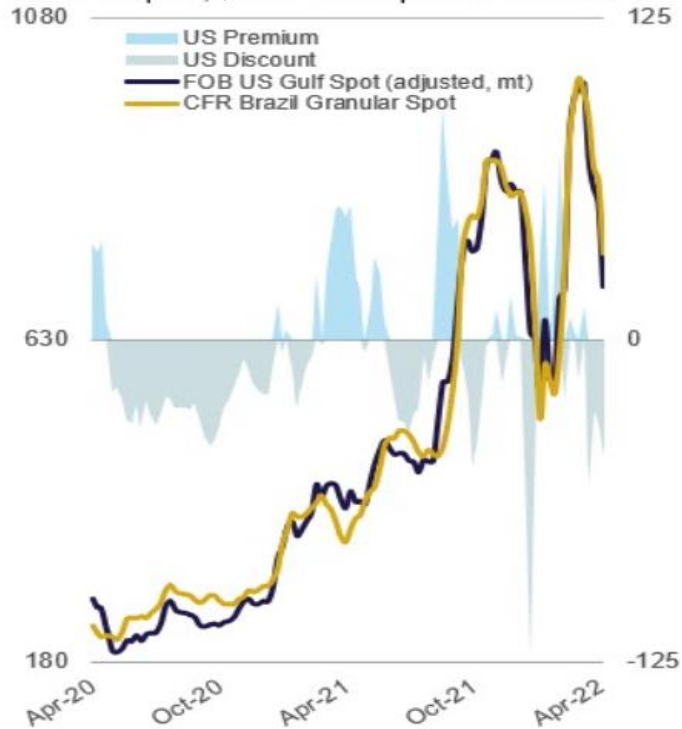


Sources: Comexstat, ANDA, ANDAV

Fertilizer Prices in Brazil Trade at a Premium to the US

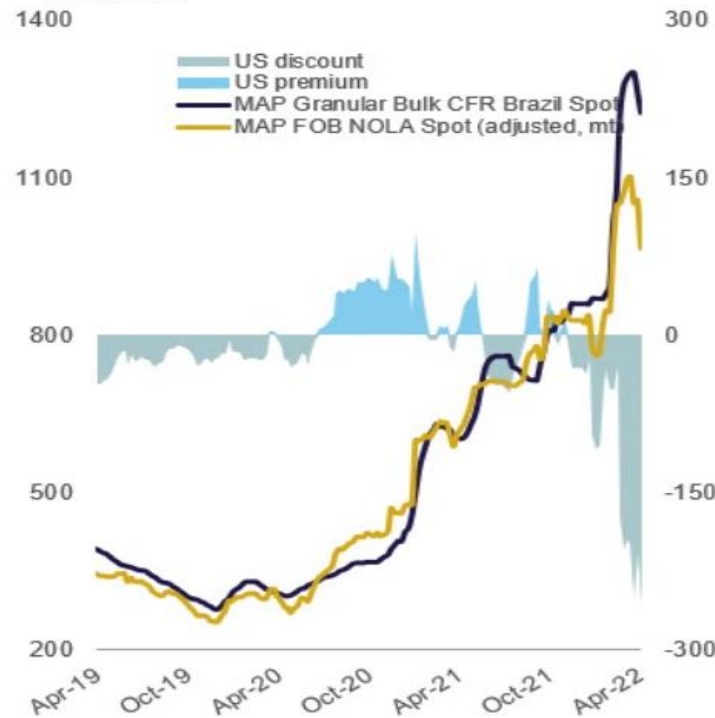
Urea - NOLA and Brazil price comparison

LHS: Urea price, \$/mt. RHS: US premium or discount



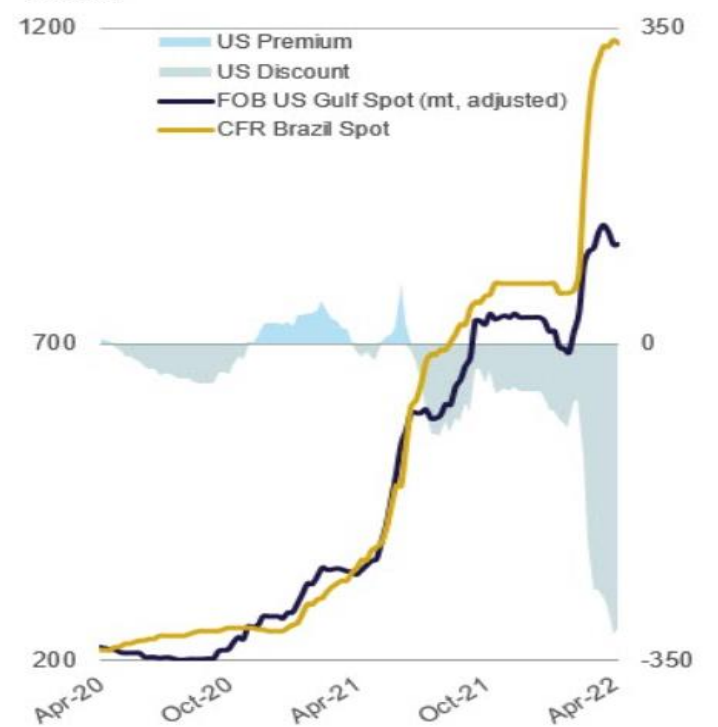
MAP: NOLA and Brazil price comparison

LHS: DAP and MAP price, \$/mt. RHS: MAP premium or discount



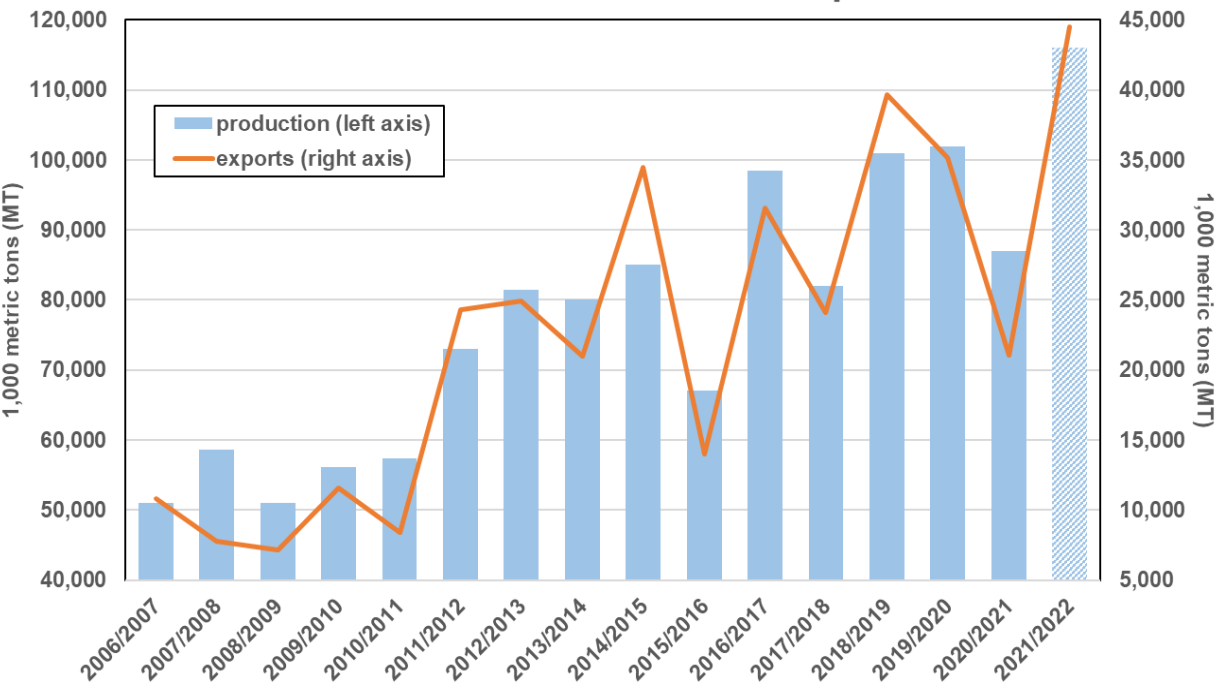
Potash - NOLA and Brazil price comparison

LHS: Potash price, \$/mt. RHS: US premium or discount



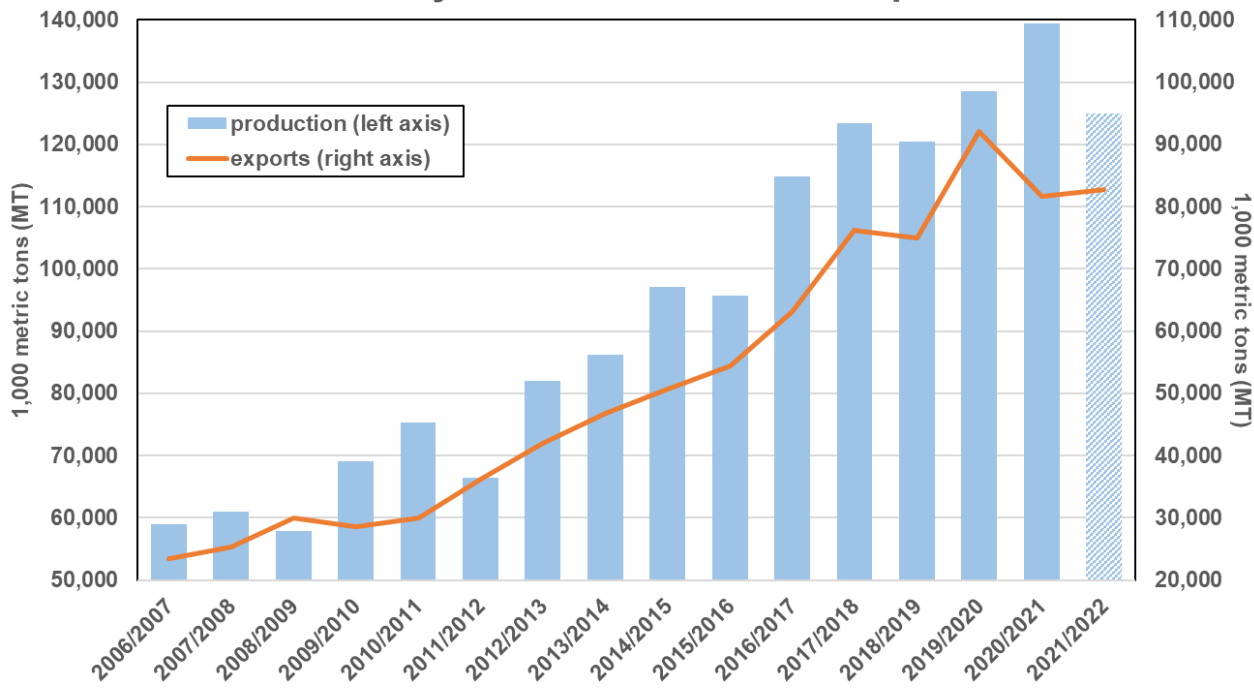
Drought Lowers 2021/22 Soybean Production in Brazil as Anxiety Builds for 2022/23 Due to Fertilizer Crisis

Brazil Corn Production and Exports



Source: USDA-FAS

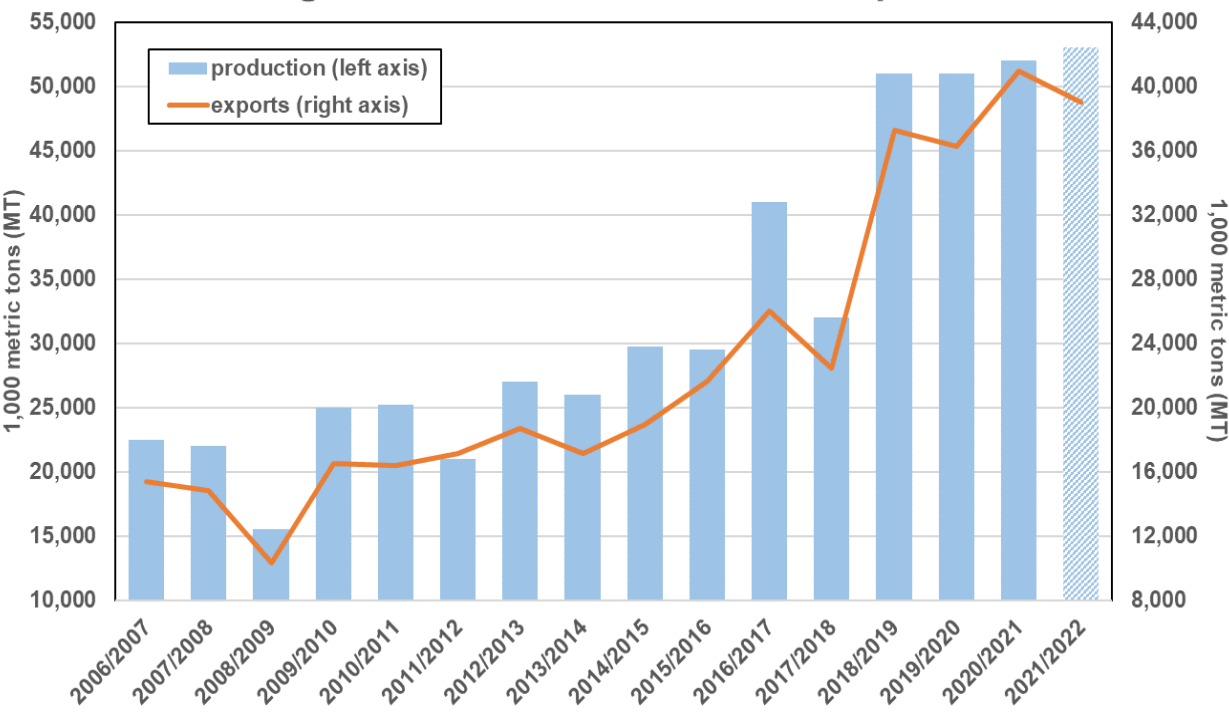
Brazil Soybean Production and Exports



Source: USDA-FAS

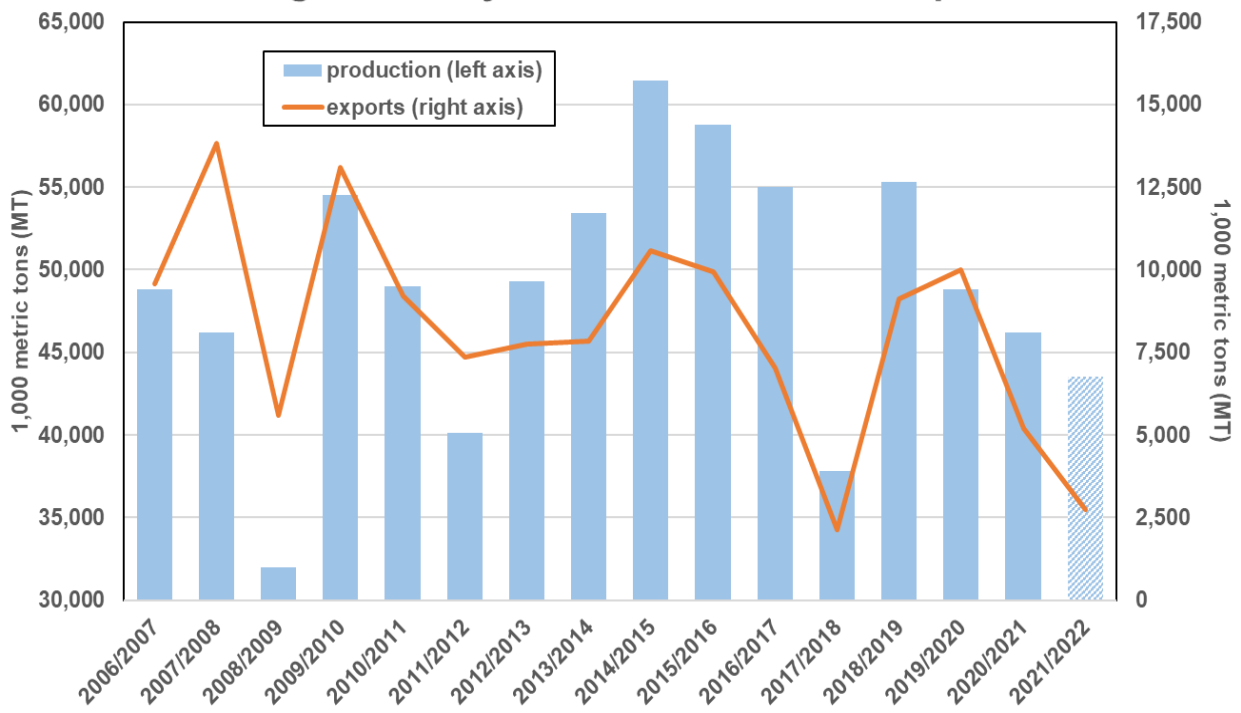
Declining Soybean Production in Argentina

Argentina Corn Production and Exports



Source: USDA-FAS

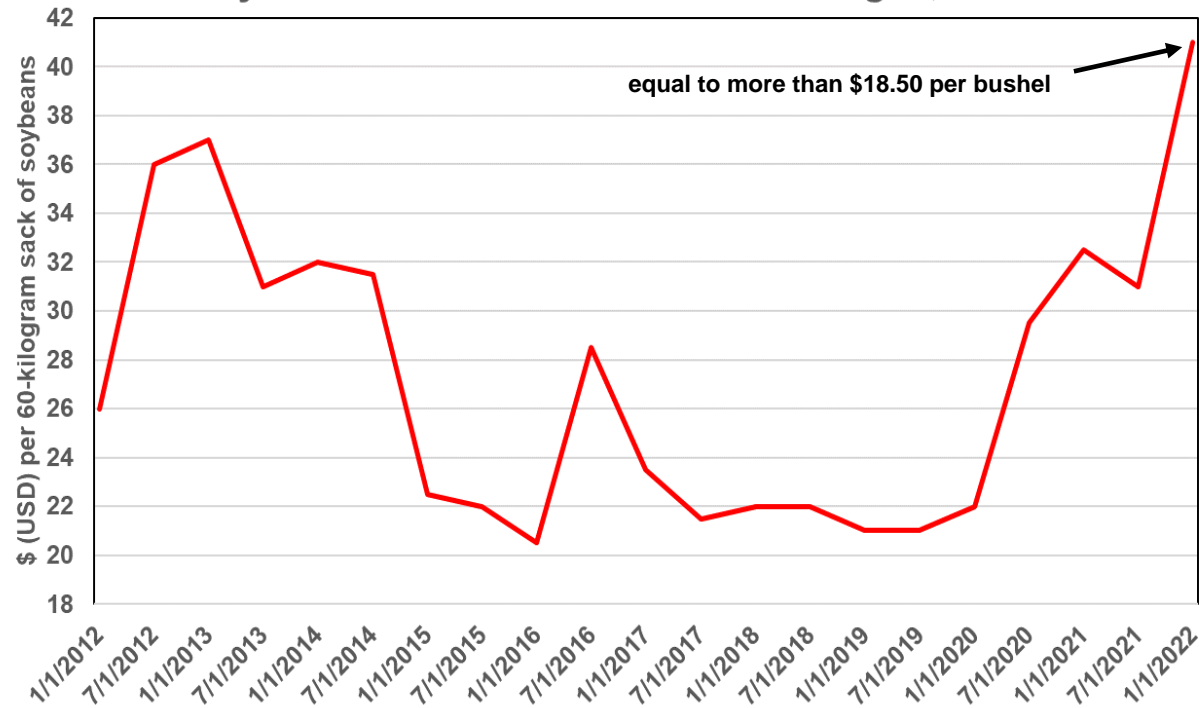
Argentina Soybean Production and Exports



Source: USDA-FAS

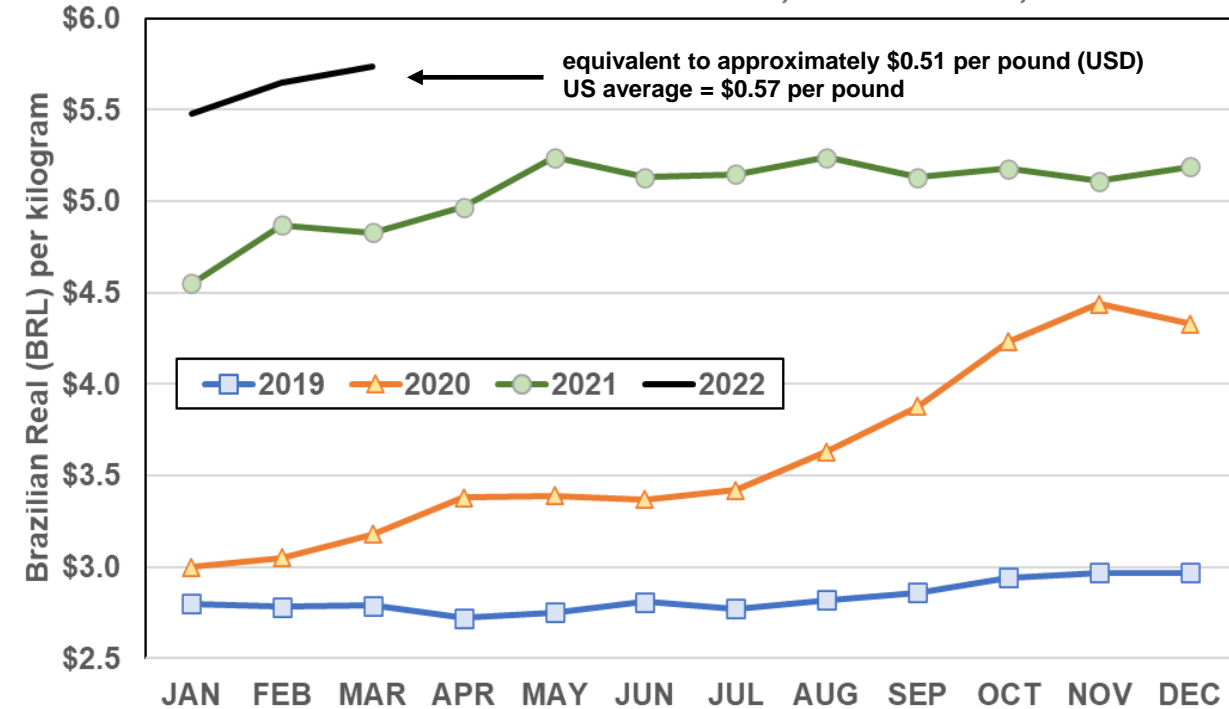
Production Costs in Brazil Approach US Average

Soybean Prices at the Port of Paranagua, 2012-22



Source: USDA-FAS

Total Live Chicken Production Cost, Parana State, Brazil



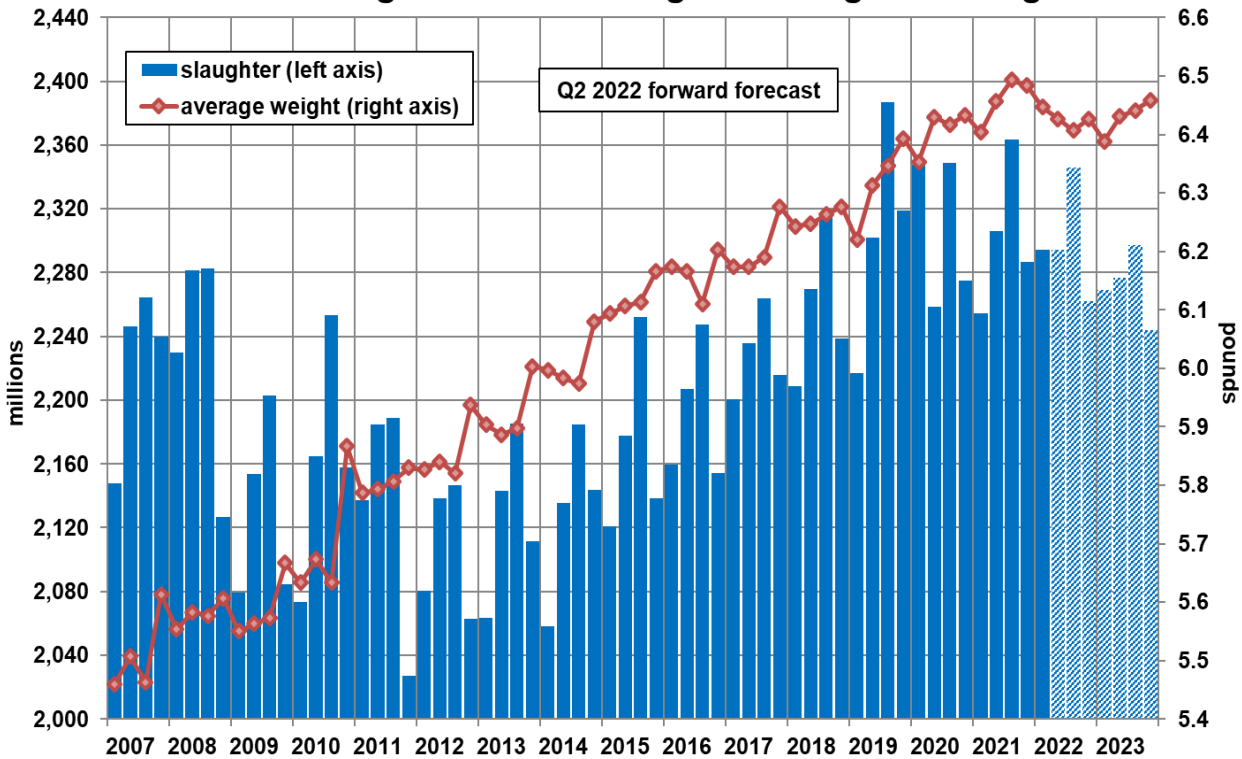
Source: Embrapa (ICPFrango)

US Chicken Supply/Demand Situation

- Expansion remains constrained by slumping hatchability and faces increasingly stiff headwinds from explosive input markets.
- Highly pathogenic avian influenza (HPAI) has affected US chicken production far more this year than during the 2015 outbreak but remains a largely insignificant factor for this industry.
- Demand-side forces exhibited record strength in 2021 but appear to be cooling off, especially for premium-priced products (wings).
- Geopolitical disruptions have set the stage for the US to be even more reliant on Latin America for chicken meat trade.

