

# 2023 Agricultural Policy and the Next Farm Bill

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