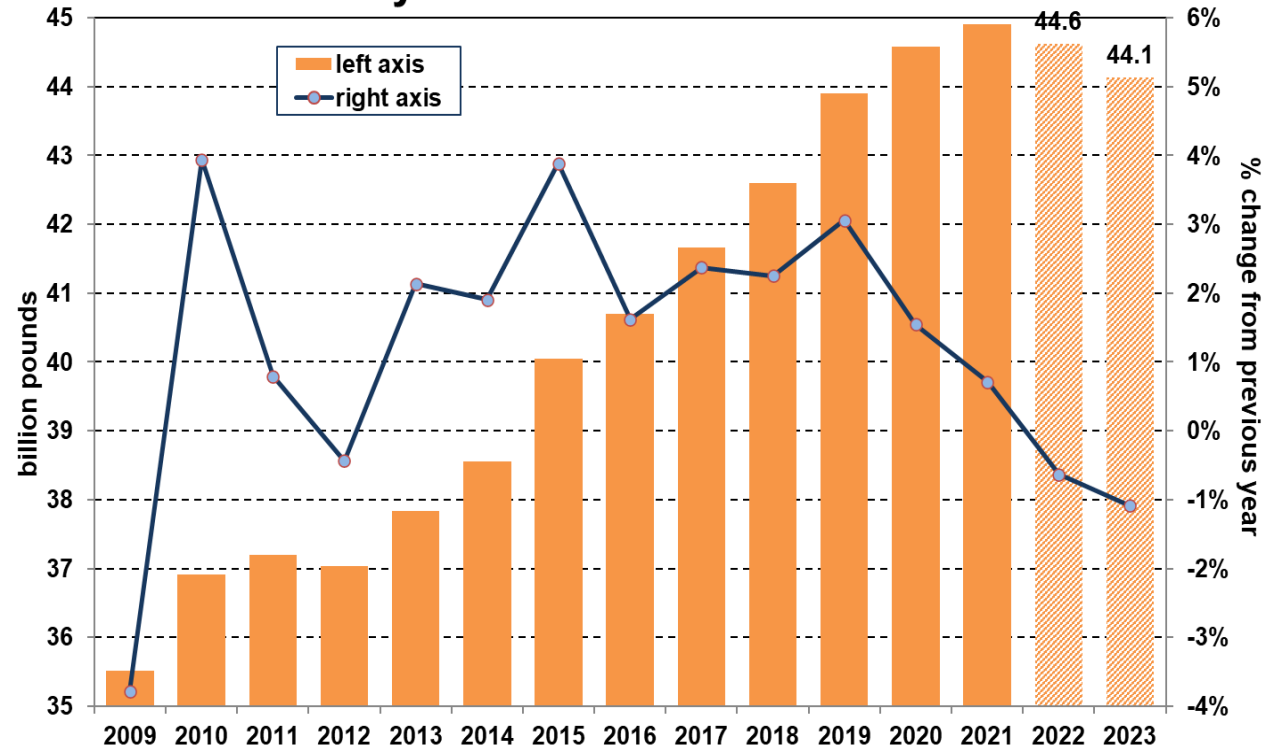
US Chicken Output to Decline Slightly

Broilers Slaughtered vs. Average Liveweight at Slaughter



Sources: USDA, LEAP Market Analytics

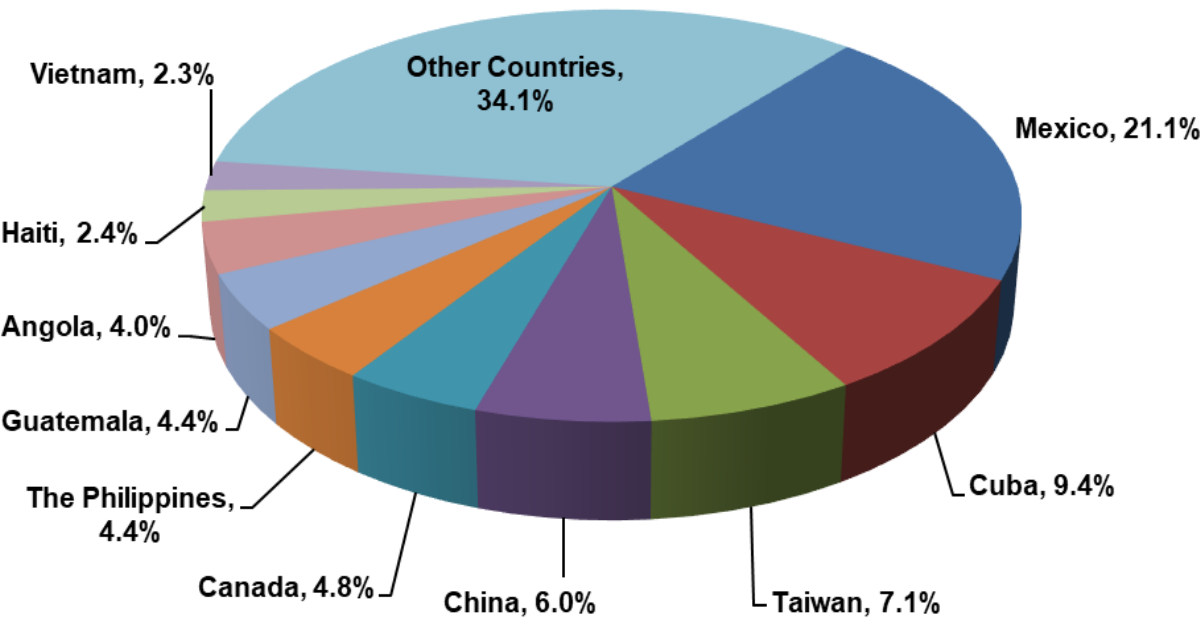
Ready-To-Cook Broiler Production



Sources: USDA, LEAP Market Analytics

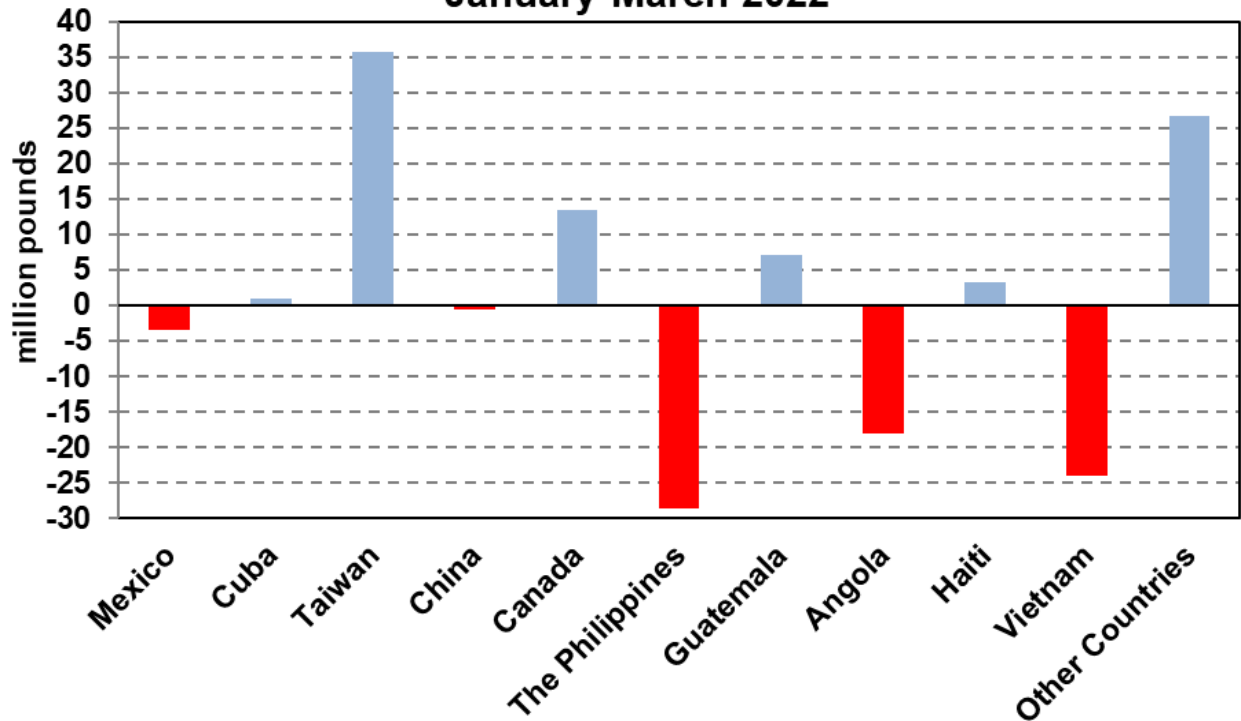
Diverse Landscape of Trading Partners

Breakdown of US Broiler Exports by Country
Jan-Mar 2022
1.87 Billion Pounds



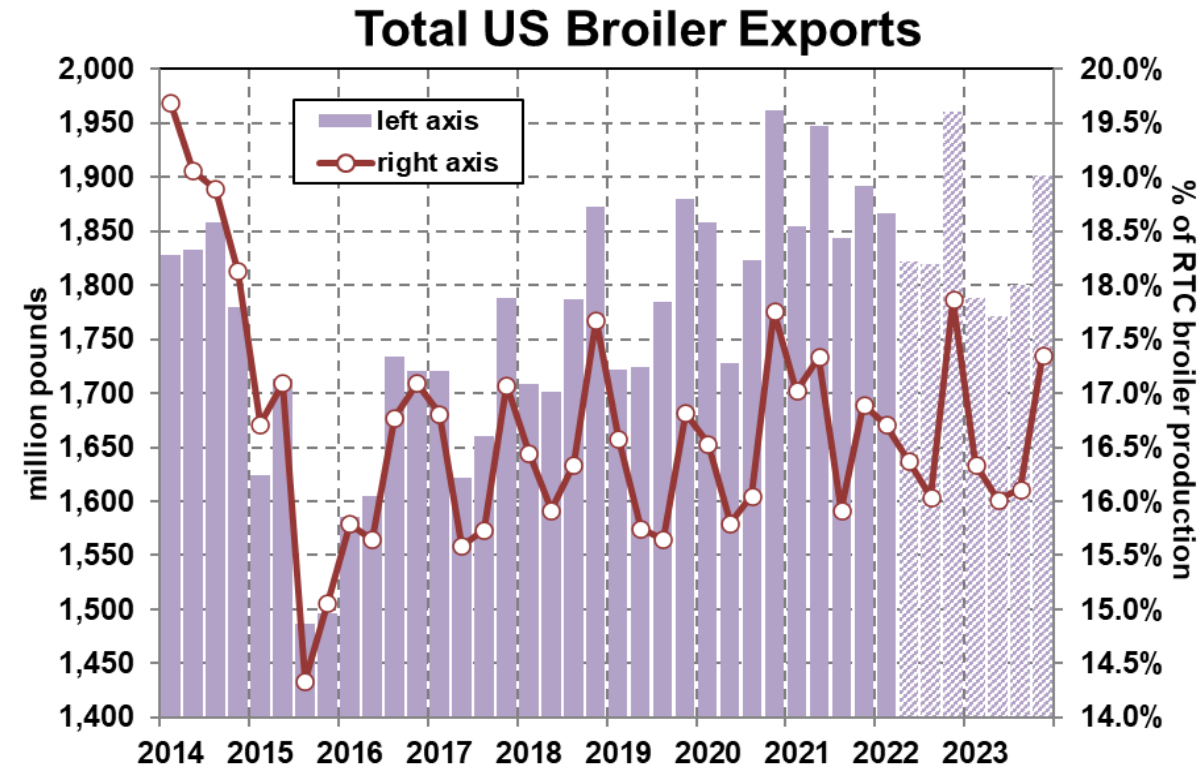
Source: USDA-ERS

Yr/Yr Change in US Broiler Exports
January-March 2022



Source: USDA-ERS

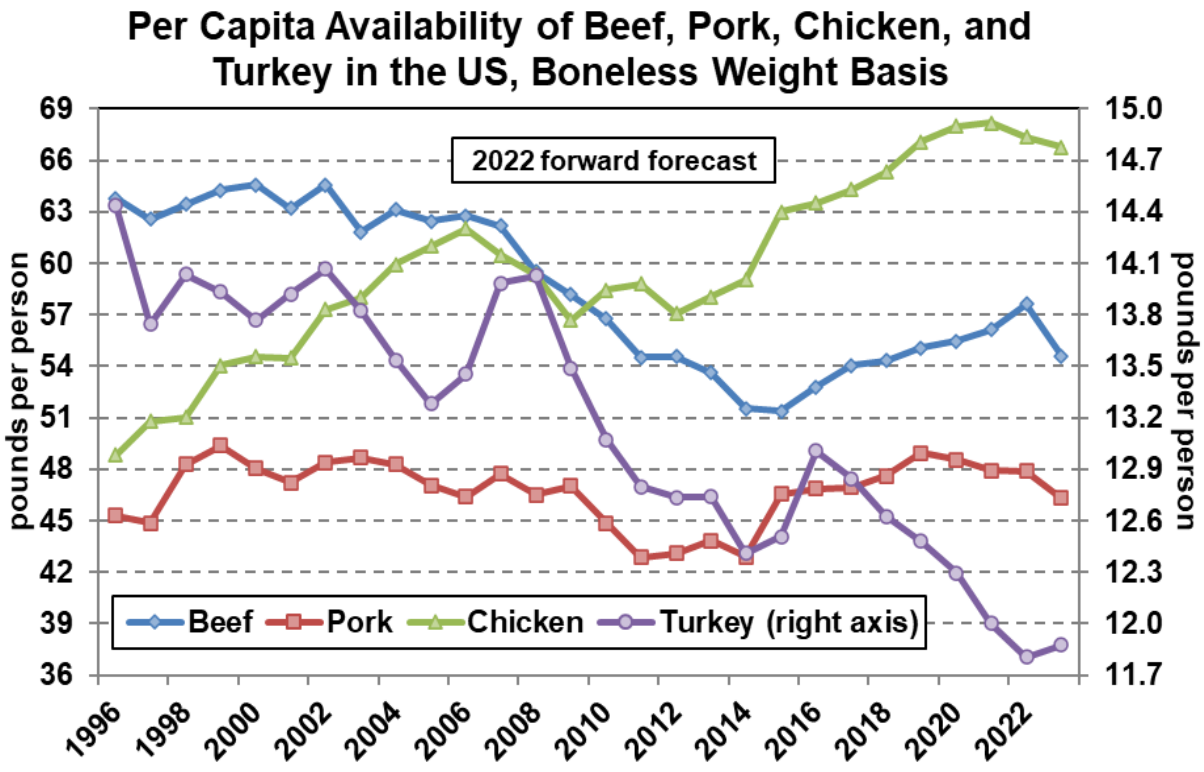
Relatively Consistent Export Pace Since 2016



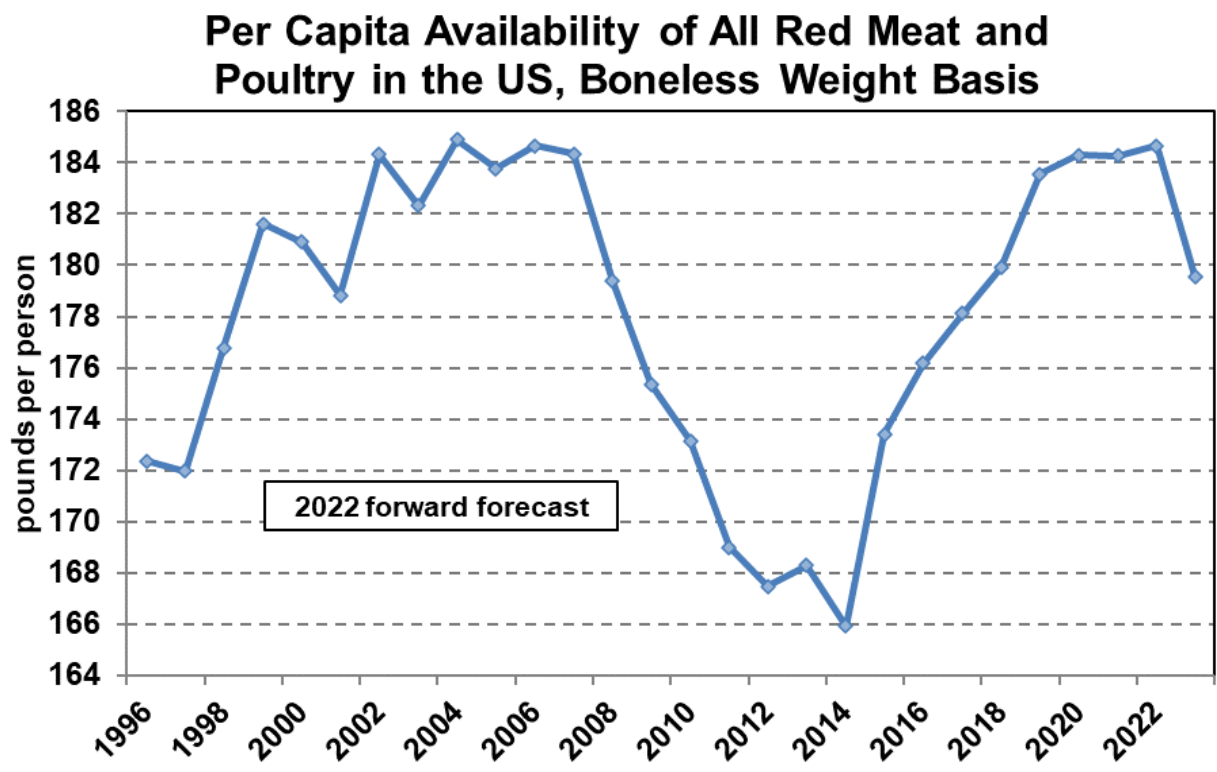
Sources: USDA, LEAP Market Analytics

- Unlike 2015, HPAI does not appear to be much of a burden on trade flows for the chicken industry.
- Conflict in Eastern Europe and the related economic war (sanctions) represents a greater threat to US and global trade than anything else.
- Exports consistently represent between 16.0% and 17.5% of US chicken output.
- US will be inclined to cut favorable trade deals with Latin American partners in response to headwinds elsewhere.

US Protein Supplies Set to Decline Sharply in 2023

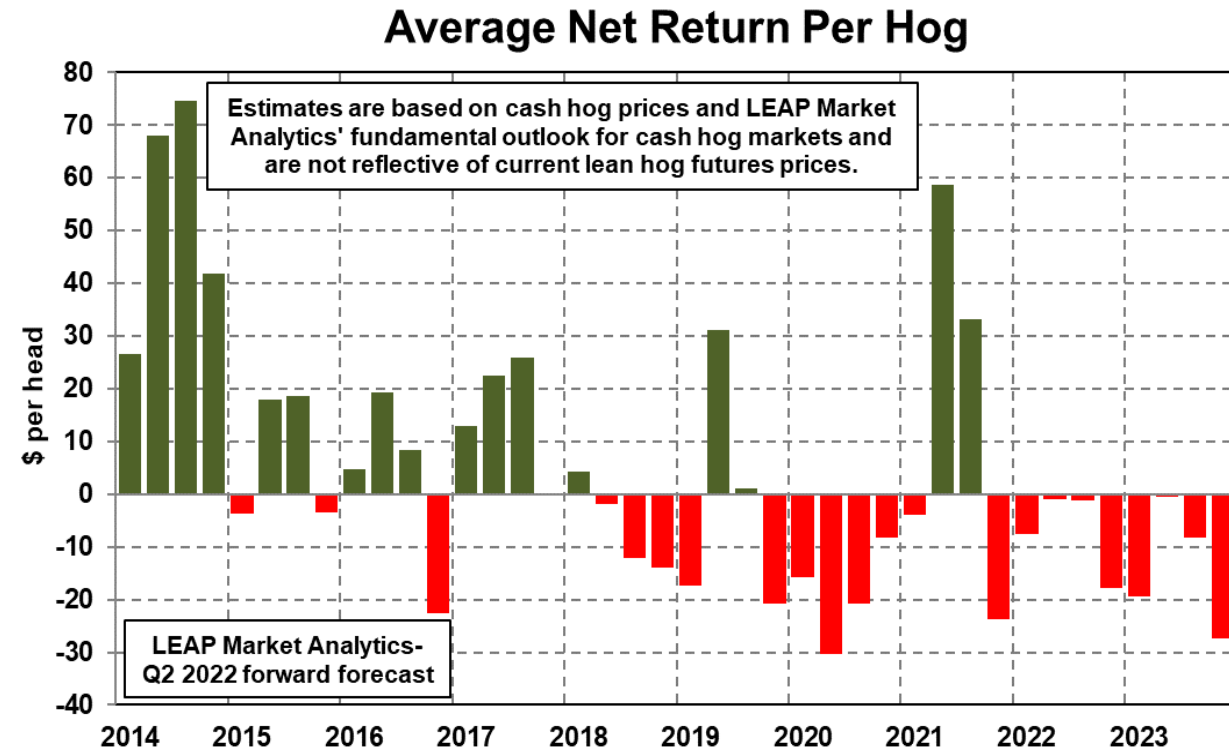


Sources: USDA, LEAP Market Analytics



Sources: USDA, LEAP Market Analytics

Hog Producers in the US Are Struggling Financially

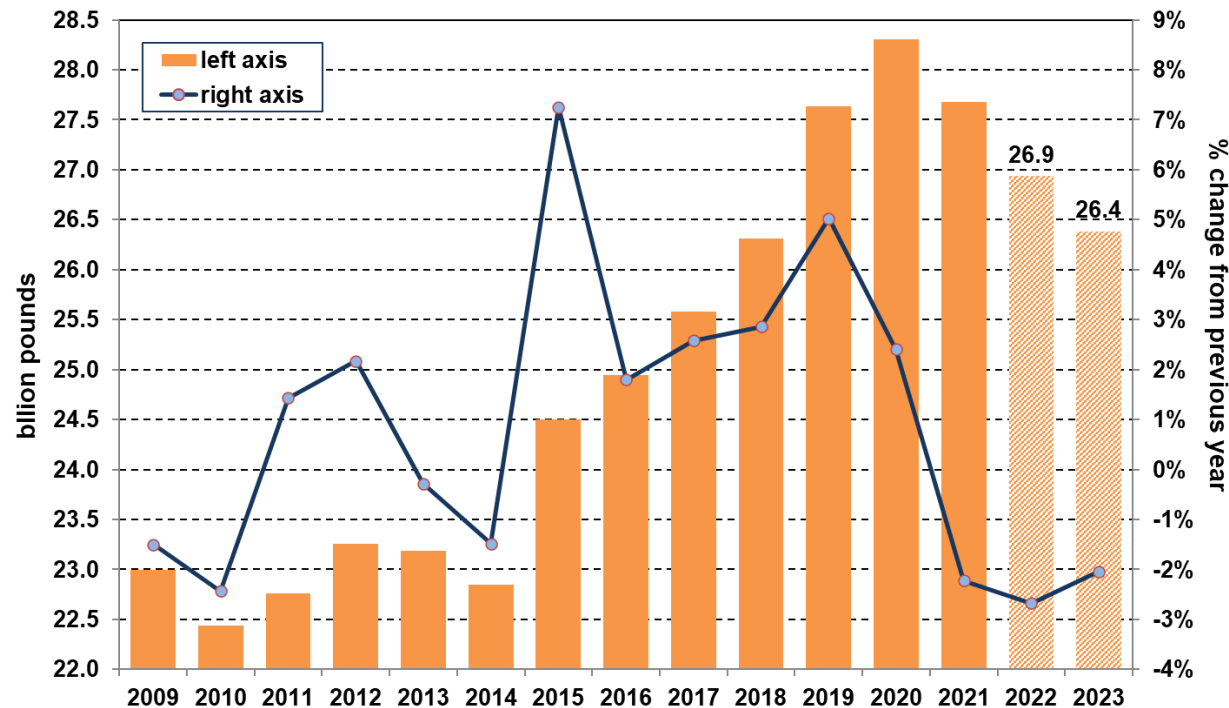


- Losses of between \$5 and \$25 per head have been commonplace since last fall.
- Many producers are still reeling from the mass euthanasia event that took place at the outset of the pandemic.
- Last spring and summer were phenomenal for producers, but that has been the exception, not the rule.
- The financial outlook out through 2023 is relatively dim, ensuring liquidation in this sector continues.

Source: LEAP Market Analytics

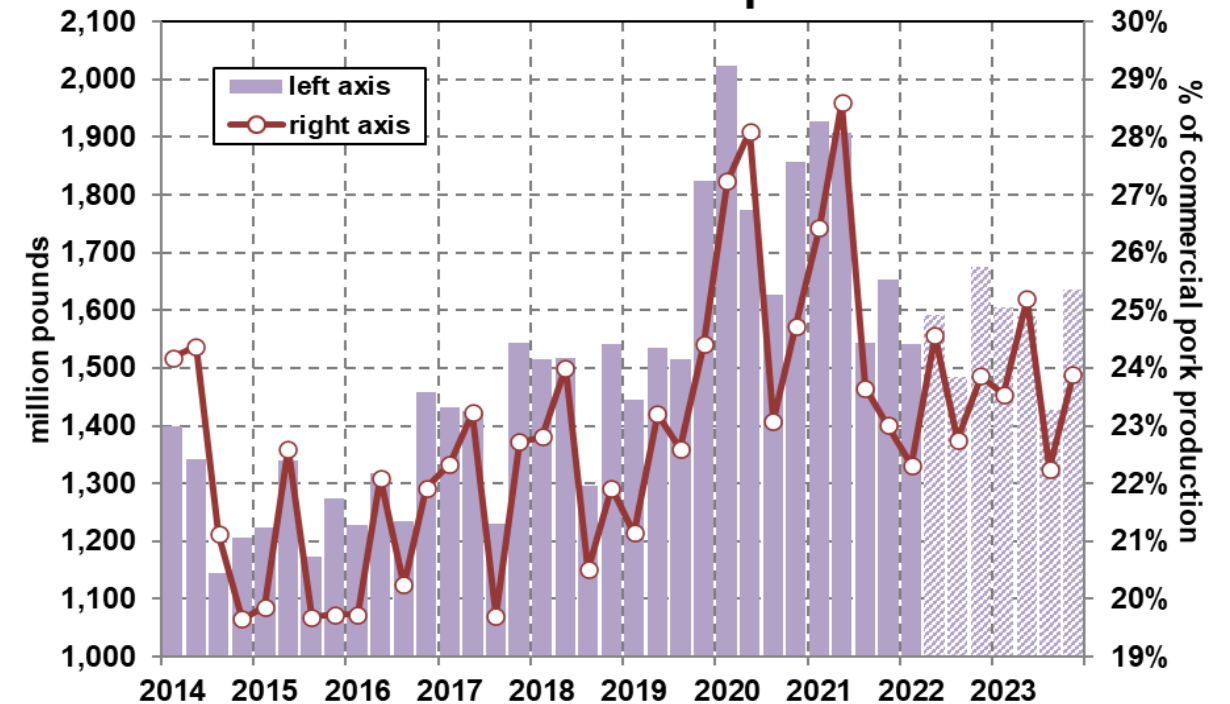
US Pork Production is Sliding Lower, As Are Exports

Commercial Pork Production



Sources, USDA, LEAP Market Analytics

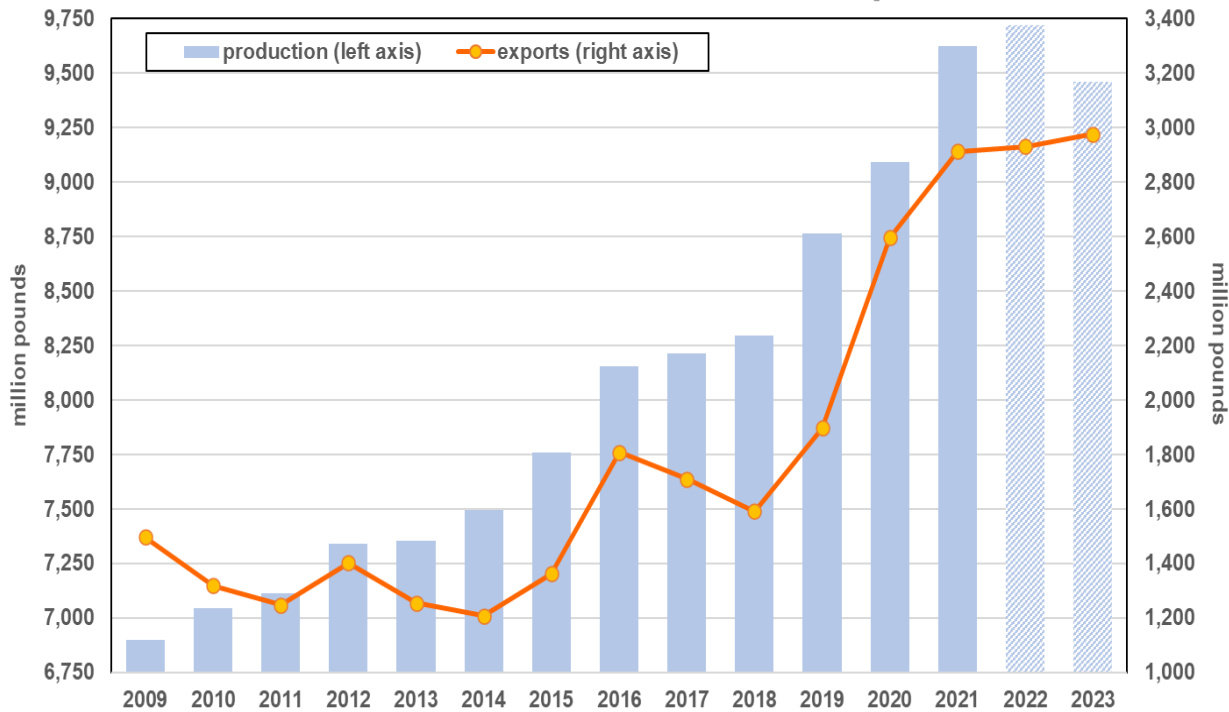
Total US Pork Exports



Sources: USDA, LEAP Market Analytics

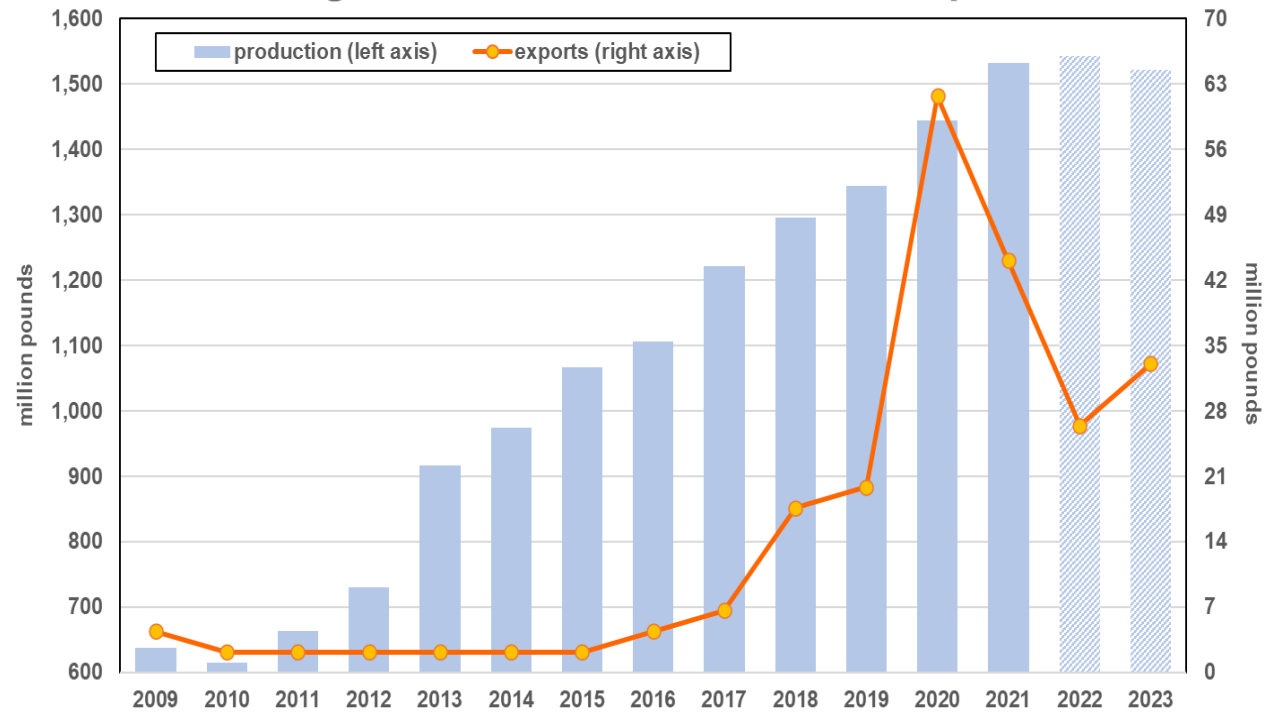
South American Pork Production Is Robust but Set to Decline by 2023

Brazil Pork Production and Exports



Sources, USDA, LEAP Market Analytics

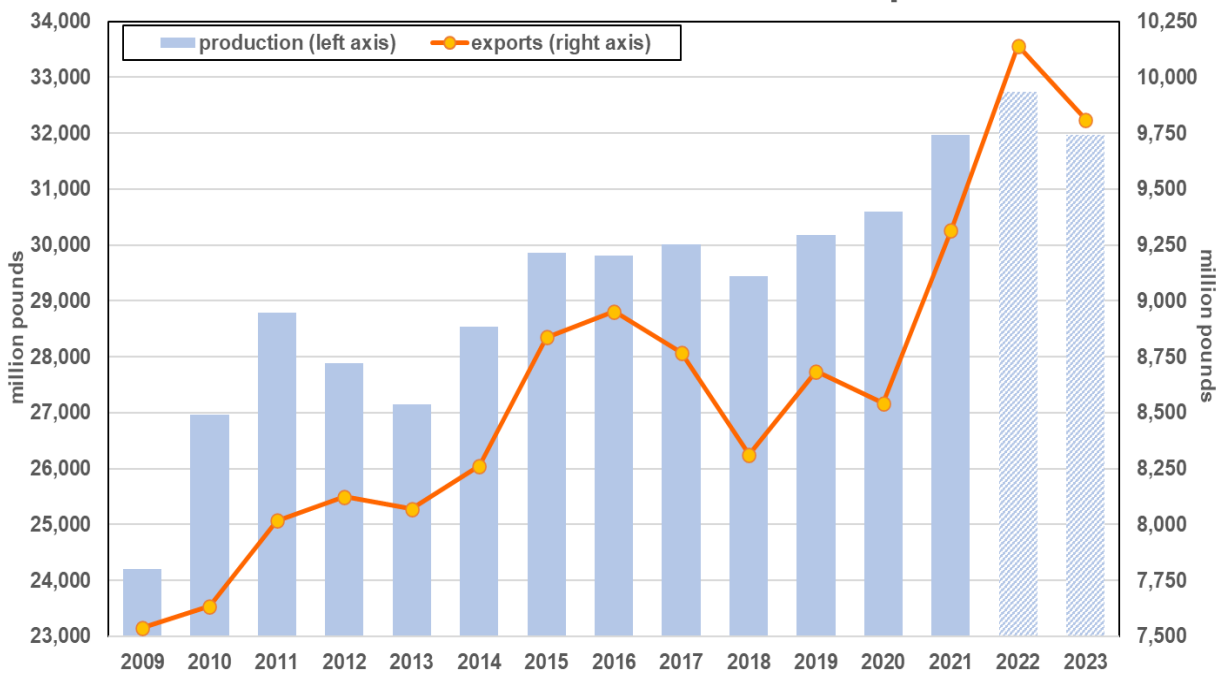
Argentina Pork Production and Exports



Sources: USDA, LEAP Market Analytics

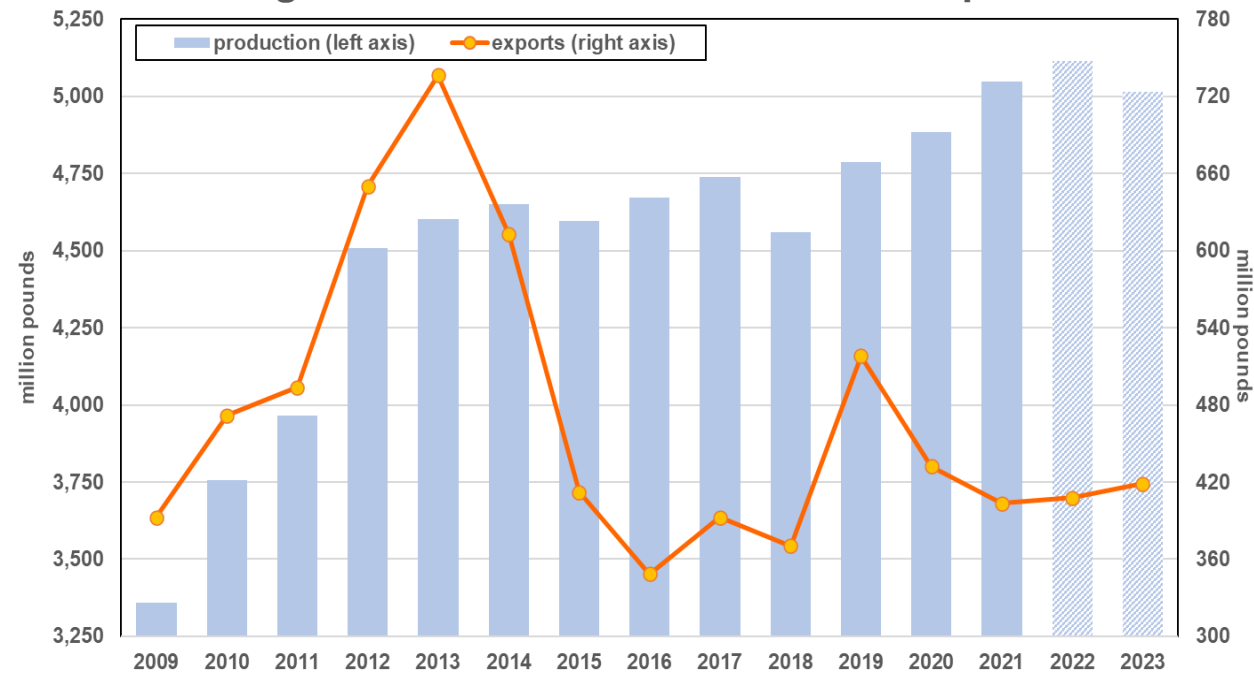
Brazilian Chicken Production and Exports Likely to Decline in 2023

Brazil Chicken Production and Exports



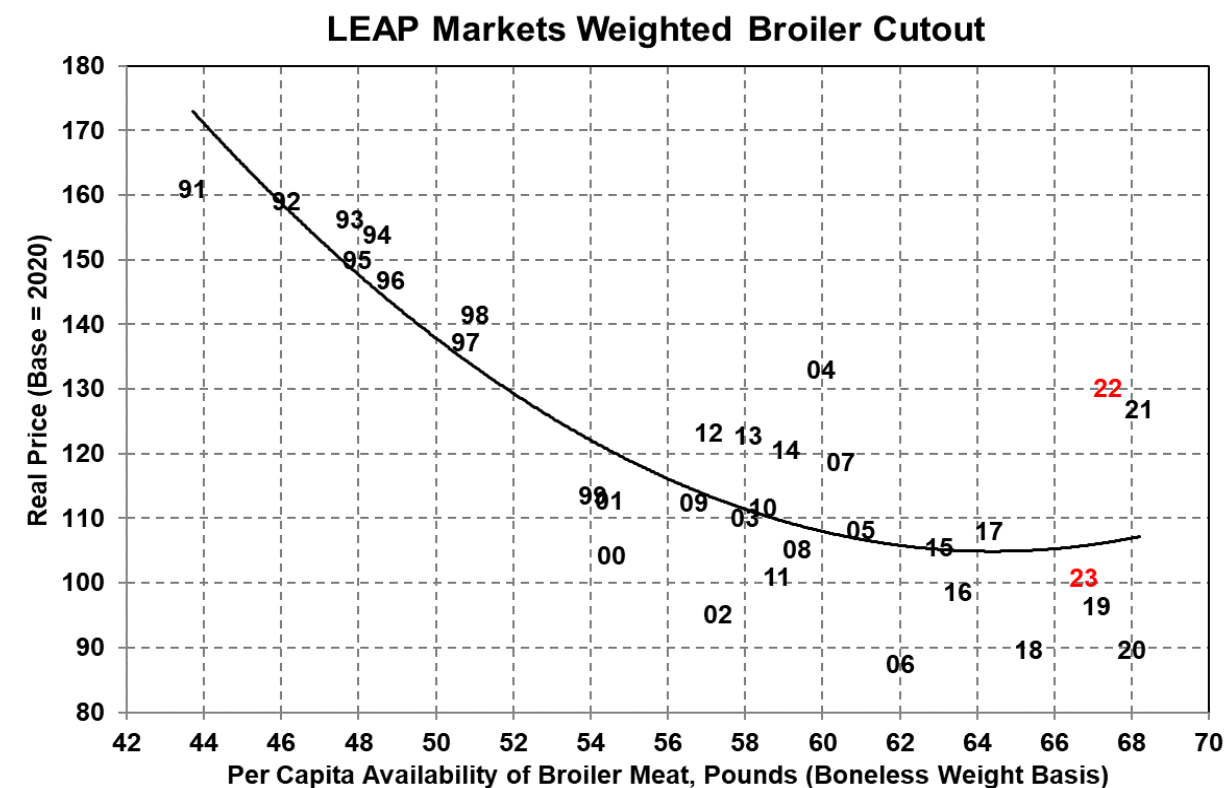
Sources, USDA, LEAP Market Analytics

Argentina Chicken Production and Exports



Sources: USDA, LEAP Market Analytics

Examining Chicken Demand More Closely

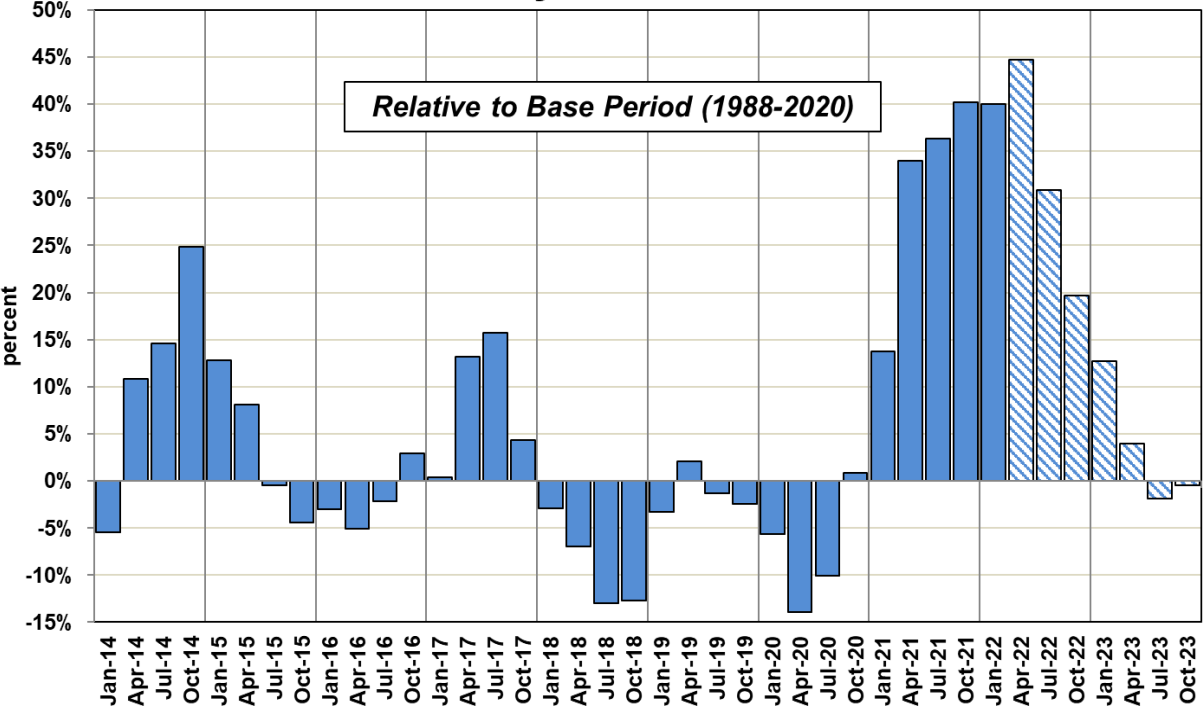


Sources: USDA, LEAP Market Analytics

- The only year comparable to 2021 from a perspective of historical demand strength for chicken was 2004.
- Demand-side forces have not abated so far in 2022, but there is evidence of a “plateauing” effect.
- Shrinking supplies and high prices for competing proteins should keep chicken on most people’s radar.
- That said, increasingly negative “macro” forces are aligning to dampen chicken demand back toward “normal” by sometime next year.

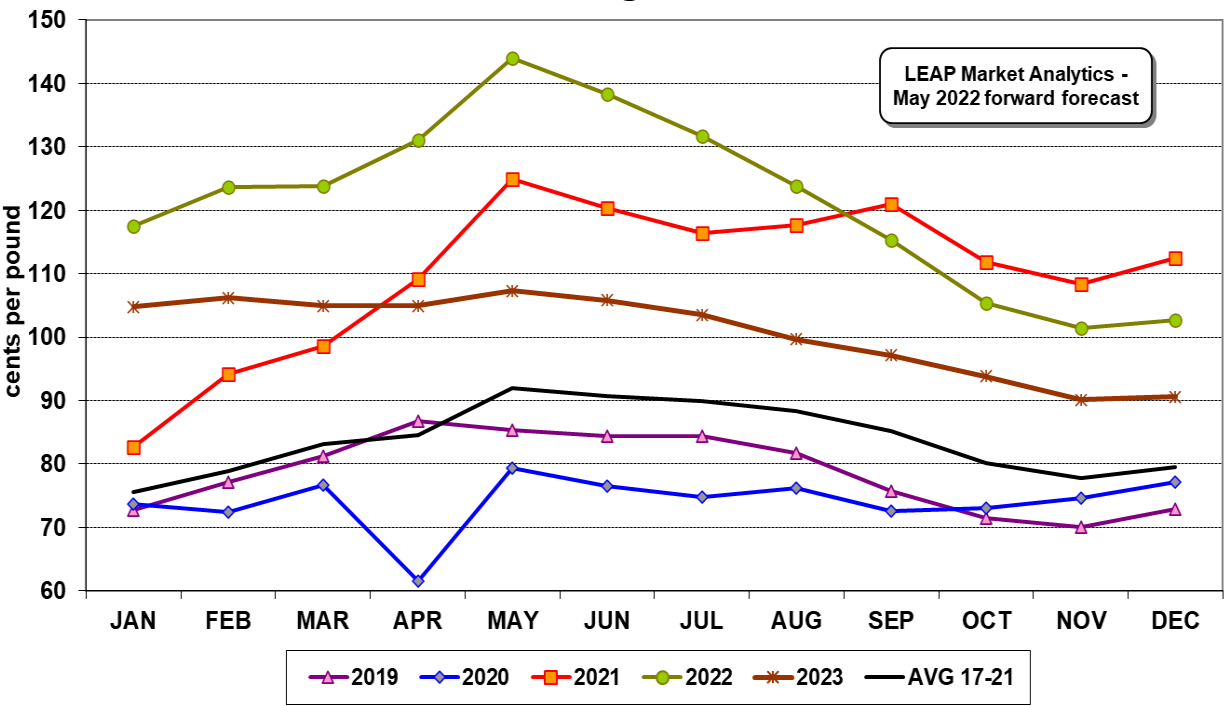
Implications for Composite Chicken Prices

LEAP Market Analytics Broiler Demand Index



Source: LEAP Market Analytics

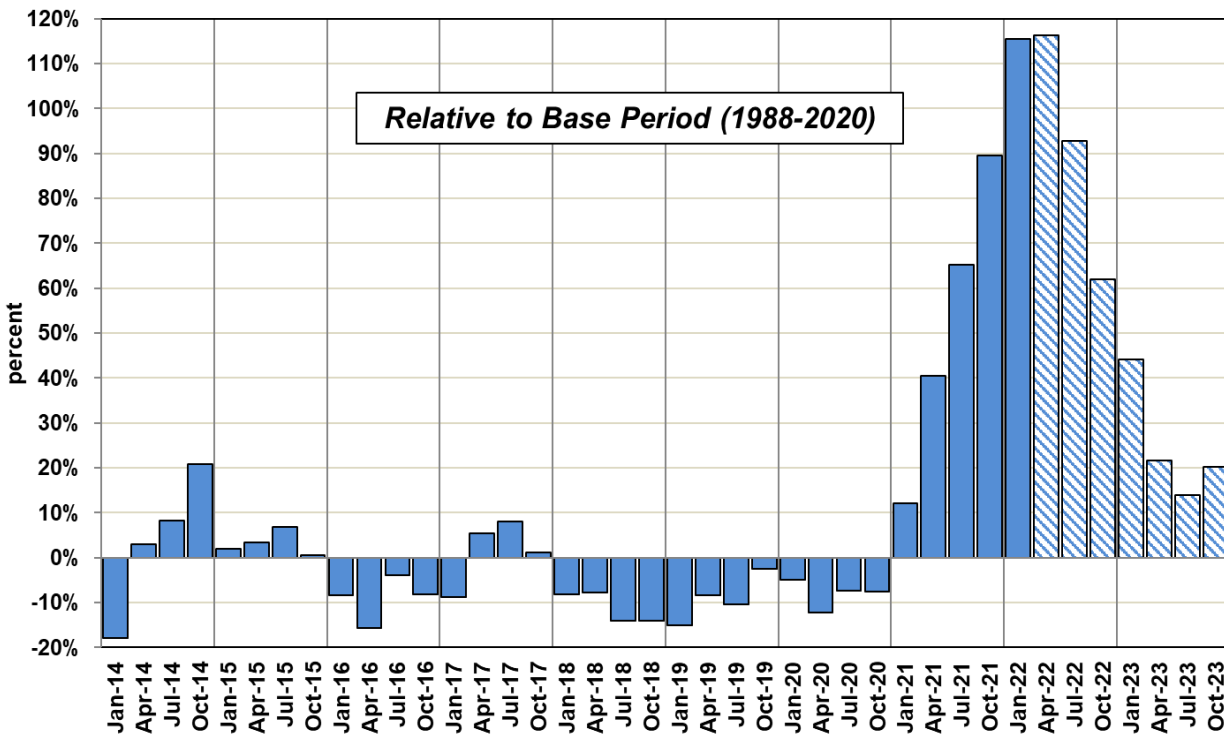
LEAP Markets Weighted Broiler Cutout



Sources: USDA-AMS, LEAP Market Analytics

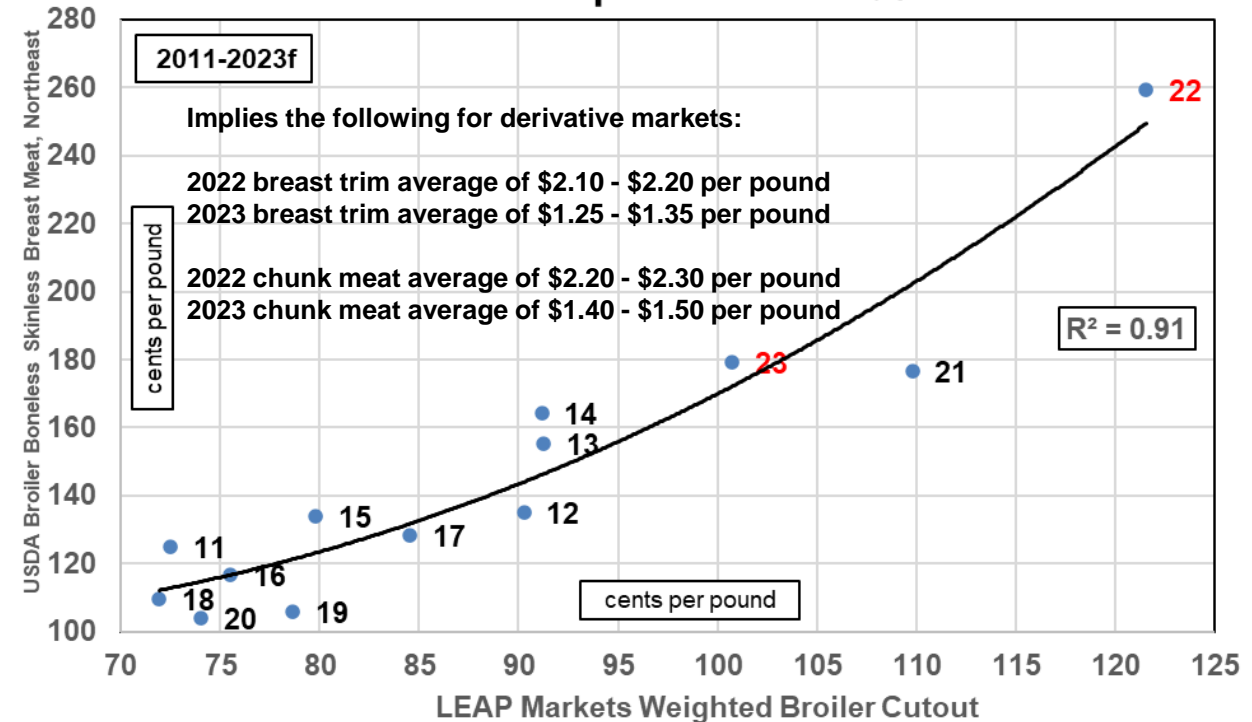
Chicken Breast Demand Has Been Unrelenting

LEAP Market Analytics Broiler Breast Meat Demand Index



Source: LEAP Market Analytics

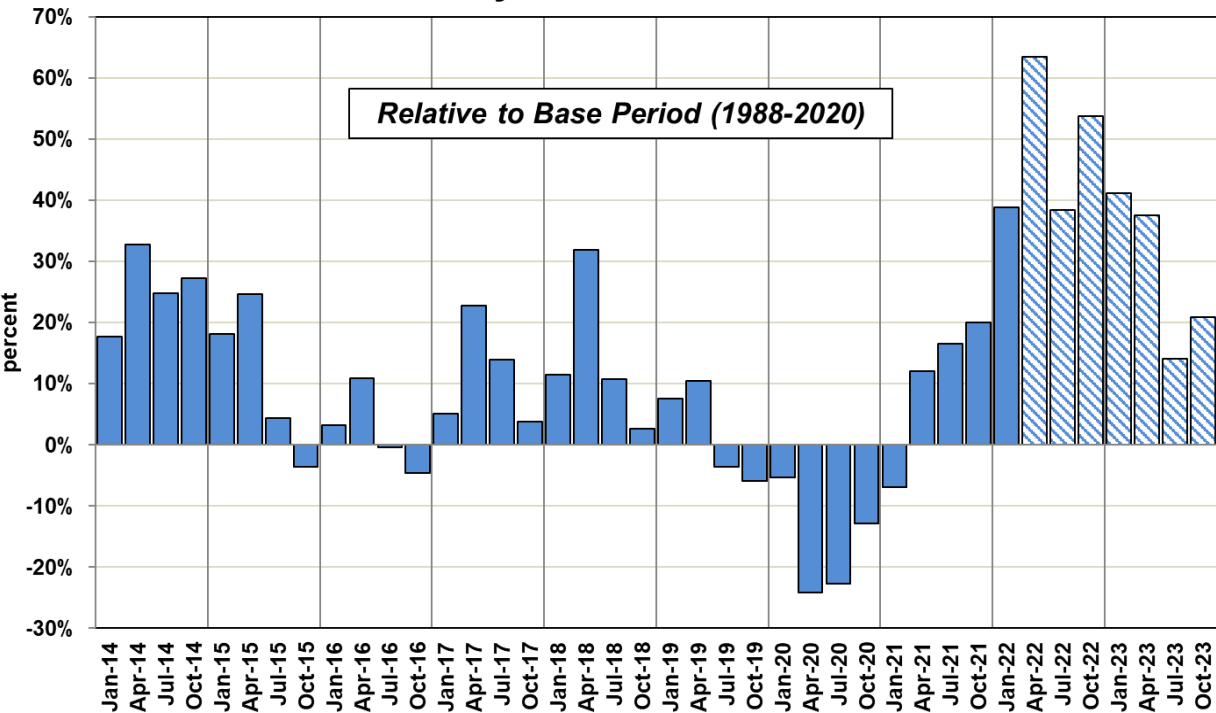
Price Comparison - Annual



Sources: USDA-AMS, LEAP Market Analytics

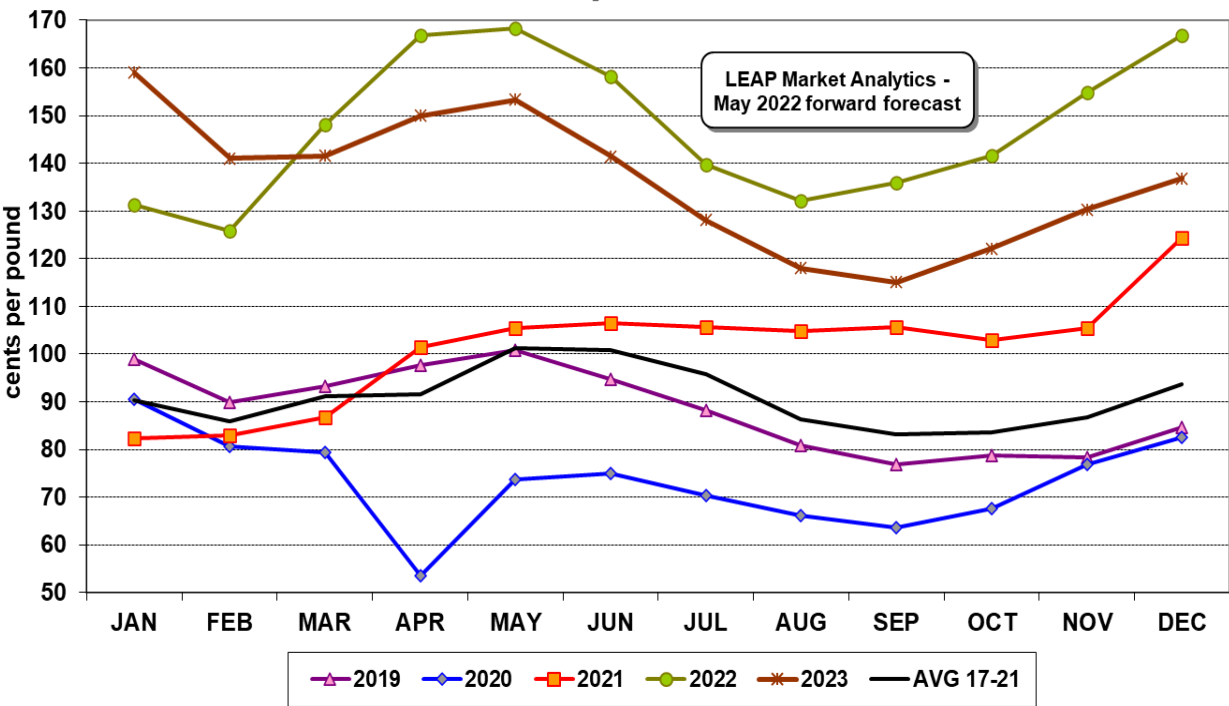
WOGs Represent Value and Receive a Demand Boost

LEAP Market Analytics Whole Broiler Demand Index



Source: LEAP Market Analytics

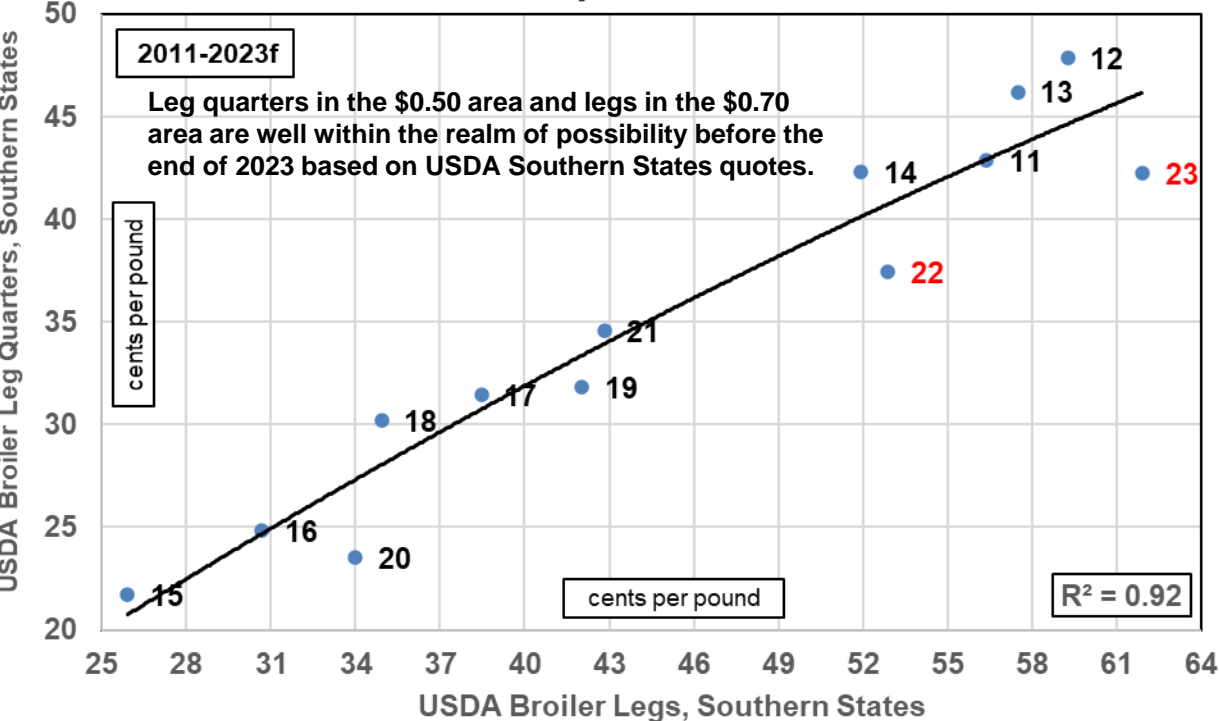
USDA National Composite Whole Broiler Price



Sources: USDA-AMS, LEAP Market Analytics

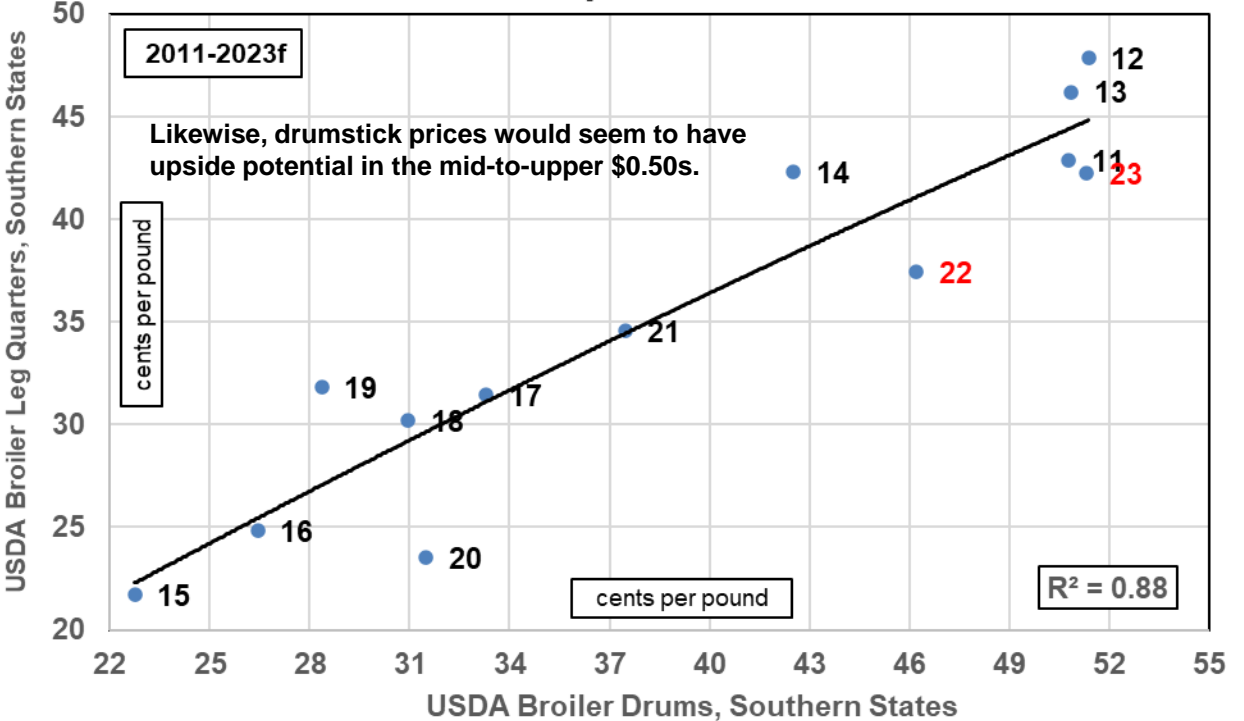
Clear Upside Potential (and Risk) for Dark Meat Prices

Price Comparison - Annual



Sources: USDA-AMS, LEAP Market Analytics

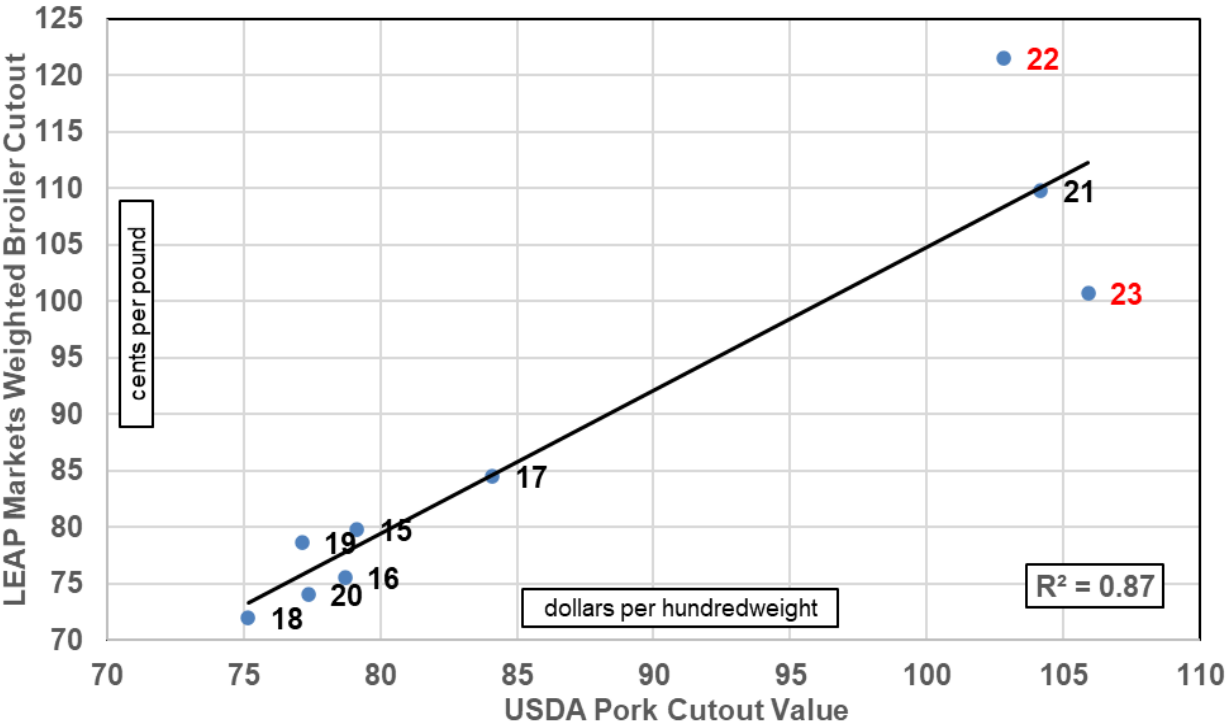
Price Comparison - Annual



Sources: USDA-AMS, LEAP Market Analytics

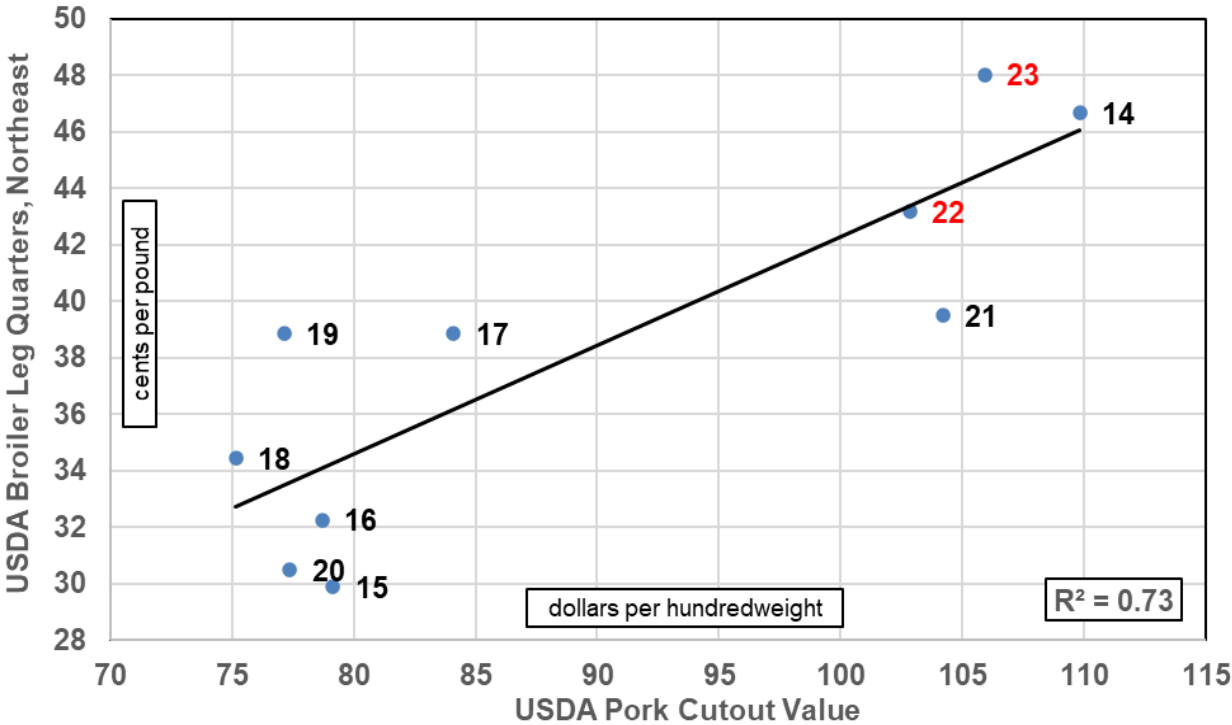
Chicken Dark Meat Reasonably Priced Against Pork

Price Comparison - Annual



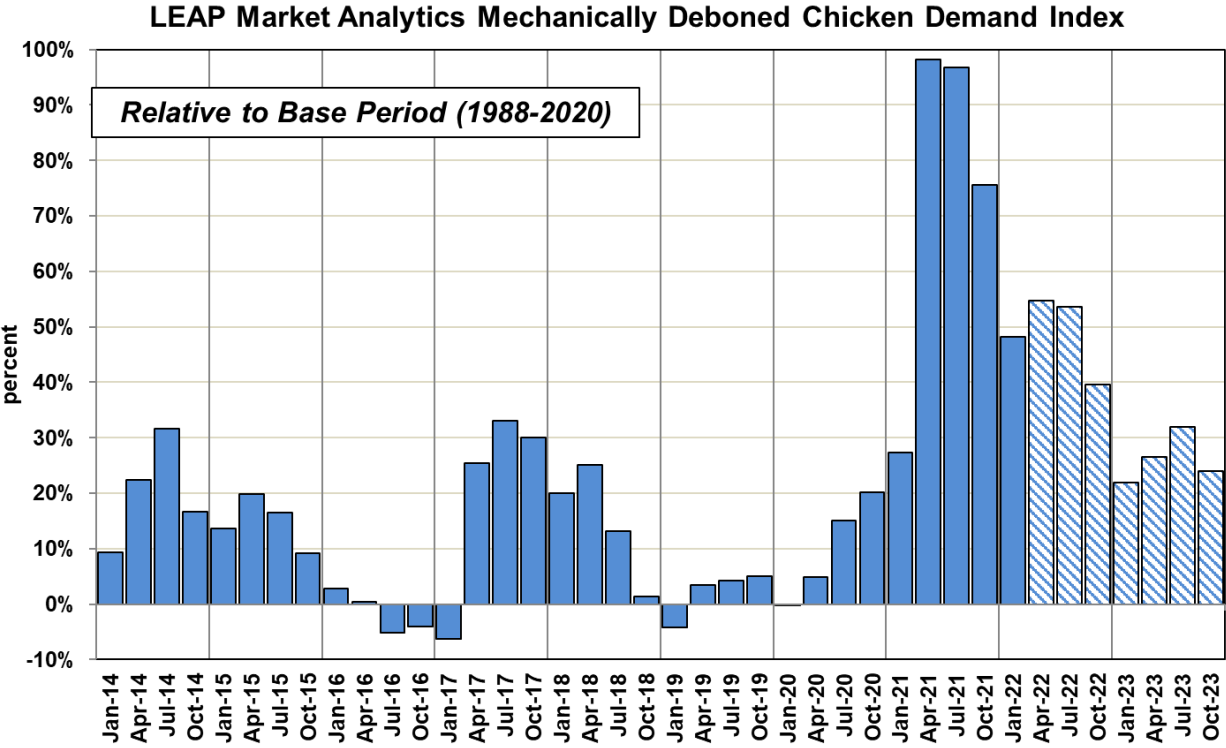
Sources, USDA, LEAP Market Analytics

Price Comparison - Annual

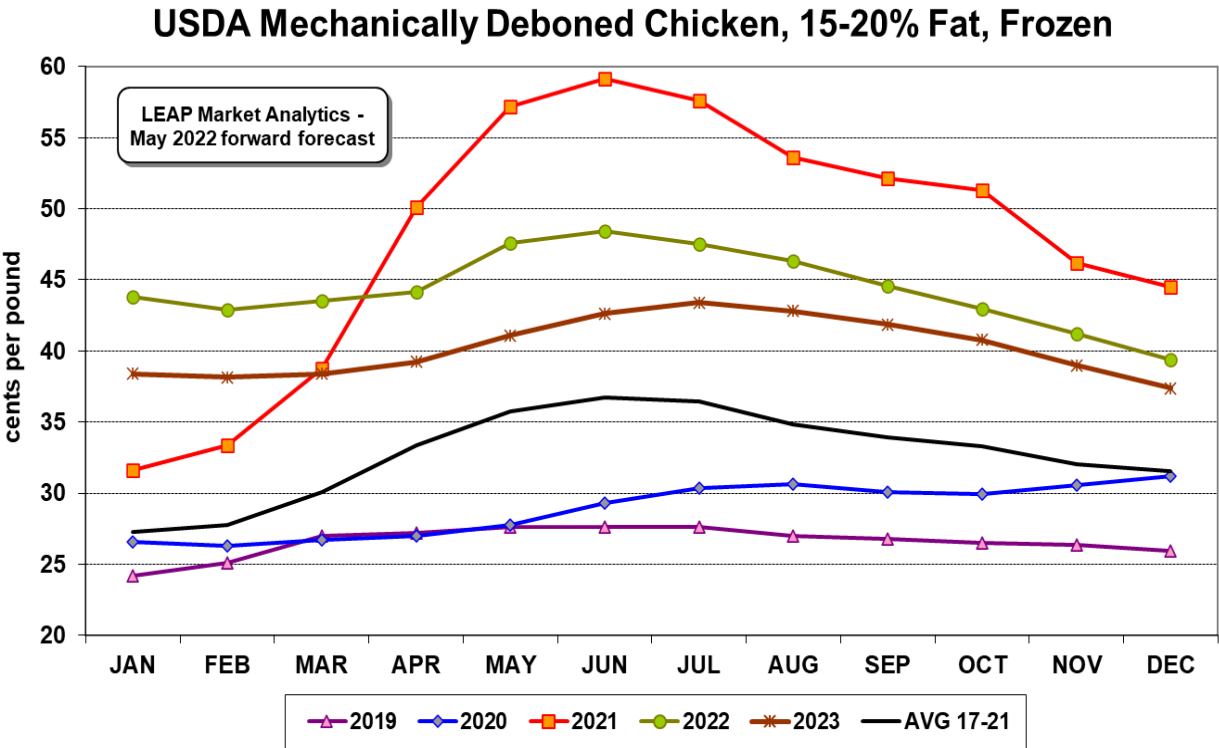


Sources: USDA, LEAP Market Analytics

MDC Demand Softens But Still Very Strong



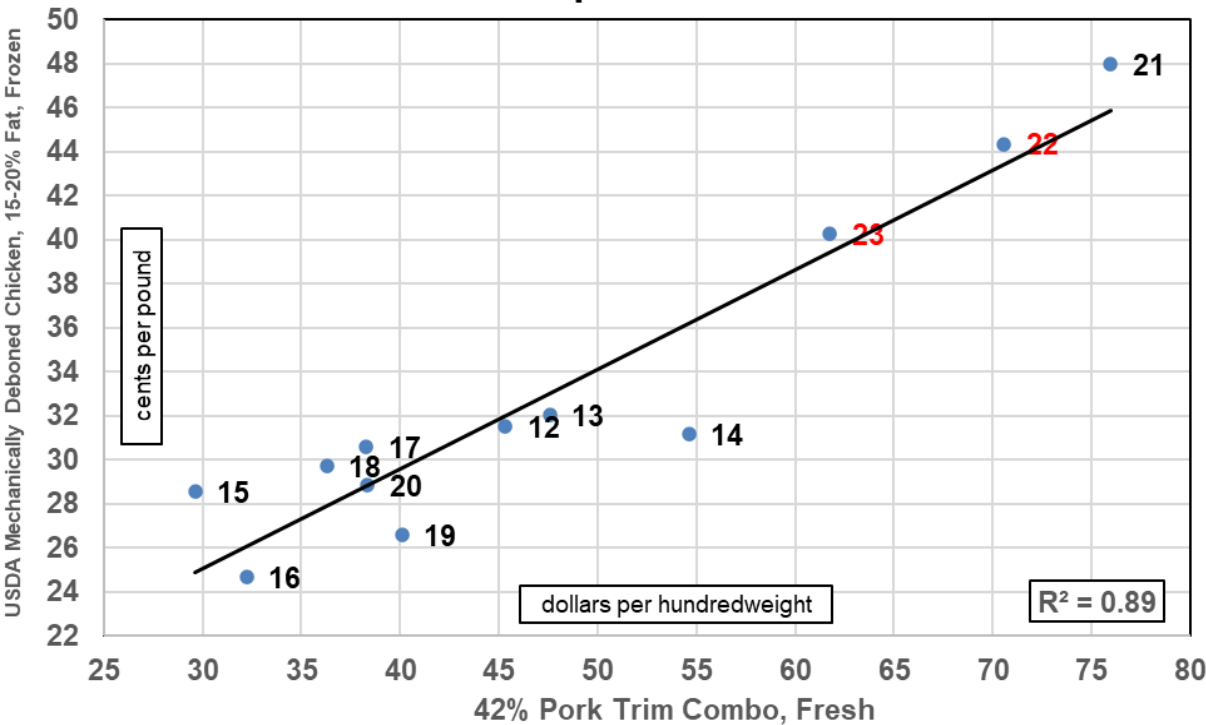
Source: LEAP Market Analytics



Sources: USDA-AMS, LEAP Market Analytics

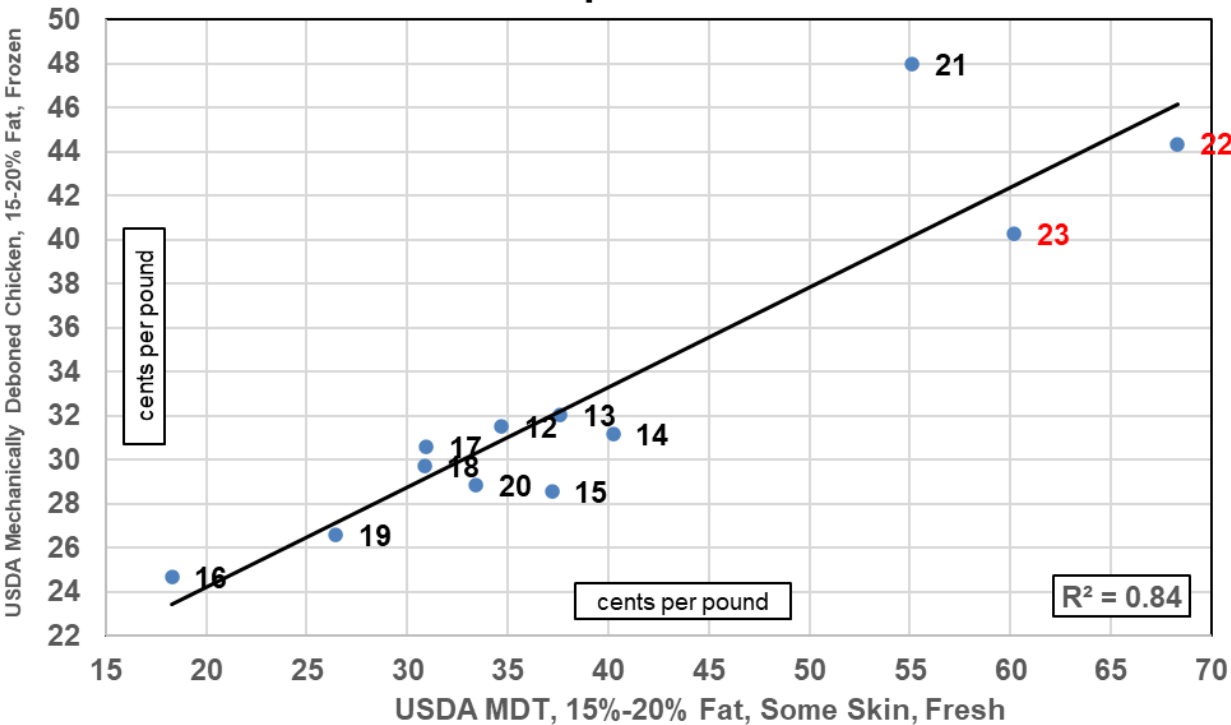
MDC Versus Competing Protein Categories

Price Comparison - Annual



Sources: USDA-AMS, LEAP Market Analytics

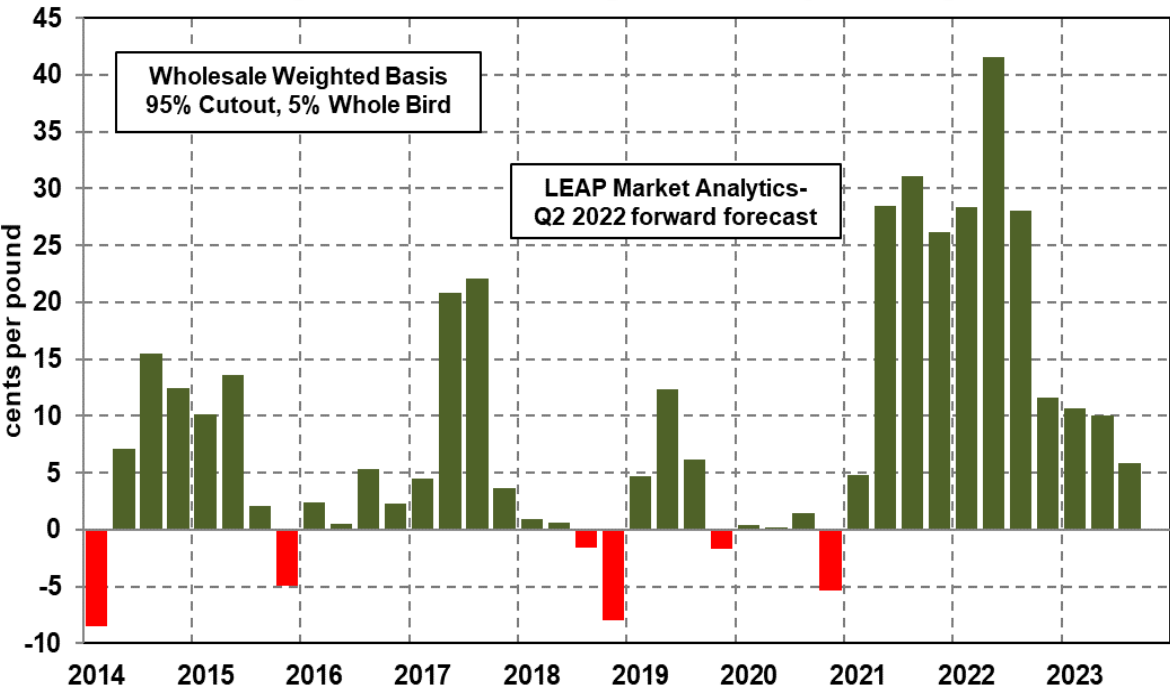
Price Comparison - Annual



Sources: USDA-AMS, LEAP Market Analytics

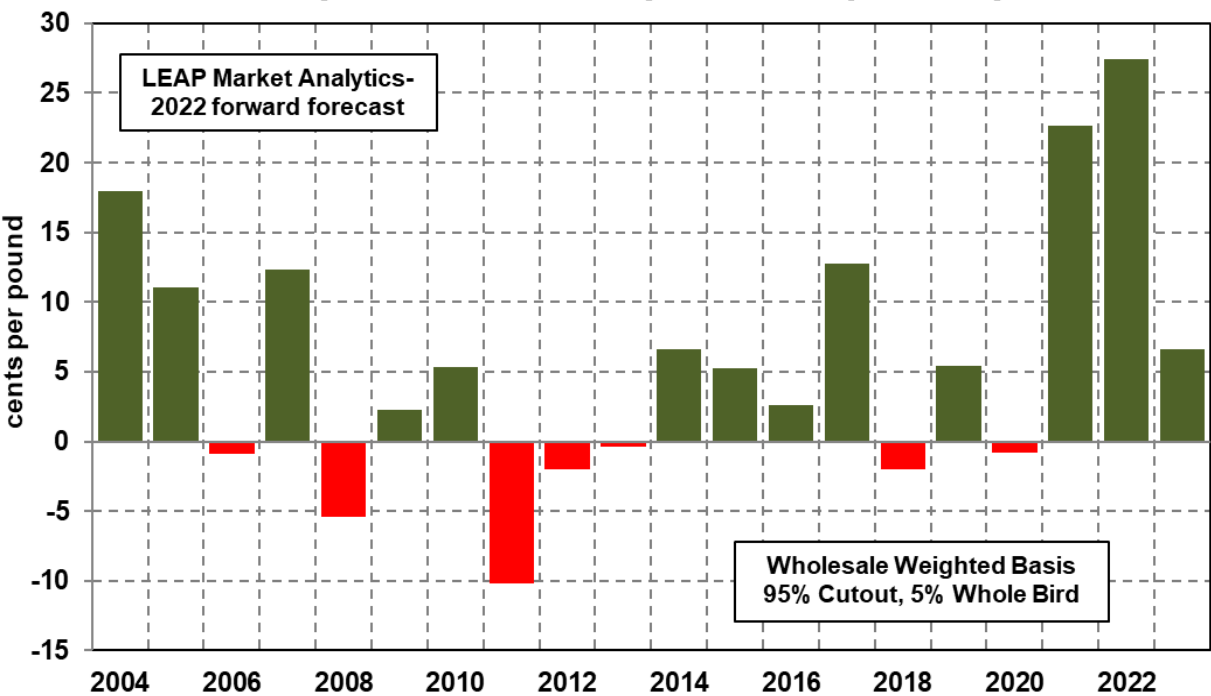
Industry Margins Strong But Poised to Get Squeezed by Soaring Input Costs and Plateauing Demand

Weighted Broiler Margin, Industry Average



Source: LEAP Market Analytics

Weighted Broiler Margin, Industry Average

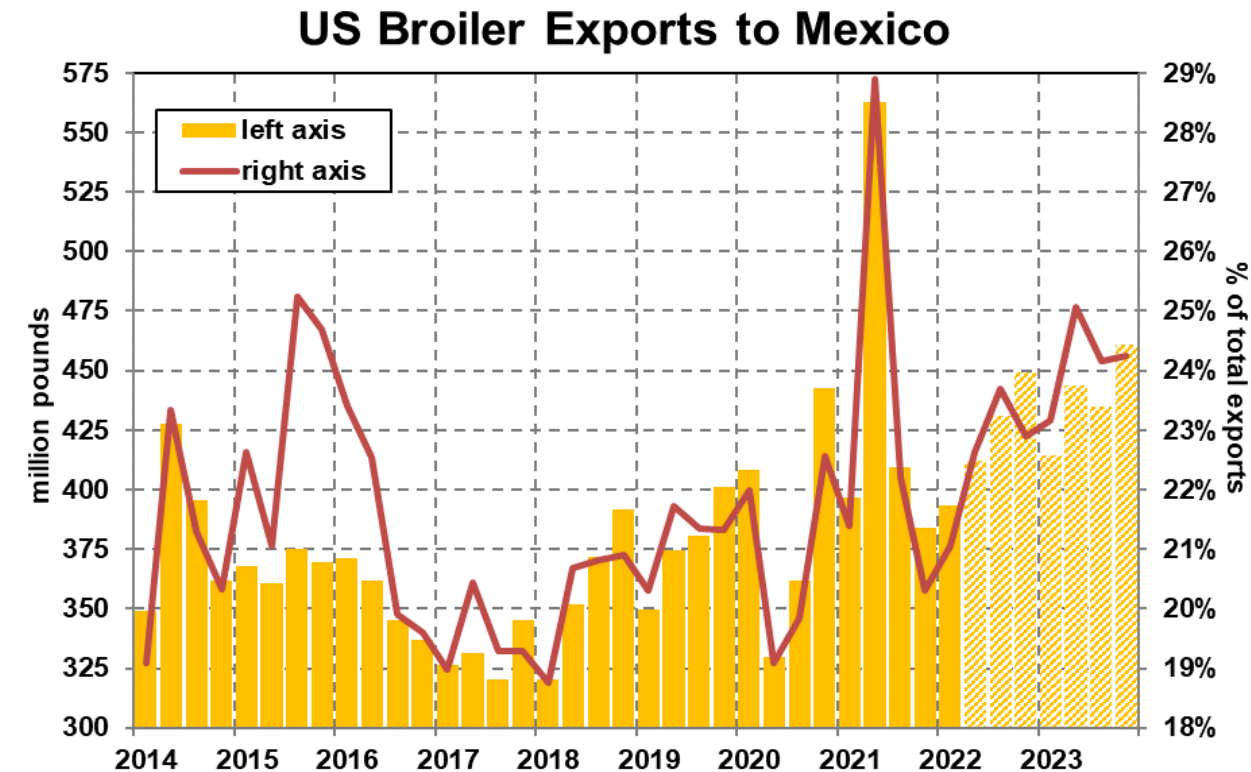


Source: LEAP Market Analytics

Chicken Trade and Supply Trends in Latin America

- Cuba is now the top destination for US chicken outside of Mexico.
- Mexico and Cuba combined account for more than 30% of total US chicken exports.
- Combined shipments to Mexico, the Caribbean, Central America, and the Chile/Colombia/Peru bloc of South America account for nearly 50% of total US chicken exports.
- Per capita chicken consumption exhibiting more of a sideways pattern in recent years in Central America and Chile/Colombia/Peru.
- Geopolitical realignments favor enhanced trade opportunities between the US and many Latin American partners.

Mexico Remains Top Destination for US Chicken

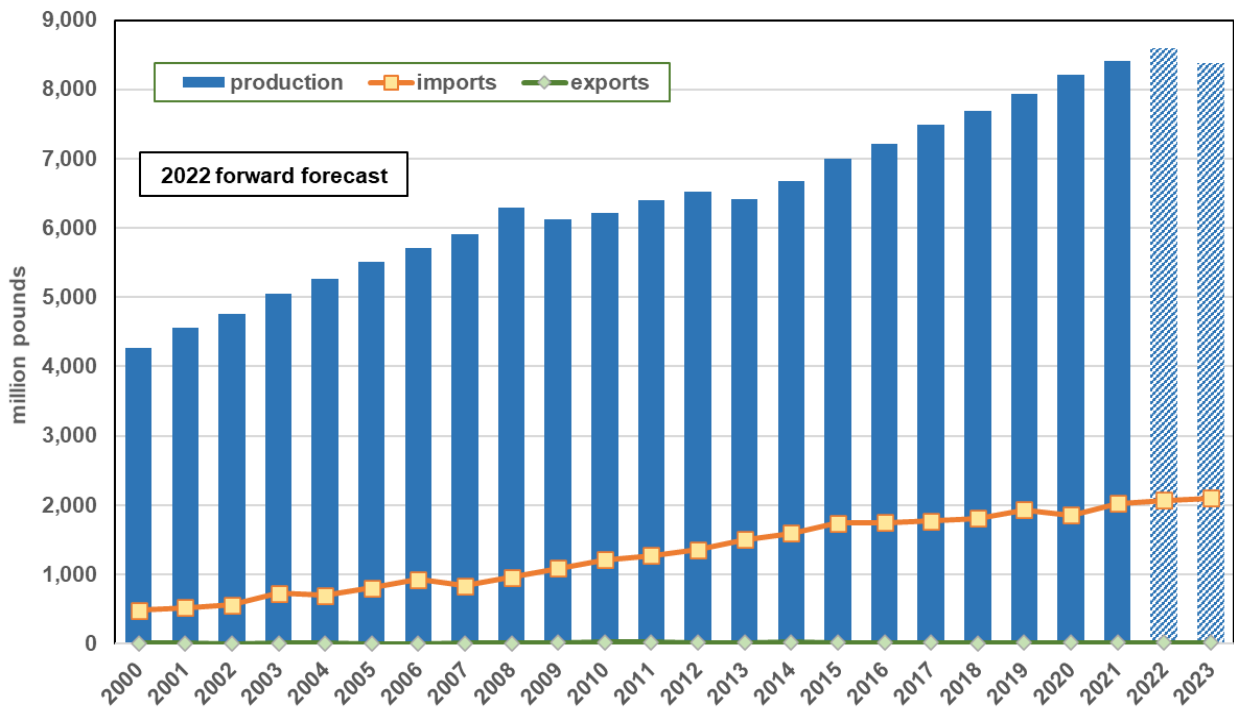


- Wild swings in trade the past couple of years, presumably related to disruptions to transportation networks because of the pandemic.
- Export trends remains broadly positive after languishing in 2016-17 following the last major HPAI outbreak.
- US-Mexico trade relations seemingly back on stronger footing after NAFTA was renegotiated and working through a few bumps early in the Trump Administration.

Sources: USDA-ERS, LEAP Market Analytics

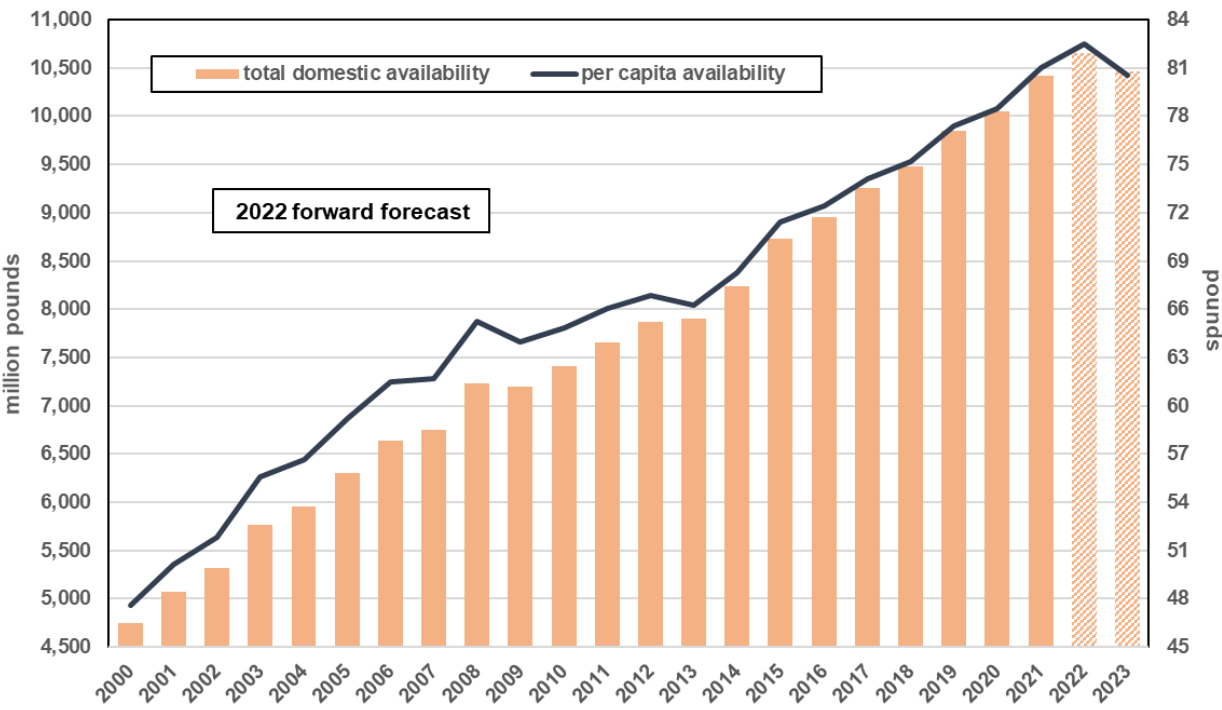
Chicken Supplies in Mexico to Shrink by 2023

Broiler Production and Trade in Mexico



Sources: USDA-FAS, LEAP Market Analytics

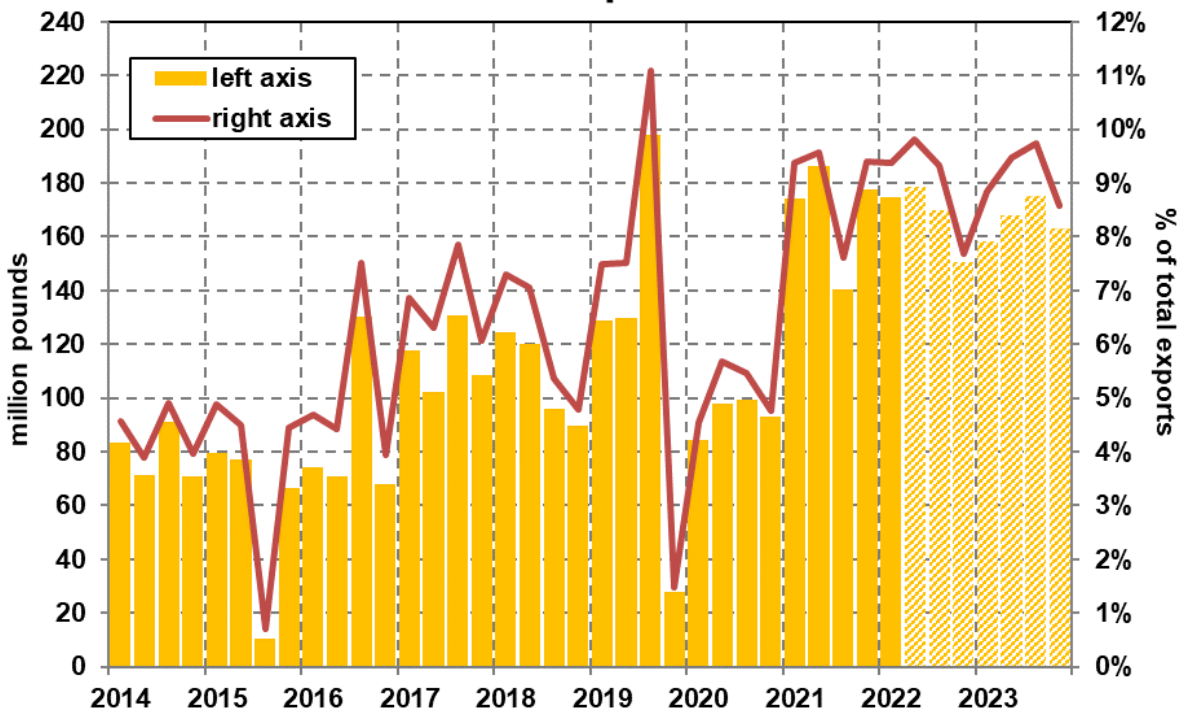
Total Domestic and Per Capita Availability of Broiler Meat in Mexico



Sources: USDA-FAS, LEAP Market Analytics

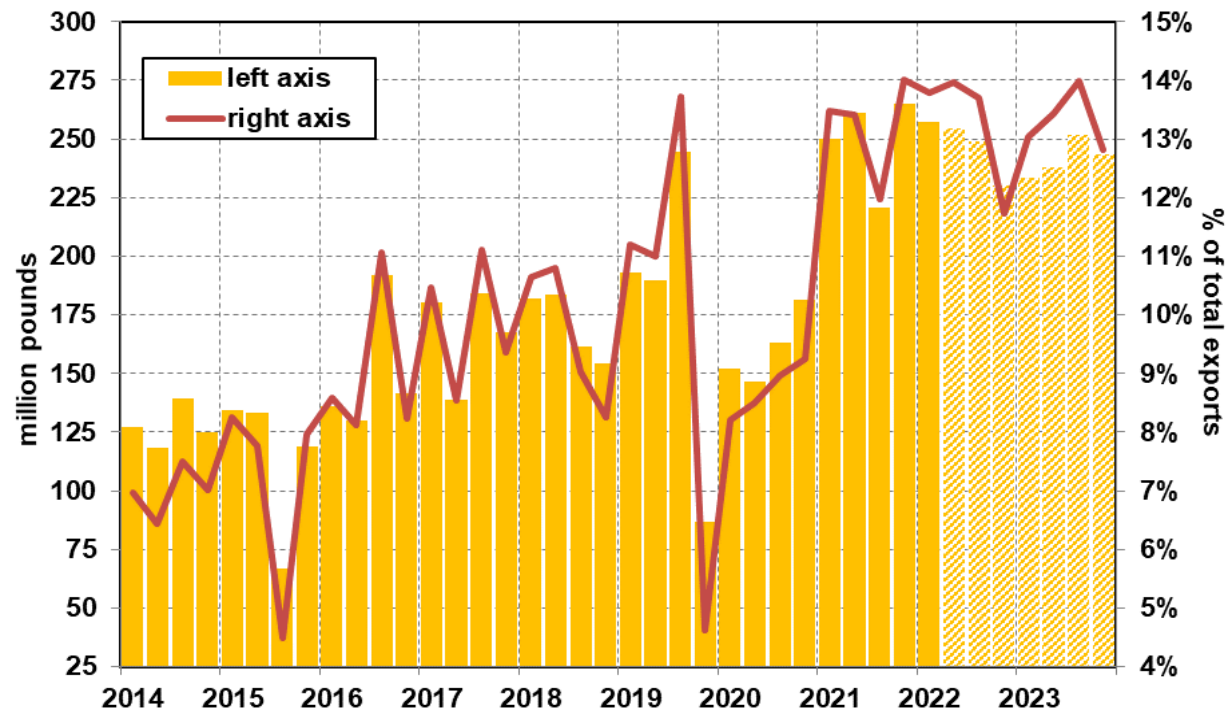
Cuba Holds Dominant Position in US Export Program

US Broiler Exports to Cuba



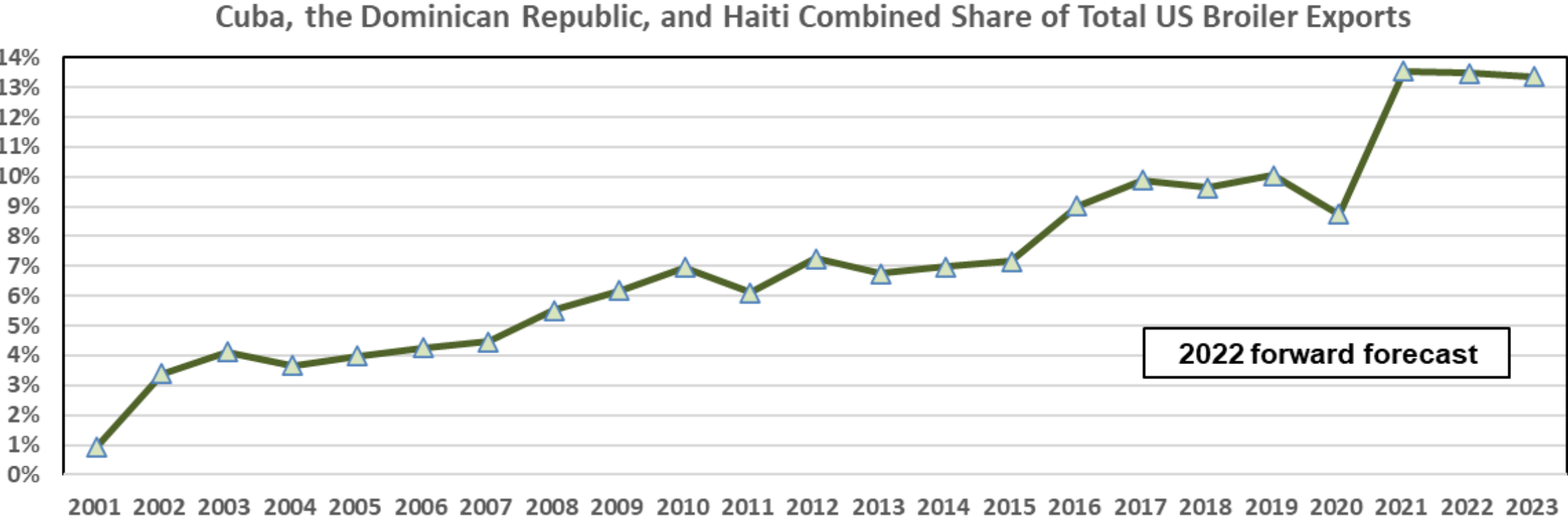
Sources: USDA-ERS, LEAP Market Analytics

US Broiler Exports to Cuba, the Dominican Republic, and Haiti



Sources: USDA-FAS, LEAP Market Analytics

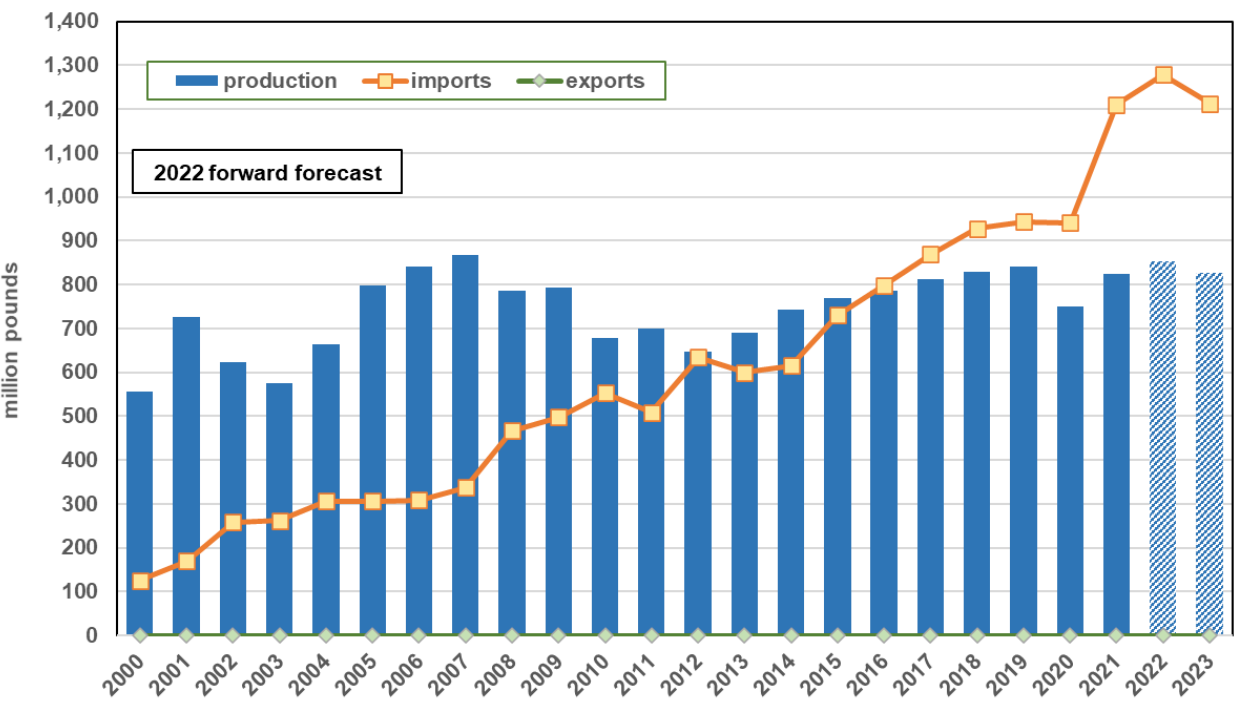
Caribbean Absorbs 13% of US Chicken Exports in 2021



Sources: USDA-ERS, LEAP Market Analytics

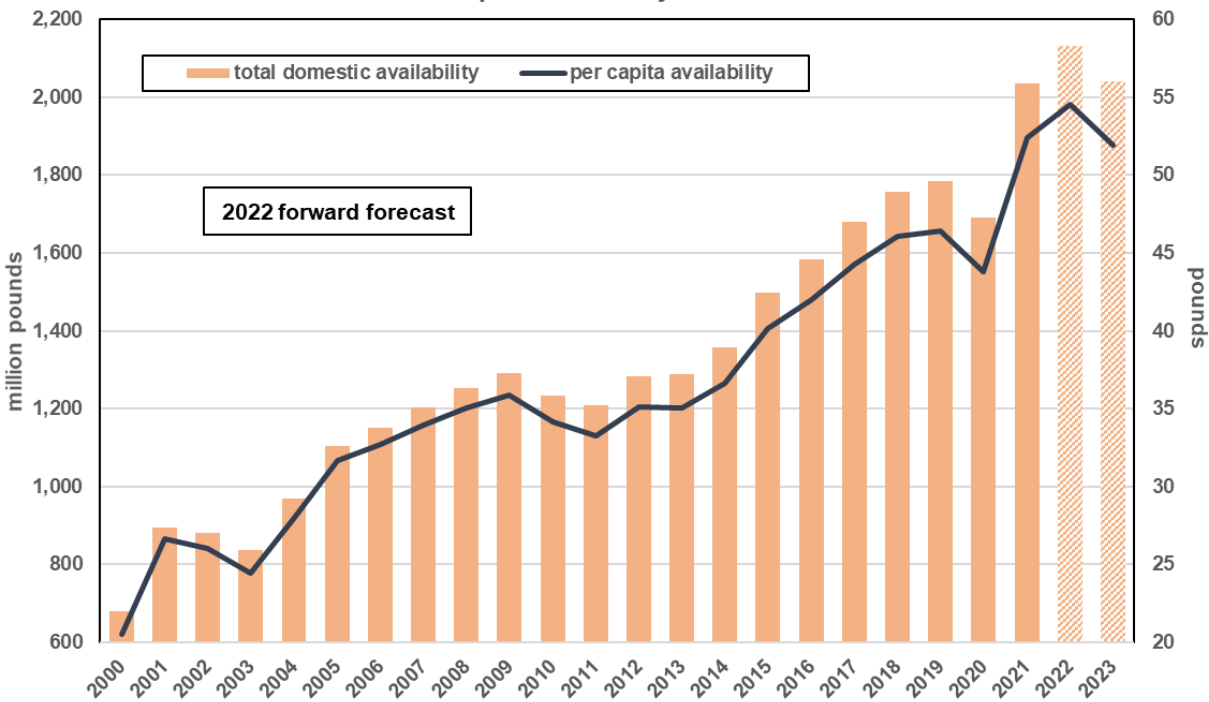
Caribbean Chicken Consumption Trends Very Positive But Likely to Ebb Near-Term

Broiler Production and Trade in the Caribbean



Sources: USDA-FAS, LEAP Market Analytics

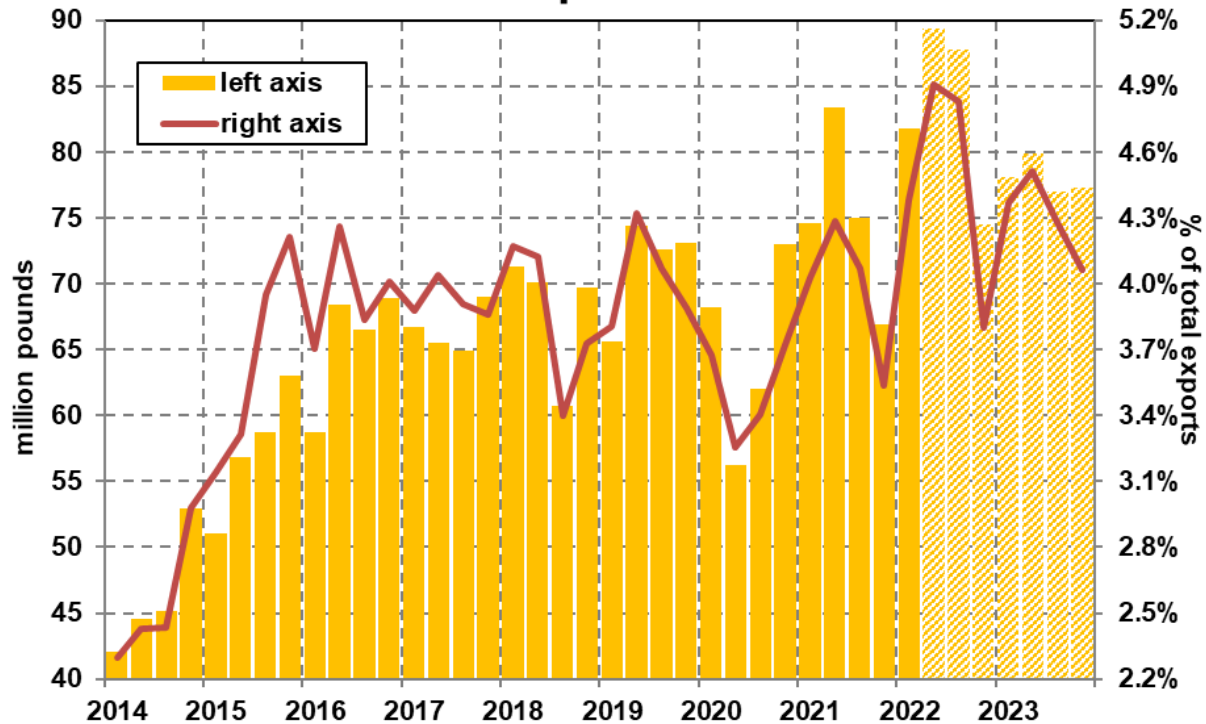
Total Domestic and Per Capita Availability of Broiler Meat in the Caribbean



Sources: USDA-FAS, LEAP Market Analytics

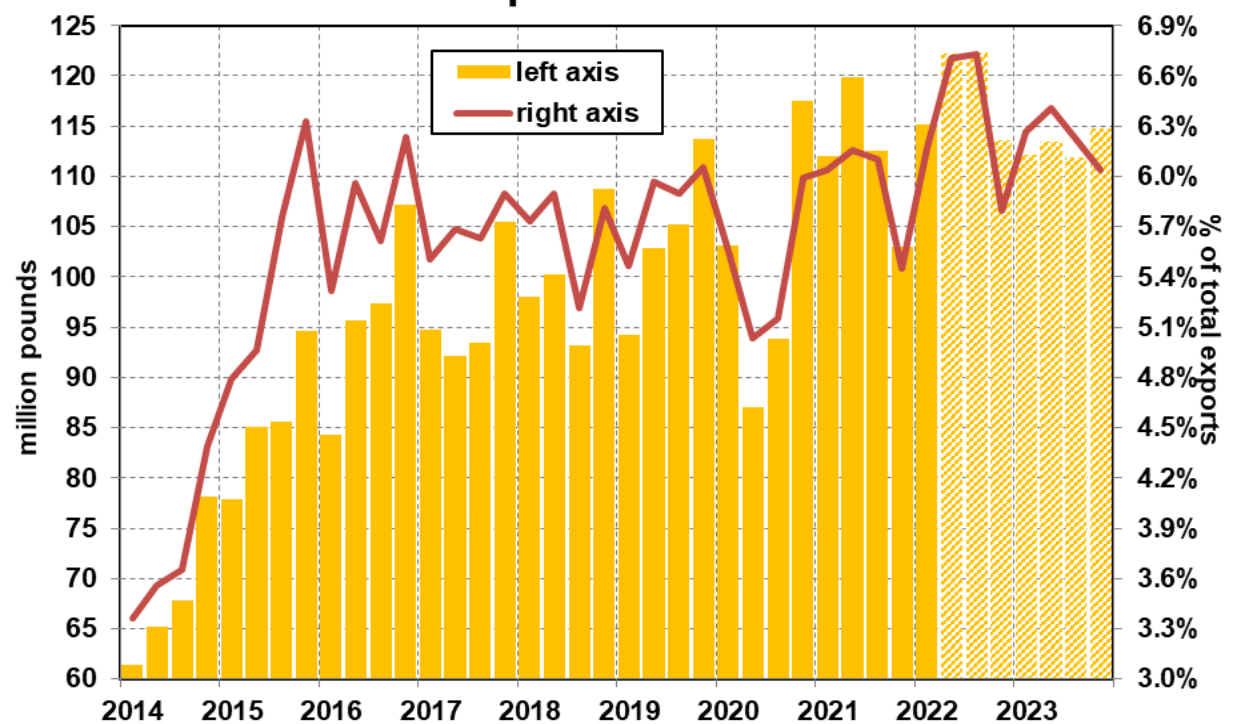
Central America Opens Up Further to US Chicken

US Broiler Exports to Guatemala



Sources: USDA-ERS, LEAP Market Analytics

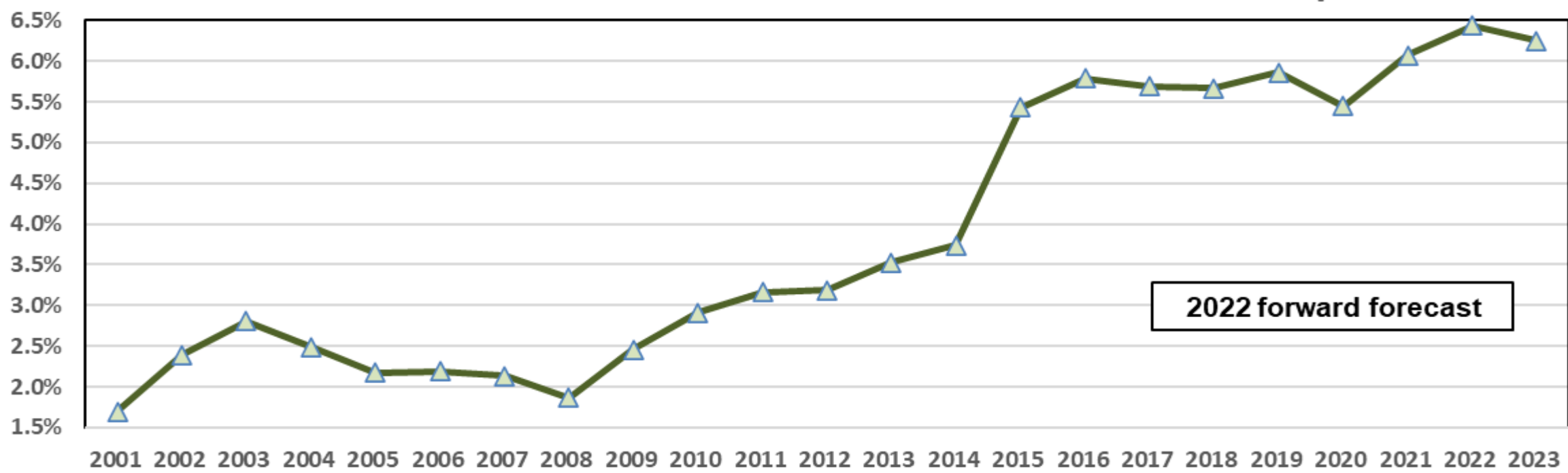
US Broiler Exports to Central America



Sources: USDA-FAS, LEAP Market Analytics

Highest Share Ever of US Chicken to be Exported to Central America in 2022

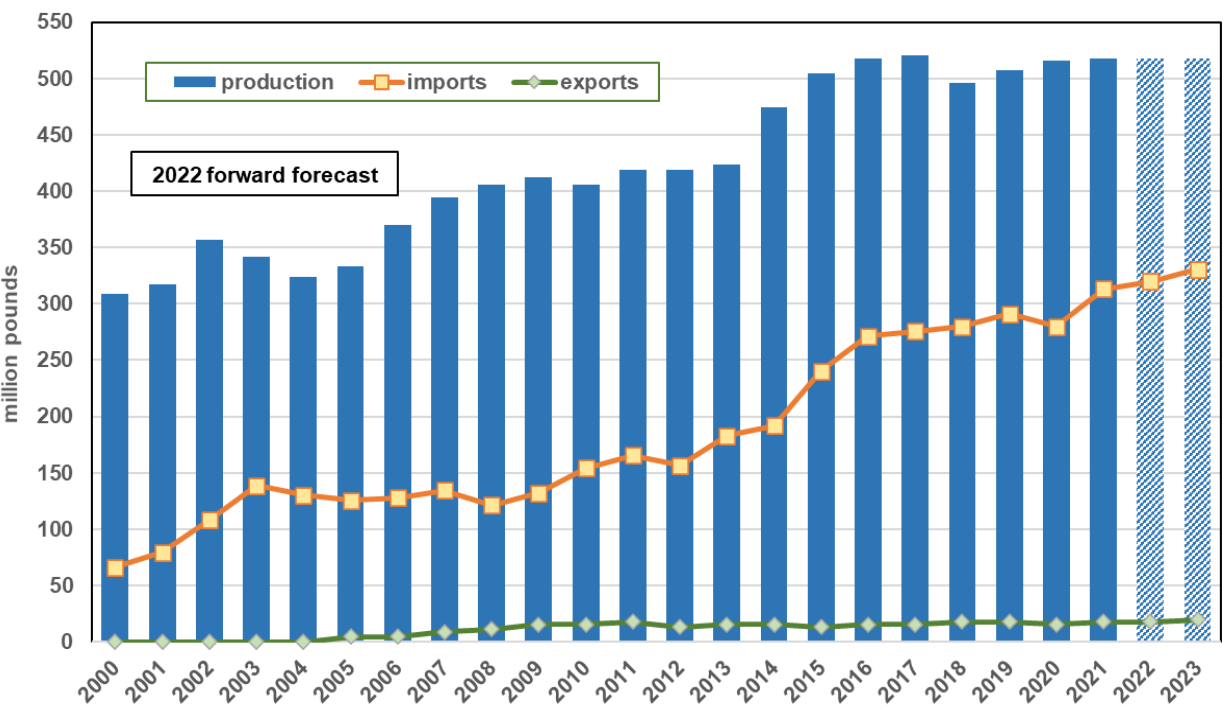
Central America Combined Share of Total US Broiler Exports



Sources: USDA-ERS, LEAP Market Analytics

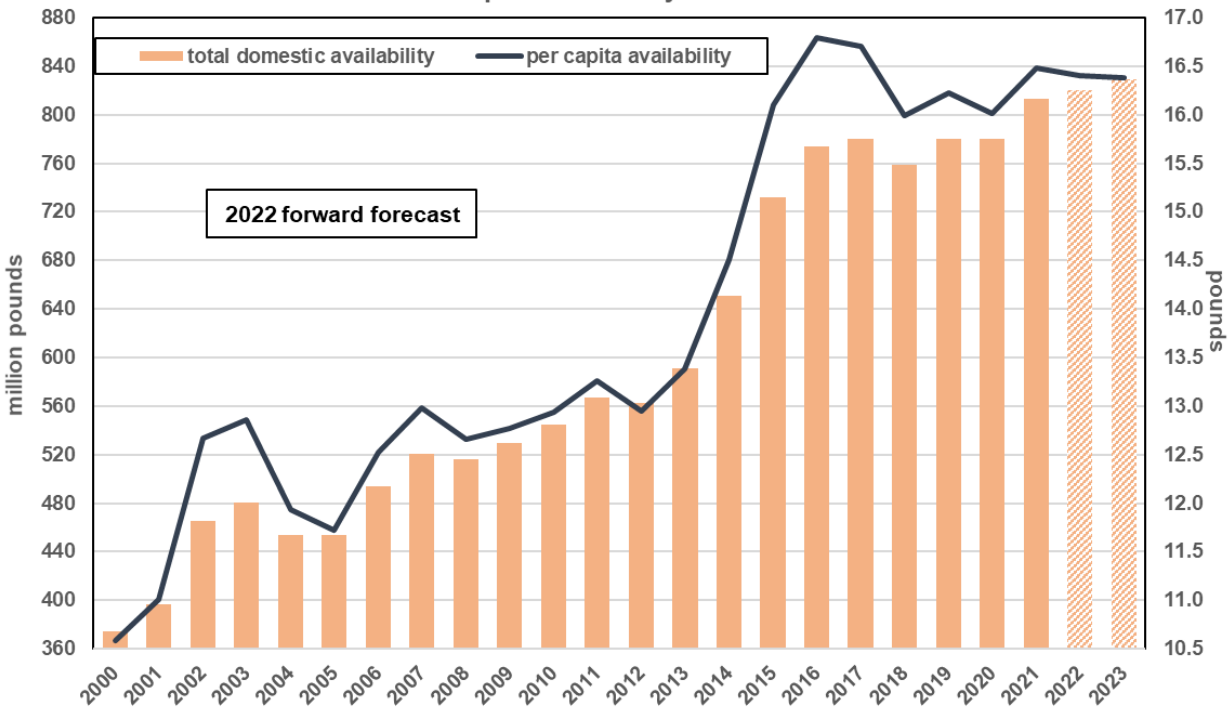
Chicken Production and Consumption in Central America Is Increasingly Trending Sideways

Broiler Production and Trade in Central America



Sources: USDA-FAS, LEAP Market Analytics

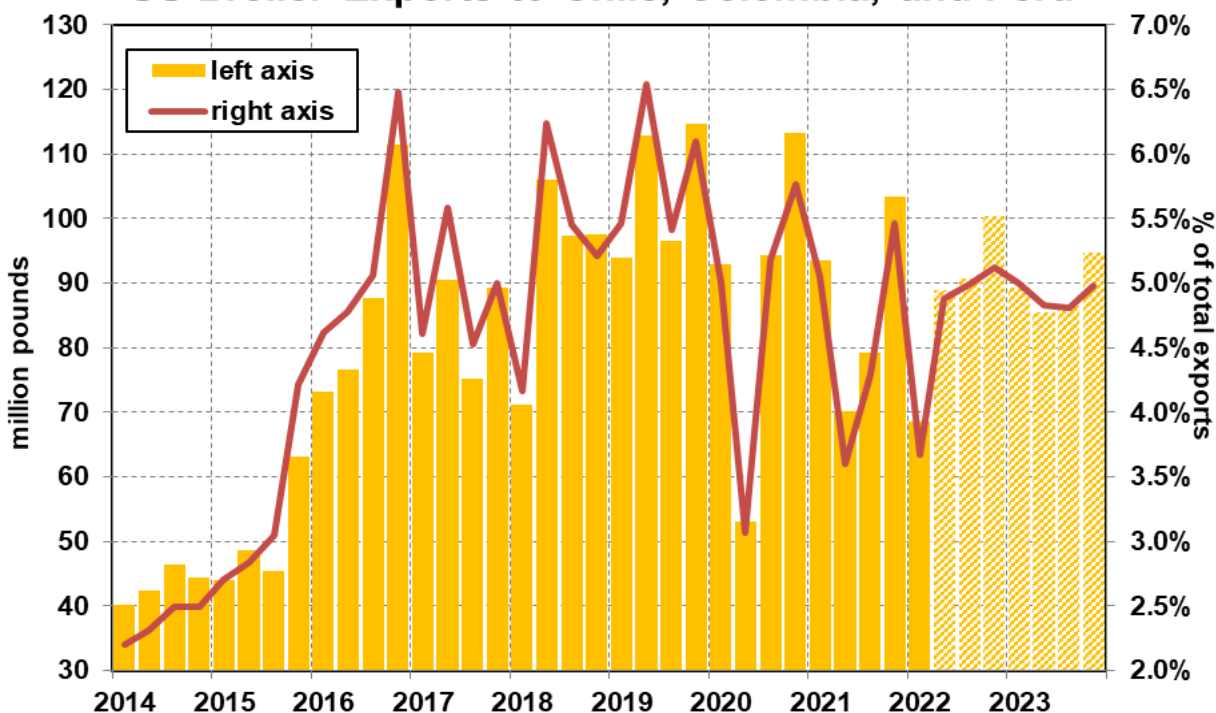
Total Domestic and Per Capita Availability of Broiler Meat in Central America



Sources: USDA-FAS, LEAP Market Analytics

Steady Pattern With South American Trade Partners

US Broiler Exports to Chile, Colombia, and Peru

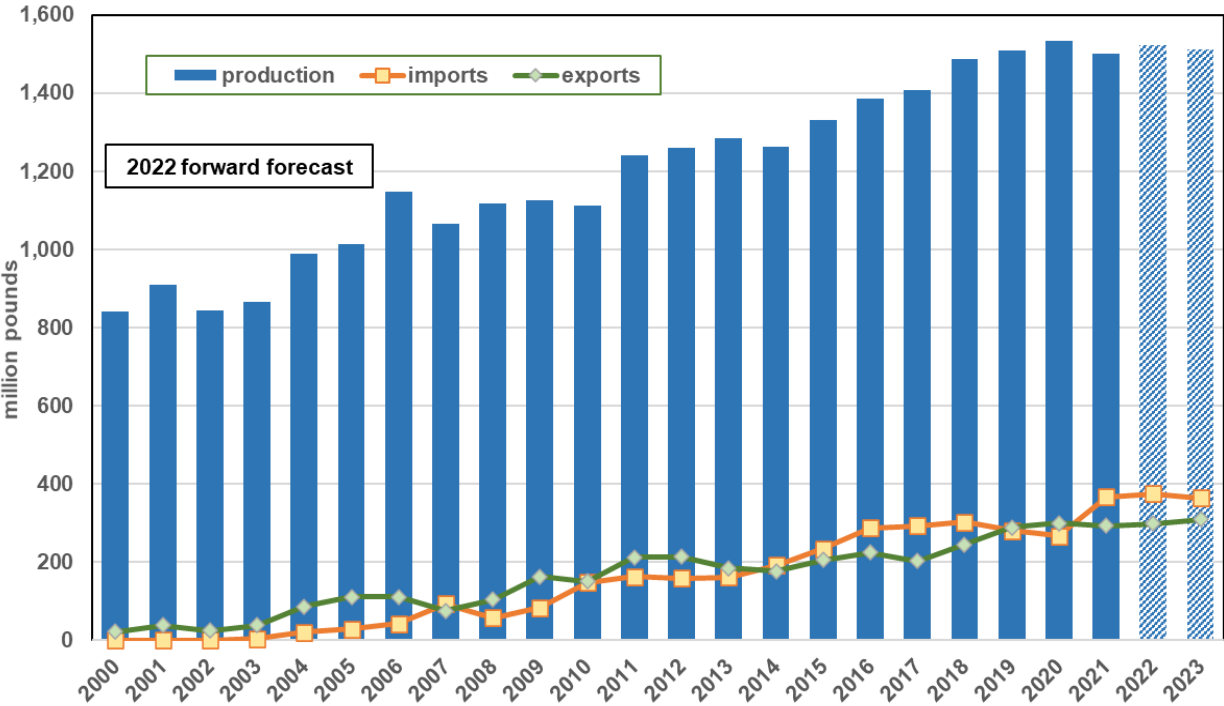


- US relied much more heavily on South American trade partners following HPAI outbreak of 2015.
- Shipments are occasionally erratic, but to be fair, the biggest swings occurred during the pandemic.
- Chile, Colombia, and Peru represent a combined share of around 5% of total US chicken exports.
- There may be expanding opportunities for this bloc of countries to export more chicken to the US soon.

Sources: USDA-ERS, LEAP Market Analytics

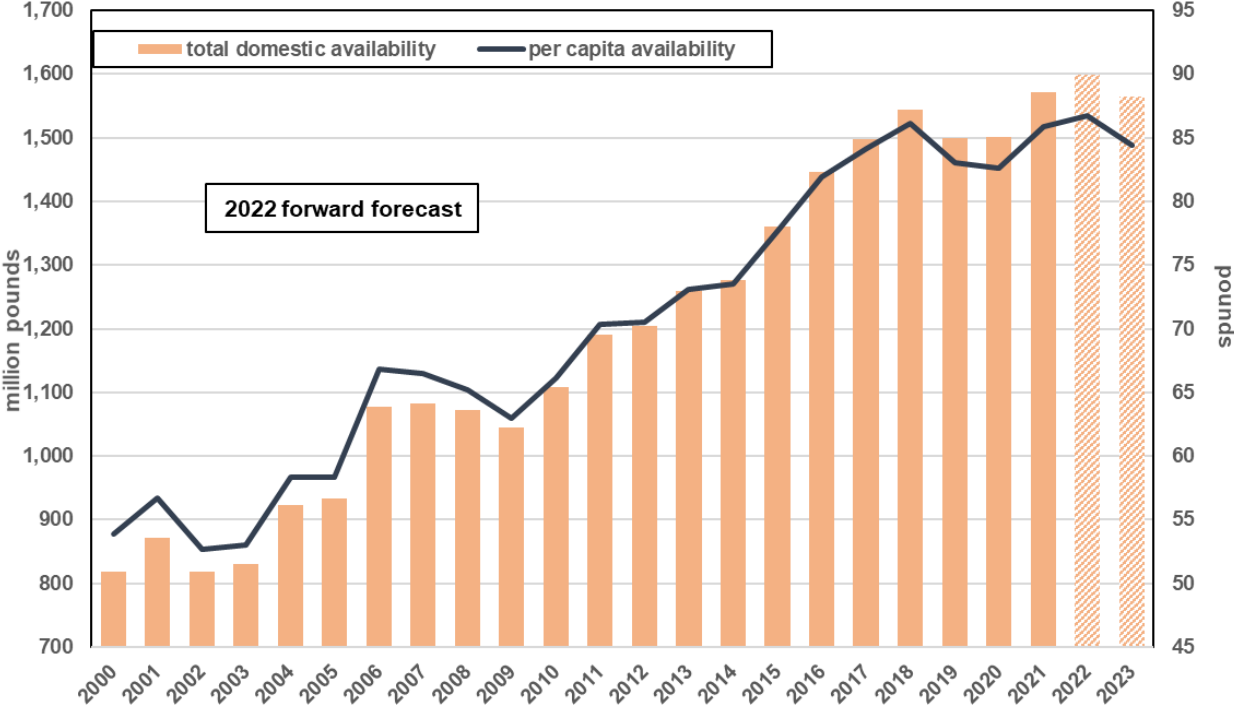
Chilean Chicken Production and Consumption Maturing

Broiler Production and Trade in Chile



Sources: USDA-FAS, LEAP Market Analytics

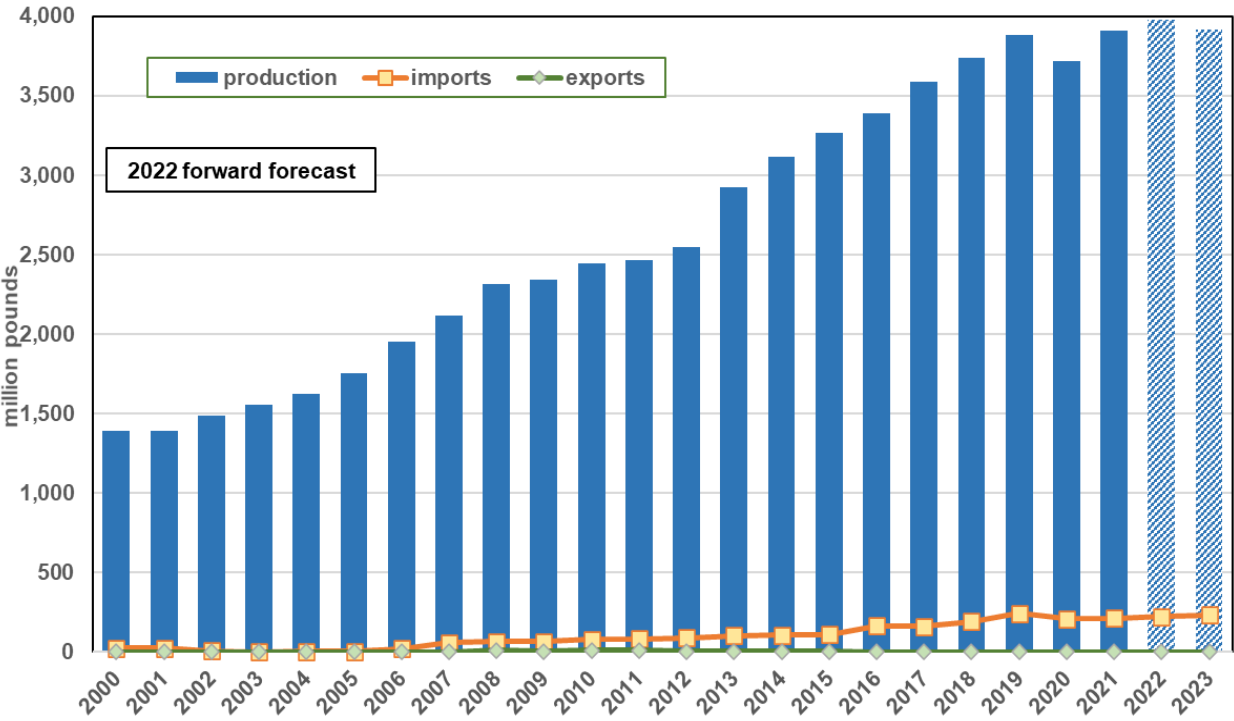
Total Domestic and Per Capita Availability of Broiler Meat in Chile



Sources: USDA-FAS, LEAP Market Analytics

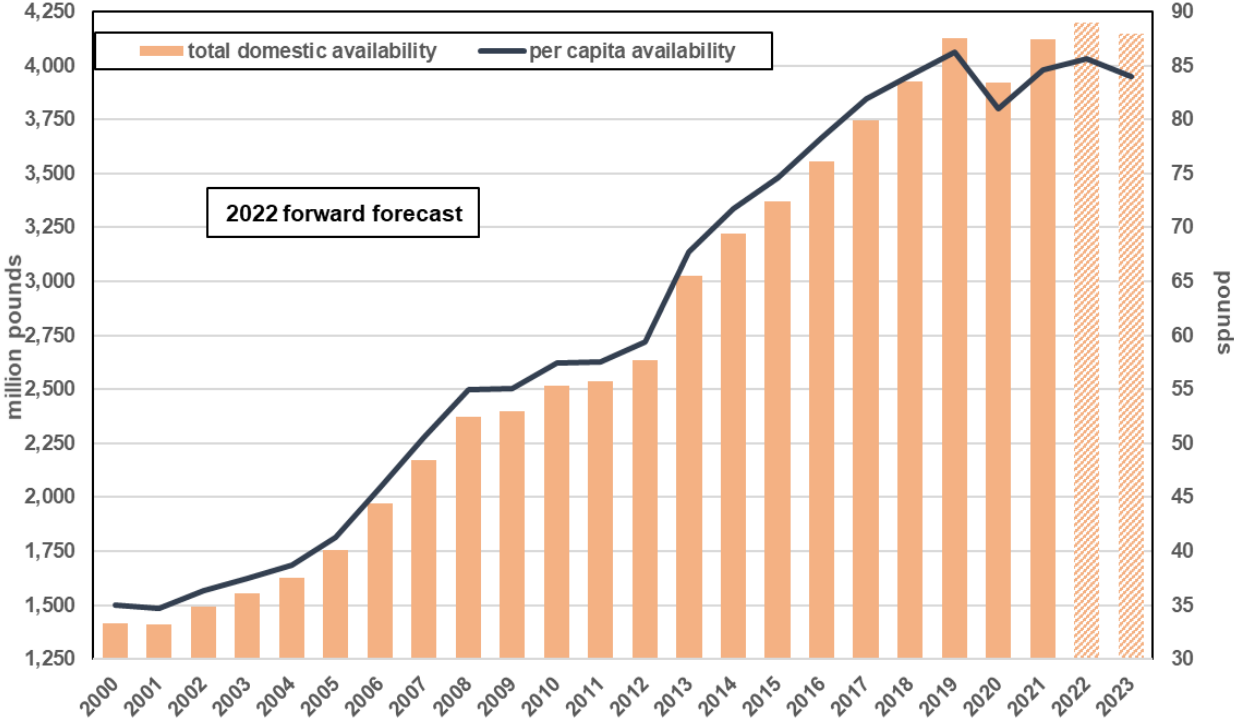
Colombian Chicken Consumption Also Plateauing

Broiler Production and Trade in Colombia



Sources: USDA-FAS, LEAP Market Analytics

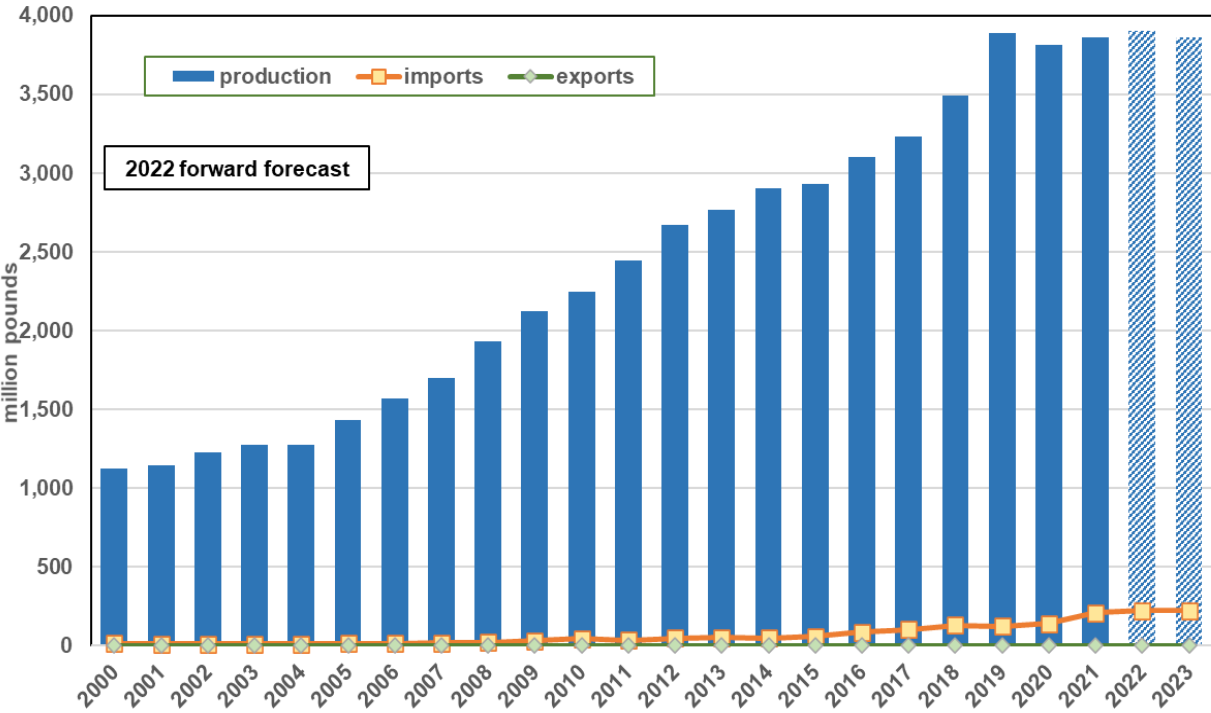
Total Domestic and Per Capita Availability of Broiler Meat in Colombia



Sources: USDA-FAS, LEAP Market Analytics

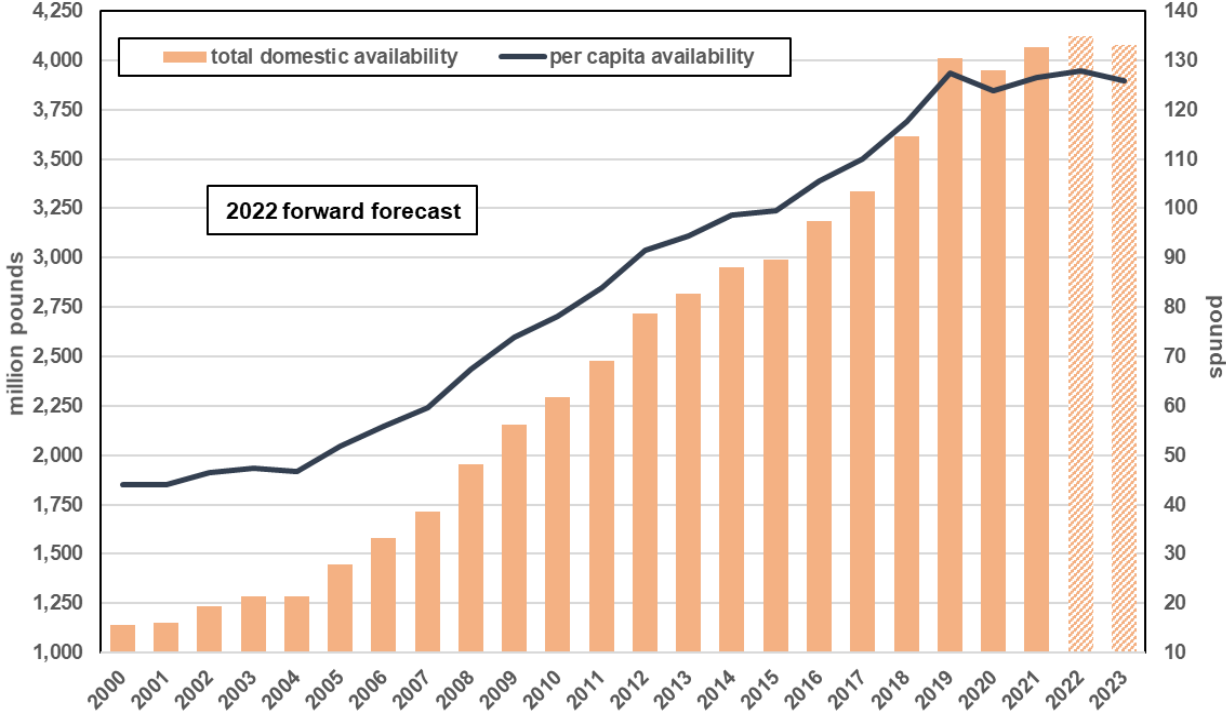
Peruvian Chicken Consumption Beginning to Flatten but Among Highest in the World

Broiler Production and Trade in Peru



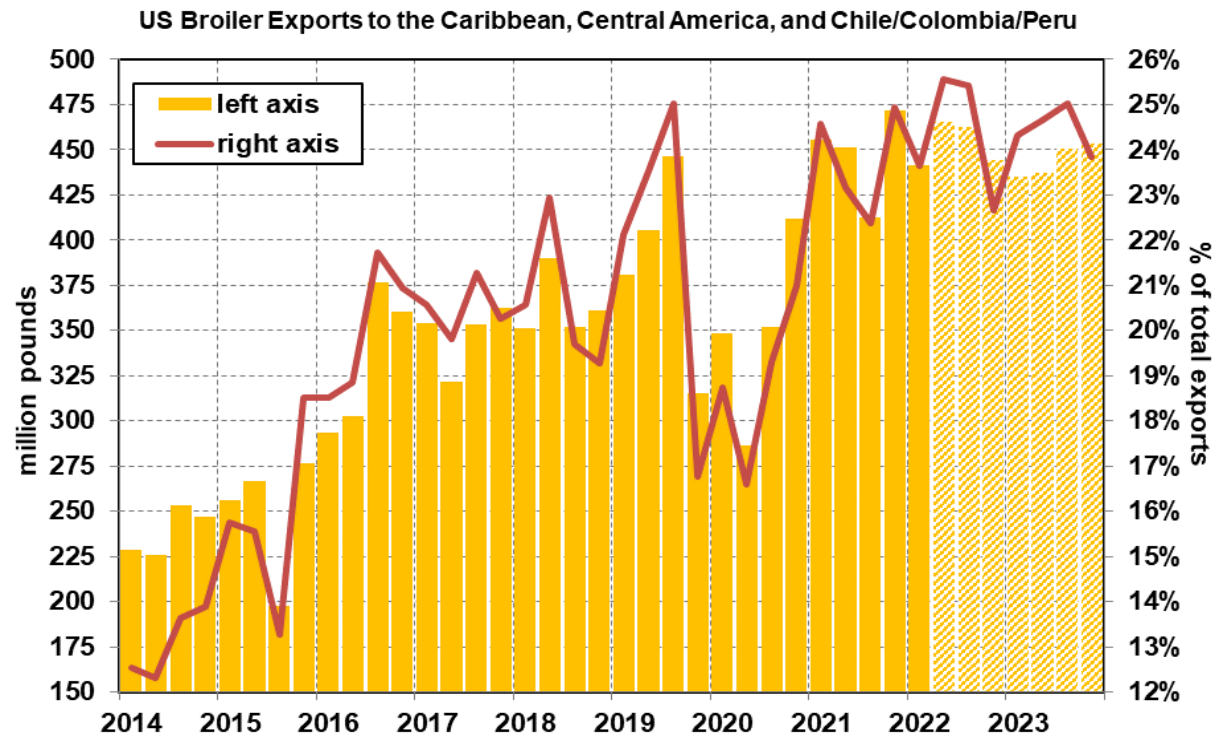
Sources: USDA-FAS, LEAP Market Analytics

Total Domestic and Per Capita Availability of Broiler Meat in Peru



Sources: USDA-FAS, LEAP Market Analytics

Latin America's Share of US Chicken Exports Very Near an All-Time High

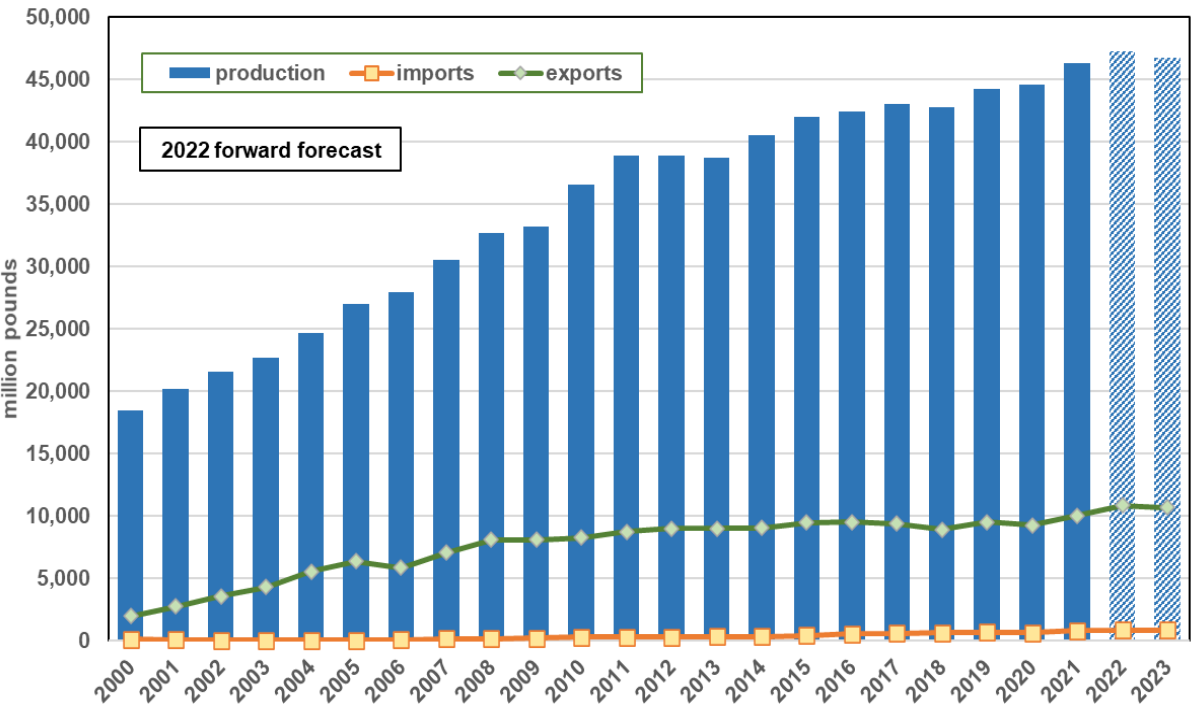


Sources: USDA-ERS, LEAP Market Analytics

- Longer-term growth prospects appear positive, but negative macroeconomic forces argue for caution near-term.
- This bloc of countries approximates total US chicken trade with Mexico.
- Including Mexico's share, that's almost half of the total export program.
- As mentioned previously, opportunities may arise soon for more chicken to move from leading production countries in this region to the US.
- Major trade realignment is underway due to Russia-Ukraine conflict.

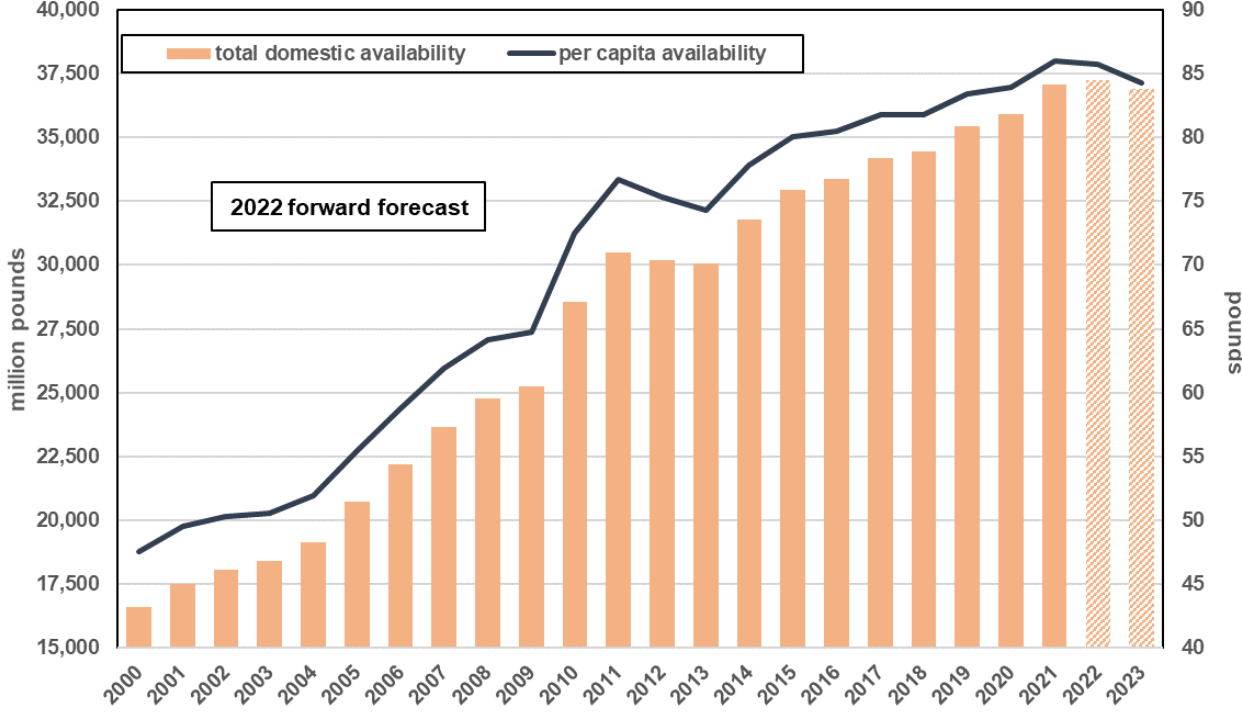
Aggregate South American Chicken Production and Consumption Also Set to Ease Lower by 2023

Broiler Production and Trade in South America



Sources: USDA-FAS, LEAP Market Analytics

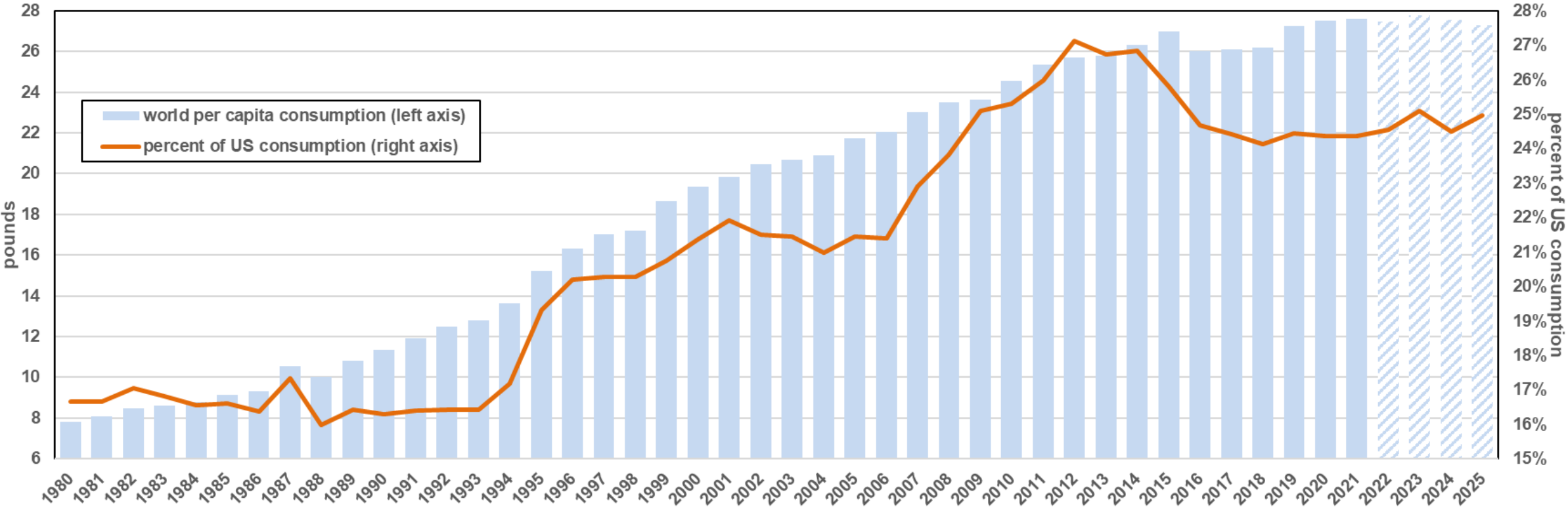
Total Domestic and Per Capita Availability of Broiler Meat in South America



Sources: USDA-FAS, LEAP Market Analytics

Global Per Capita Chicken Consumption Expected to Flatten Out for a Few Years

World Per Capita Chicken Consumption and Percent of US Consumption



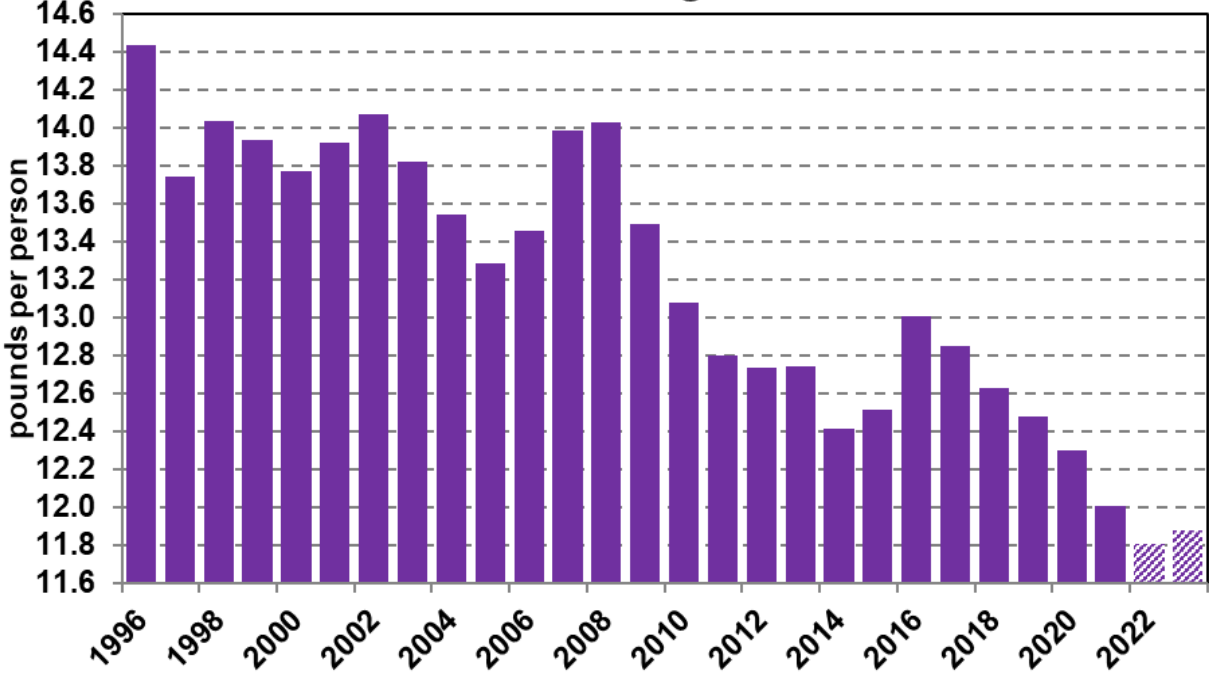
Sources: USDA-FAS, LEAP Market Analytics

Turkey and Egg Market Situation

- Per capita availability of turkey meat in the US is at a 35-year low.
- US turkey exports collapsed in response to the 2015 HPAI outbreak and are nowhere close to fully recovering.
- Turkey exports are tanking again, but this was happening before HPAI arrived on the scene.
- HPAI is inflicting severe losses on both the turkey and egg industries, and this outbreak appears as if it will inflict similar losses as in 2015.
- Egg supplies are likely to remain disrupted for several more months, limiting trade opportunities in that channel.

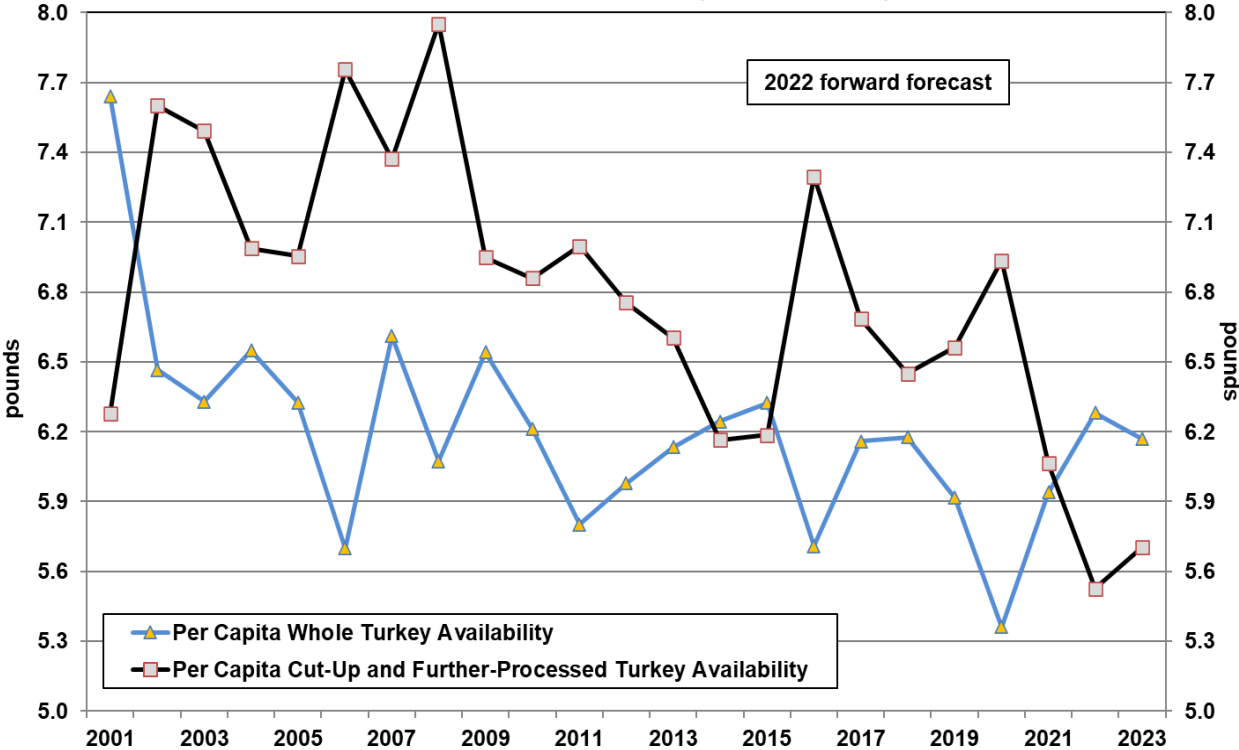
US Turkey Supplies Shrink to Lowest Level Since 1987, with Processed Turkey Supplies Especially Tight

Per Capita Availability of Turkey in the US,
Boneless Weight Basis



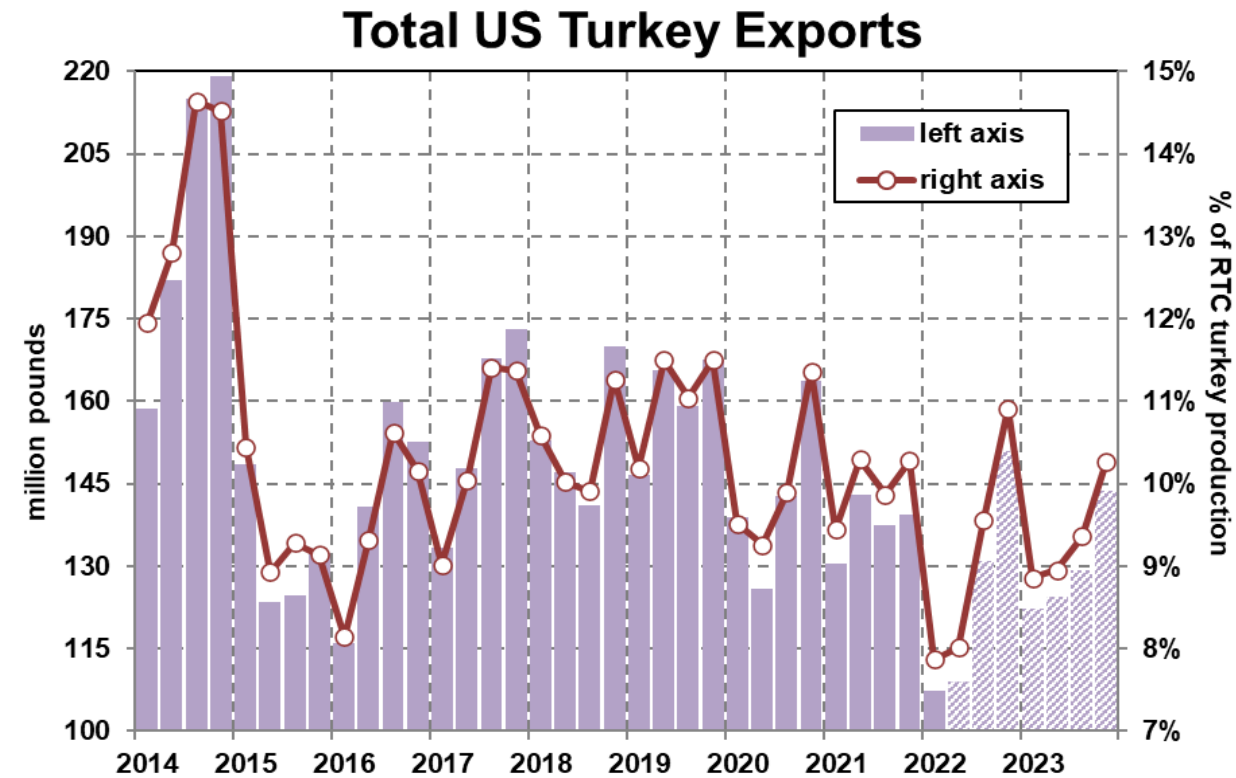
Sources: USDA, LEAP Market Analytics

Breakdown of Per Capita Turkey Availability in the US



Source: LEAP Market Analytics

US Turkey Exports Collapsing Again

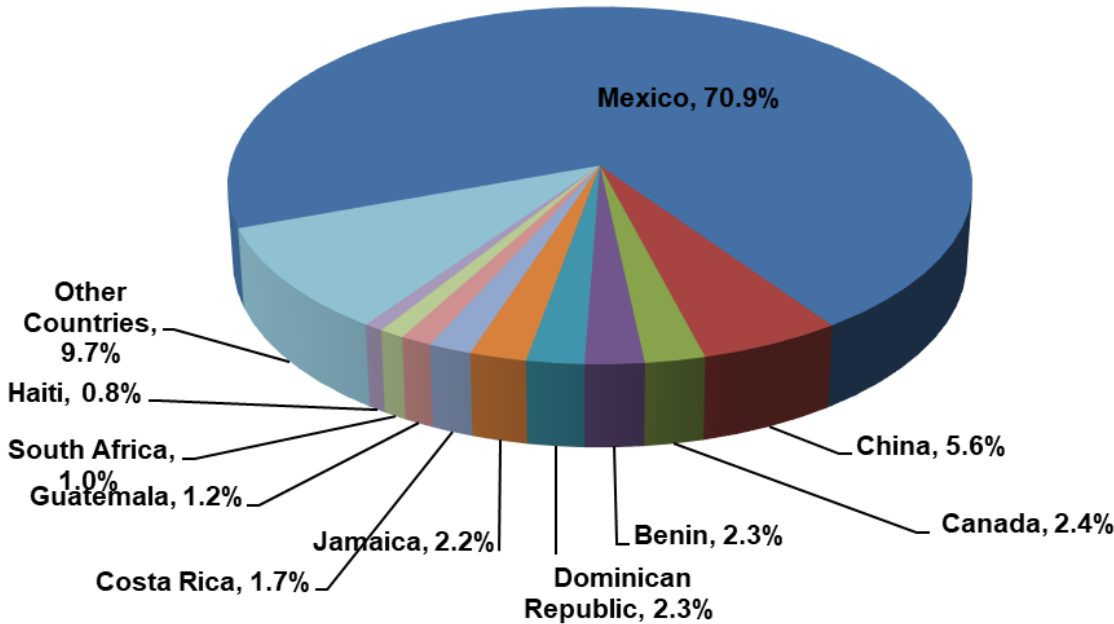


- The 2011-14 remains the best stretch on record for the US turkey industry's export program.
- Even though trade with China has resumed, shipments remain subdued.
- Exports were sluggish last year and have deteriorated further in the early going of 2022, prior to any possible HPAI-related disruptions.
- Key turkey markets have been strong in spite of the export slump, owing to very strong domestic demand.

Sources: USDA-ERS, LEAP Market Analytics

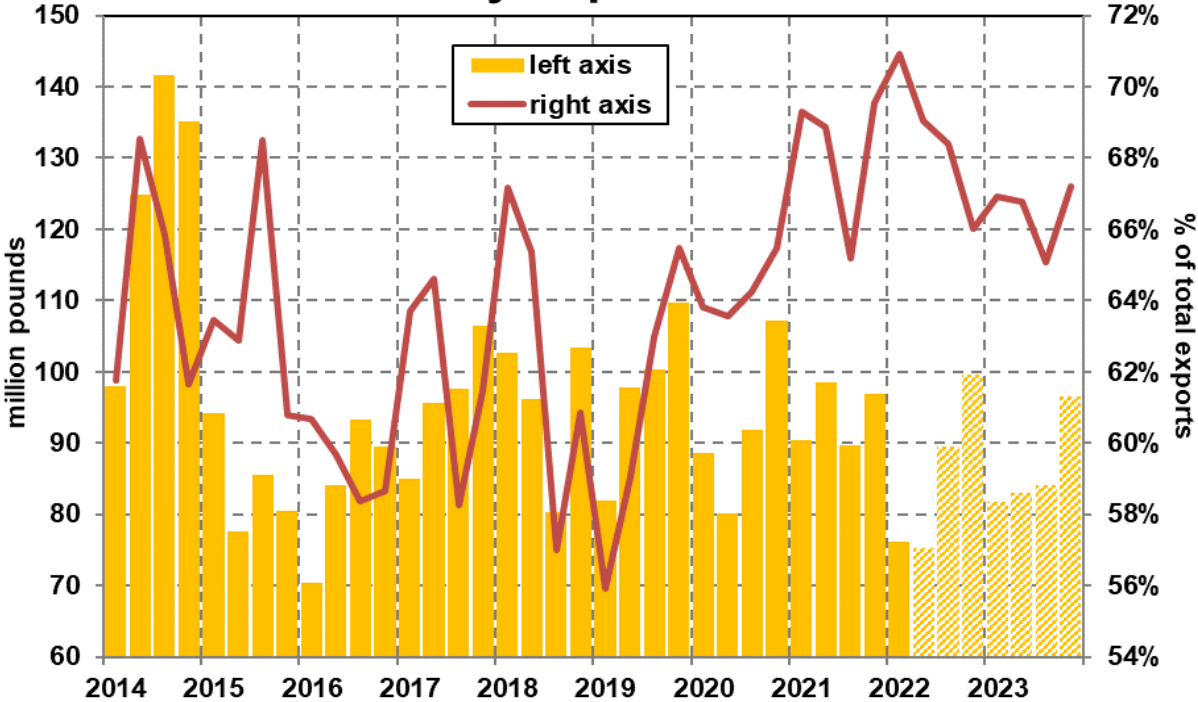
Mexico Dominates the Turkey Trade Scene

Breakdown of US Turkey Exports by Country
Jan-Mar 2022
107 Million Pounds



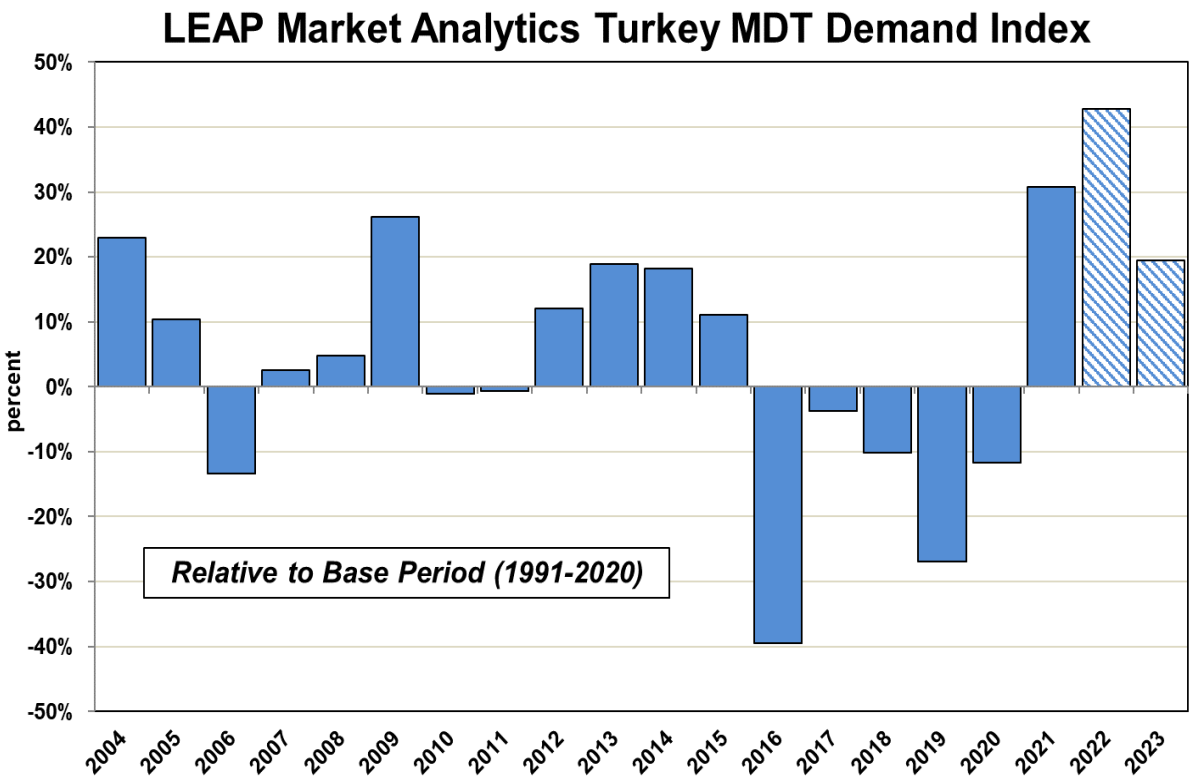
Source: USDA-ERS

US Turkey Exports to Mexico

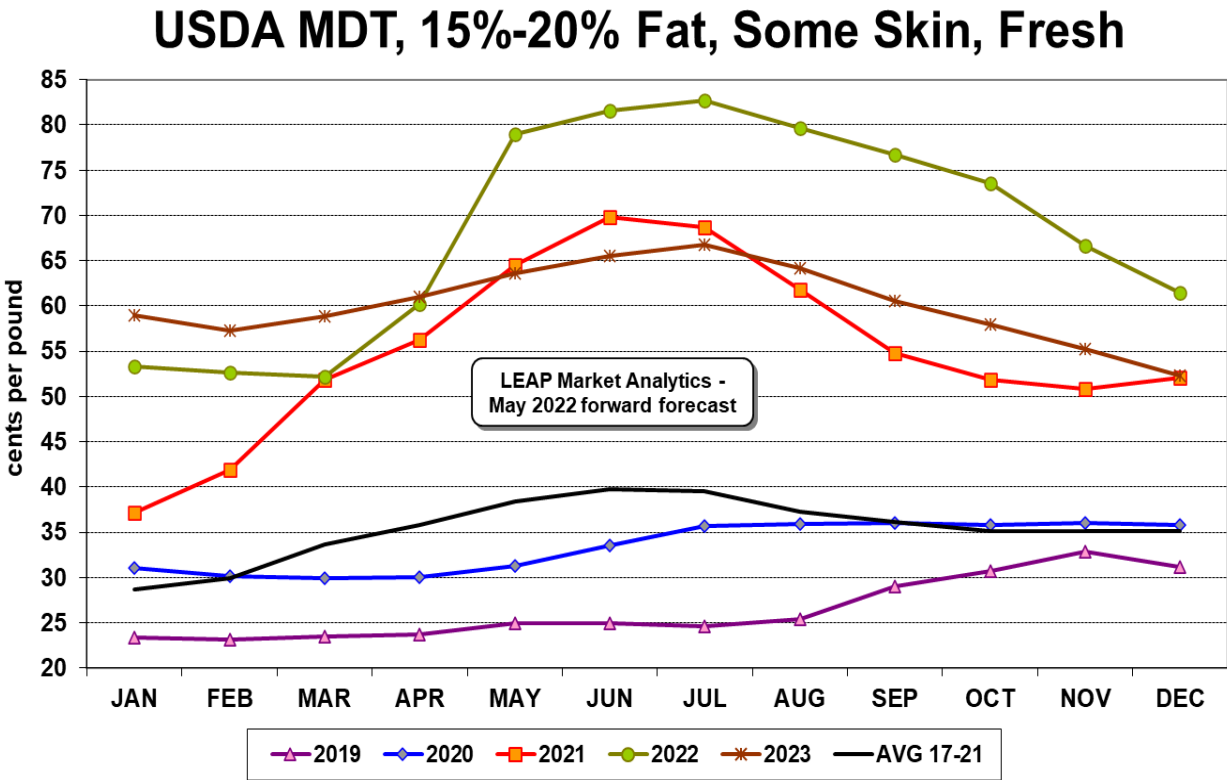


Sources: USDA-ERS, LEAP Market Analytics

MDT Demand Is Phenomenally Strong



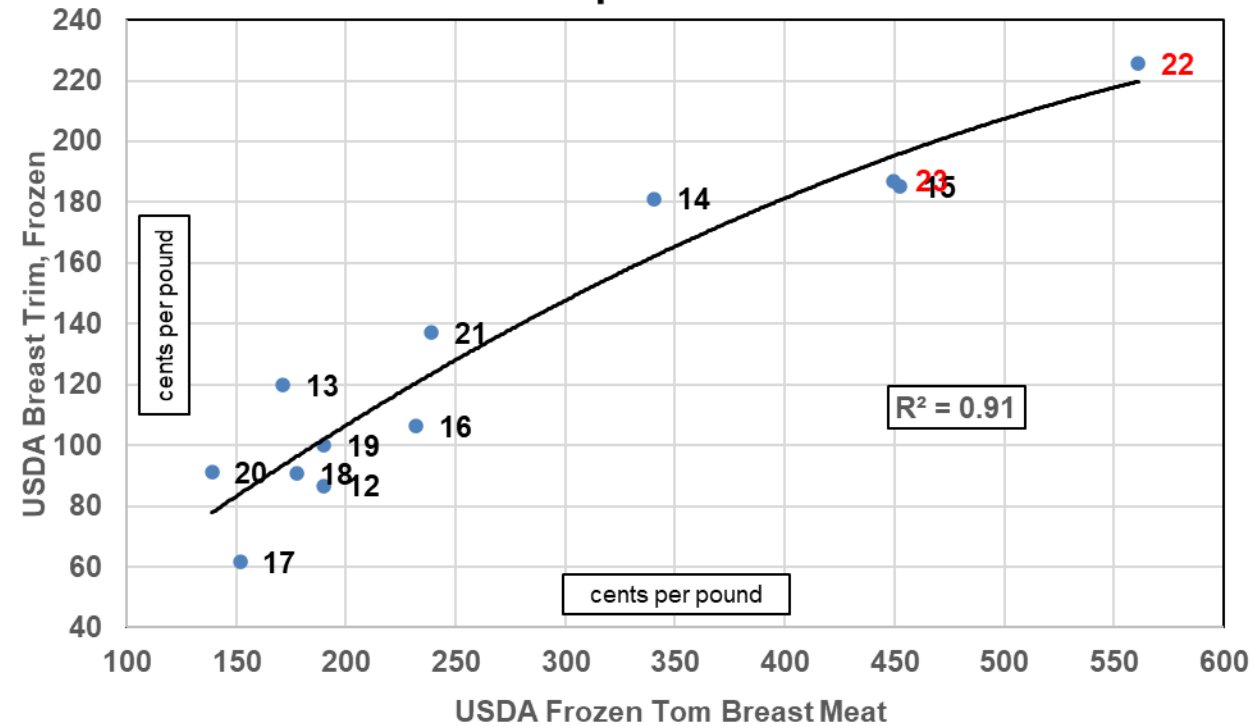
Source: LEAP Market Analytics



Sources: USDA-AMS, LEAP Market Analytics

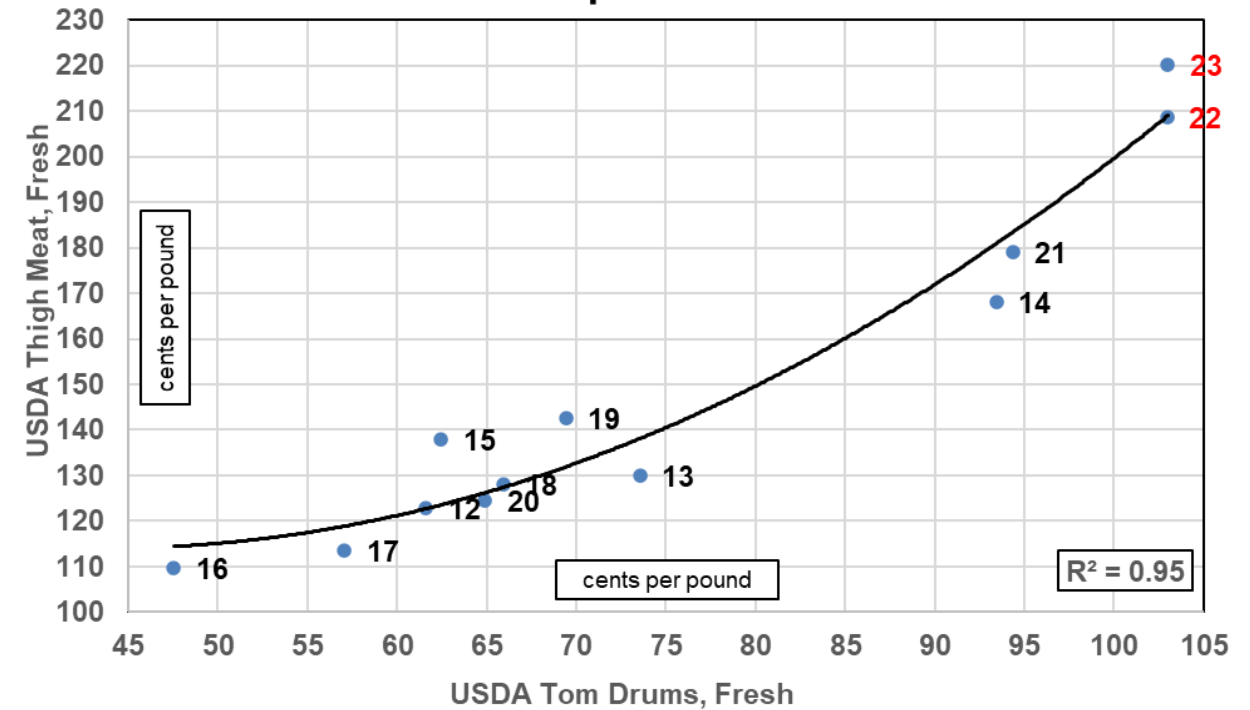
Turkey Breast Prices Propped up by HPAI

Price Comparison - Annual



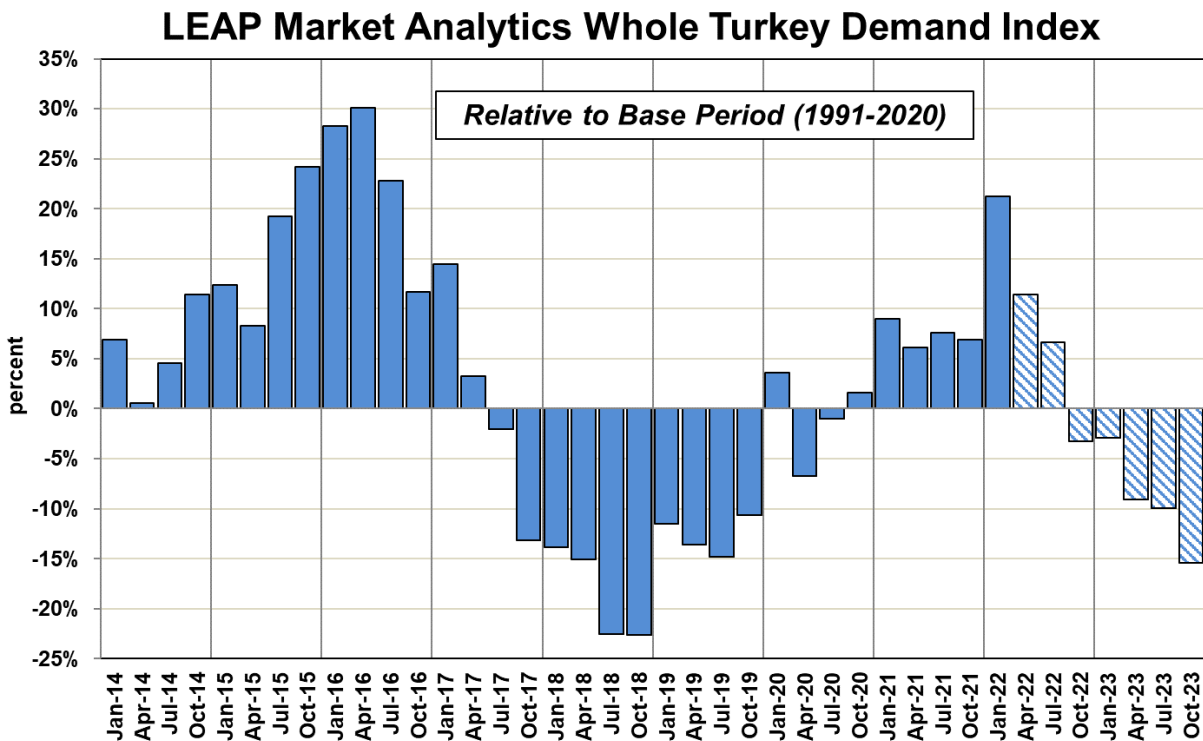
Sources: USDA-AMS, LEAP Market Analytics

Price Comparison - Annual

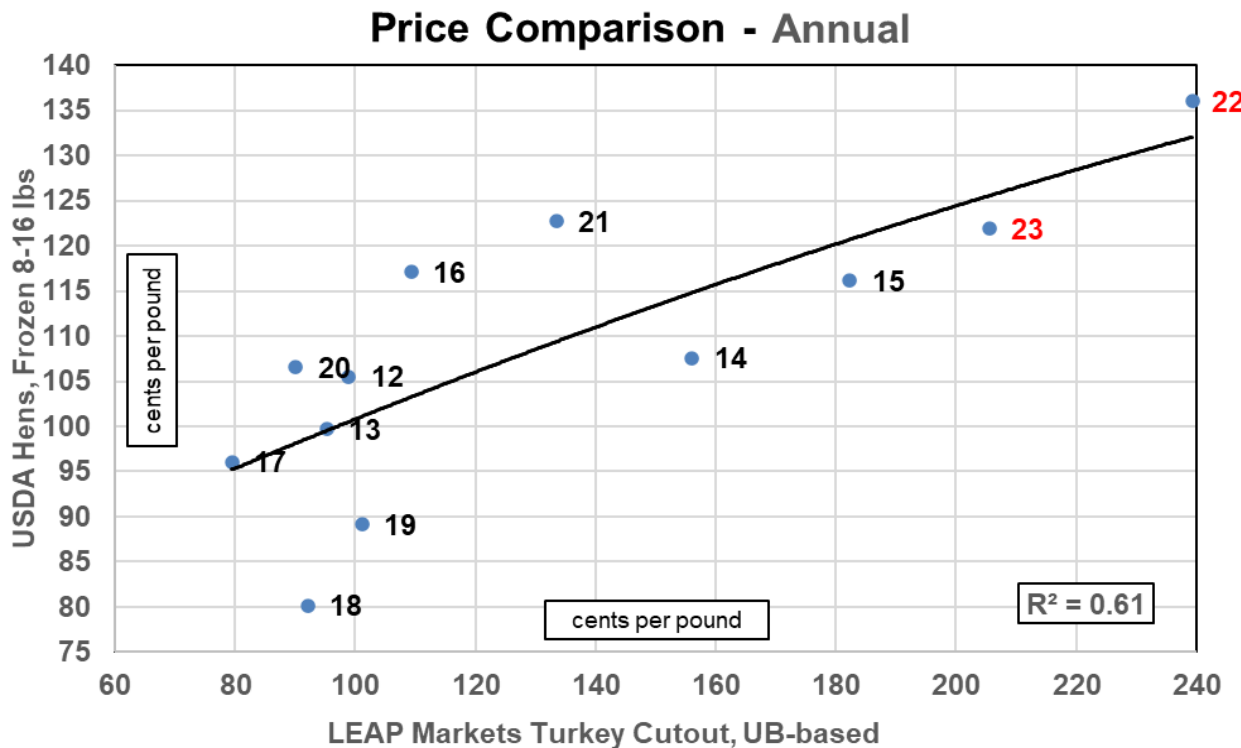


Sources: USDA-AMS, LEAP Market Analytics

Whole Turkey Demand Strong but Expected to Peak Soon



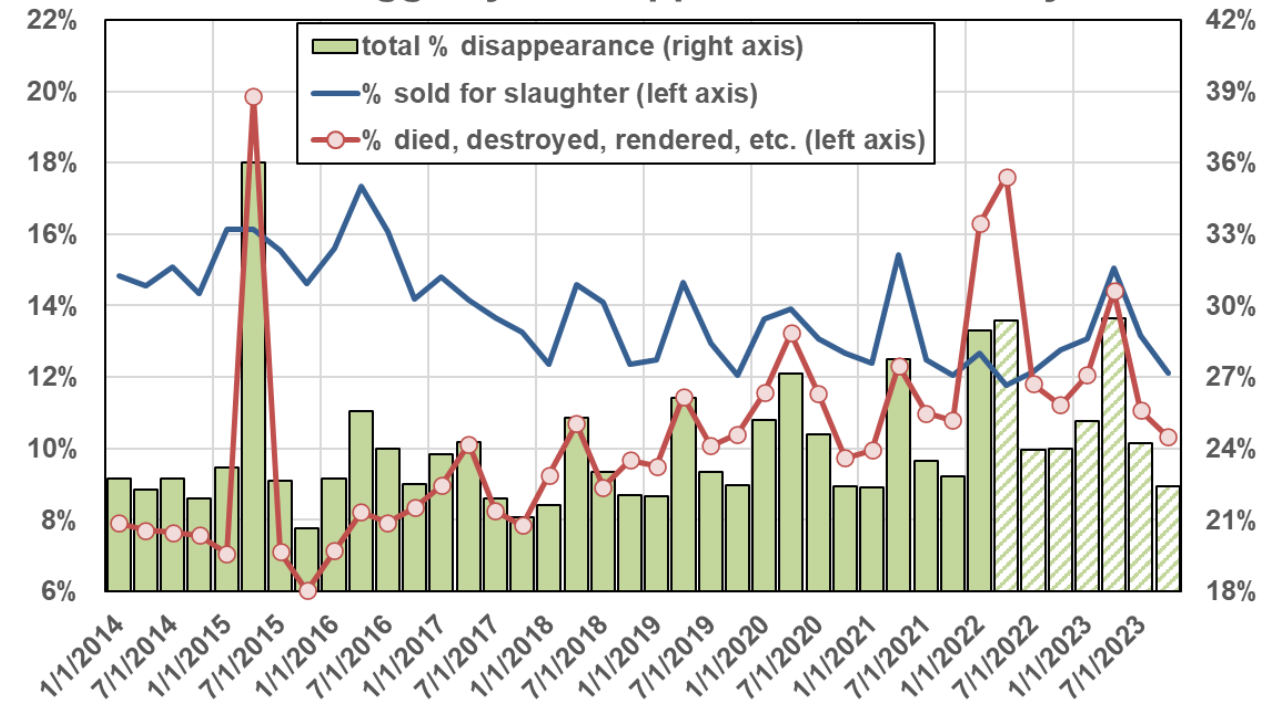
Source: LEAP Market Analytics



Sources: USDA-AMS, Urner-Barry, LEAP Market Analytics

HPAI Ravages US Table Egg Flock

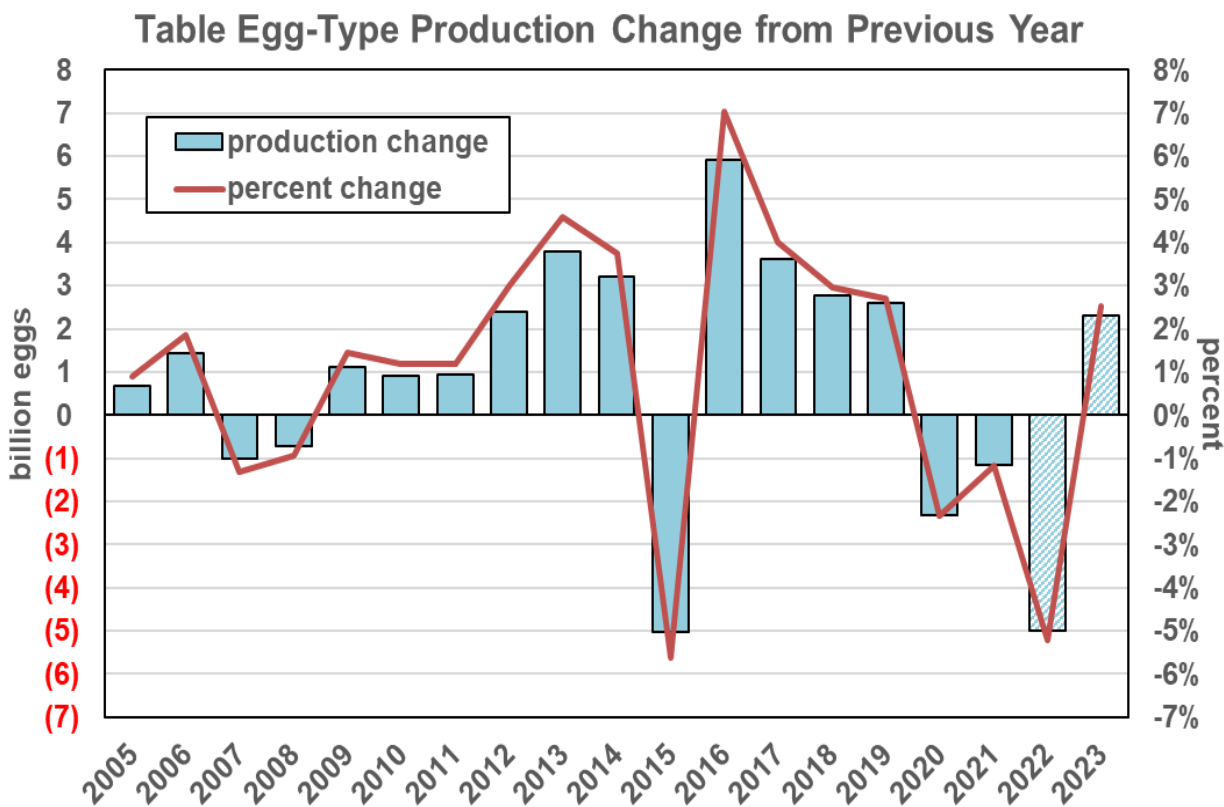
Table Egg Layer Disappearance, Quarterly



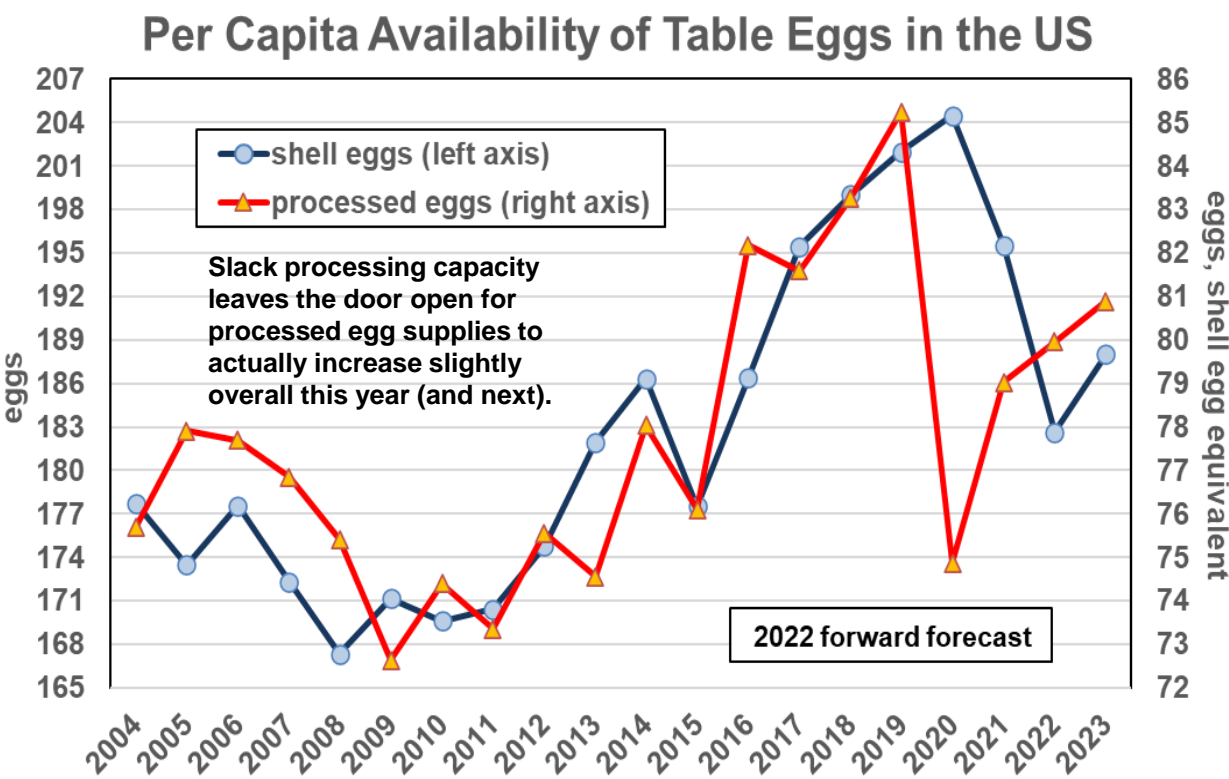
Sources: USDA-NASS, LEAP Market Analytics

- The 2022 outbreak increasingly appears as if it will be similar to, if not slightly worse than, the historic 2015 outbreak that resulted in the loss of more than 40 million layers and pullets.
- Supply recovery is likely to be slower this time due to increased cage-free adoption and prohibitive input costs.
- Shell egg and egg product prices are expected to remain at incredibly high levels for at least a few more months and will likely be undesirable to importing countries as a result.

US Egg Production to Decline for Third Straight Year



Sources: USDA-NASS, LEAP Market Analytics

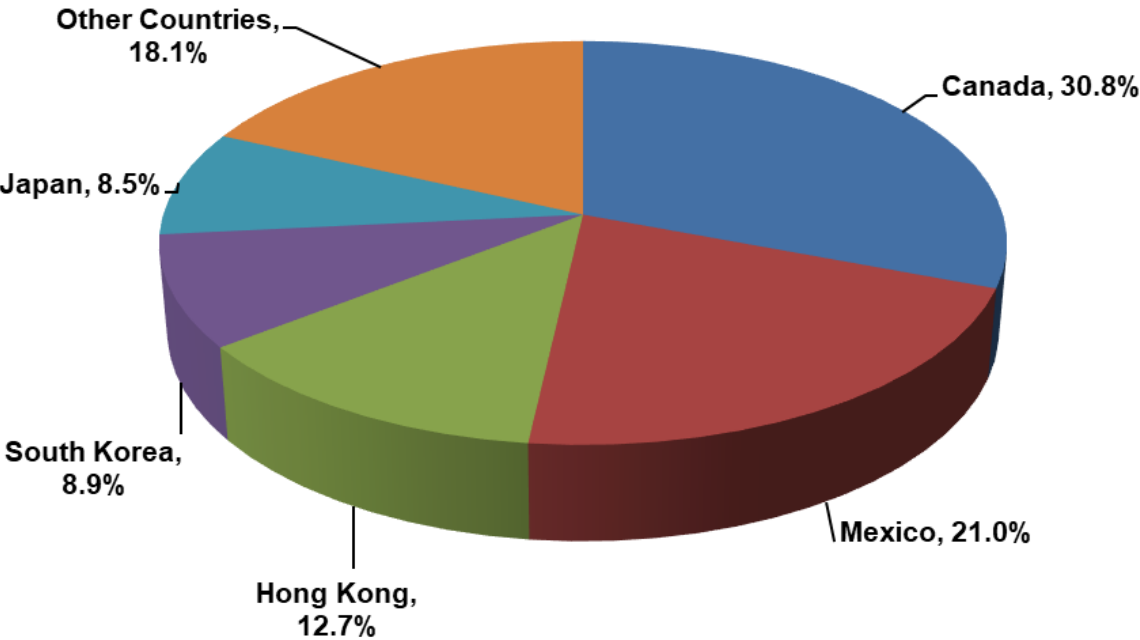


Sources: USDA, LEAP Market Analytics

Egg Trade Likely to Remain Very Weak Near-Term

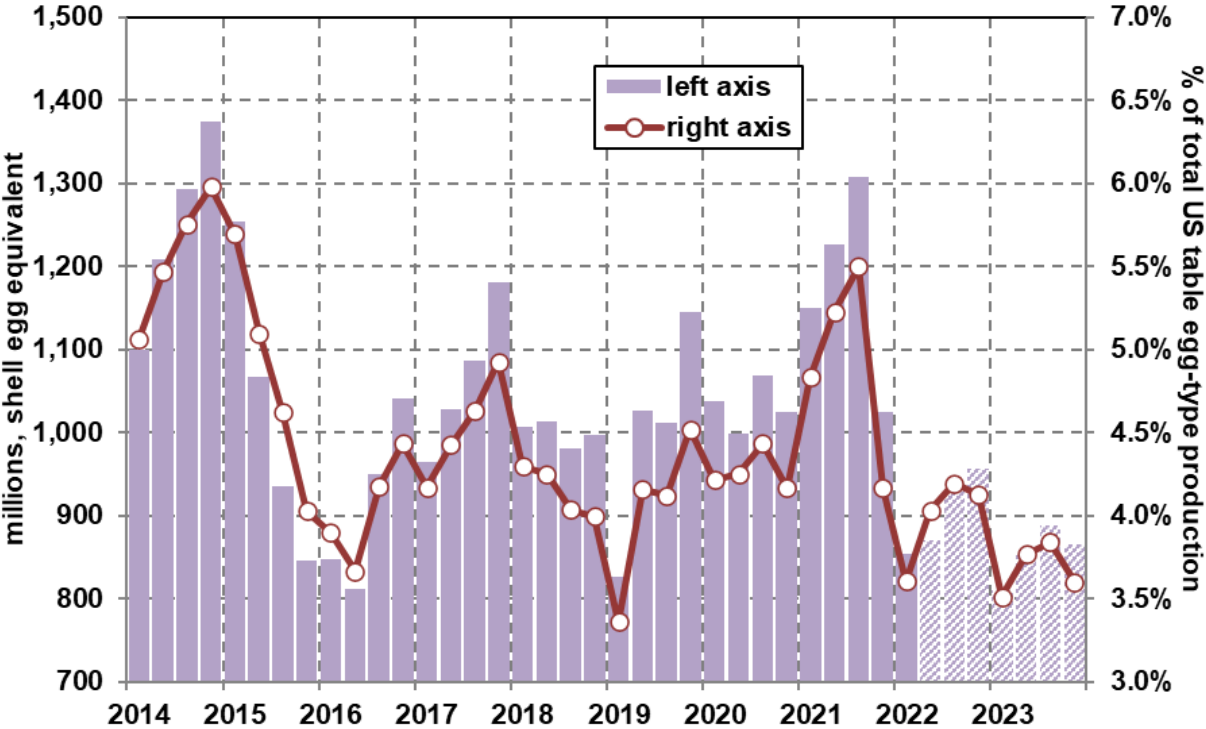
Breakdown of US Egg Exports by Country

Jan-Mar 2022
854 Million Eggs



Source: USDA-ERS

Total US Egg Exports



Sources: USDA-ERS, LEAP Market Analytics

Q&A



Americas Expo 2022: Global Poultry and Protein Market Outlook

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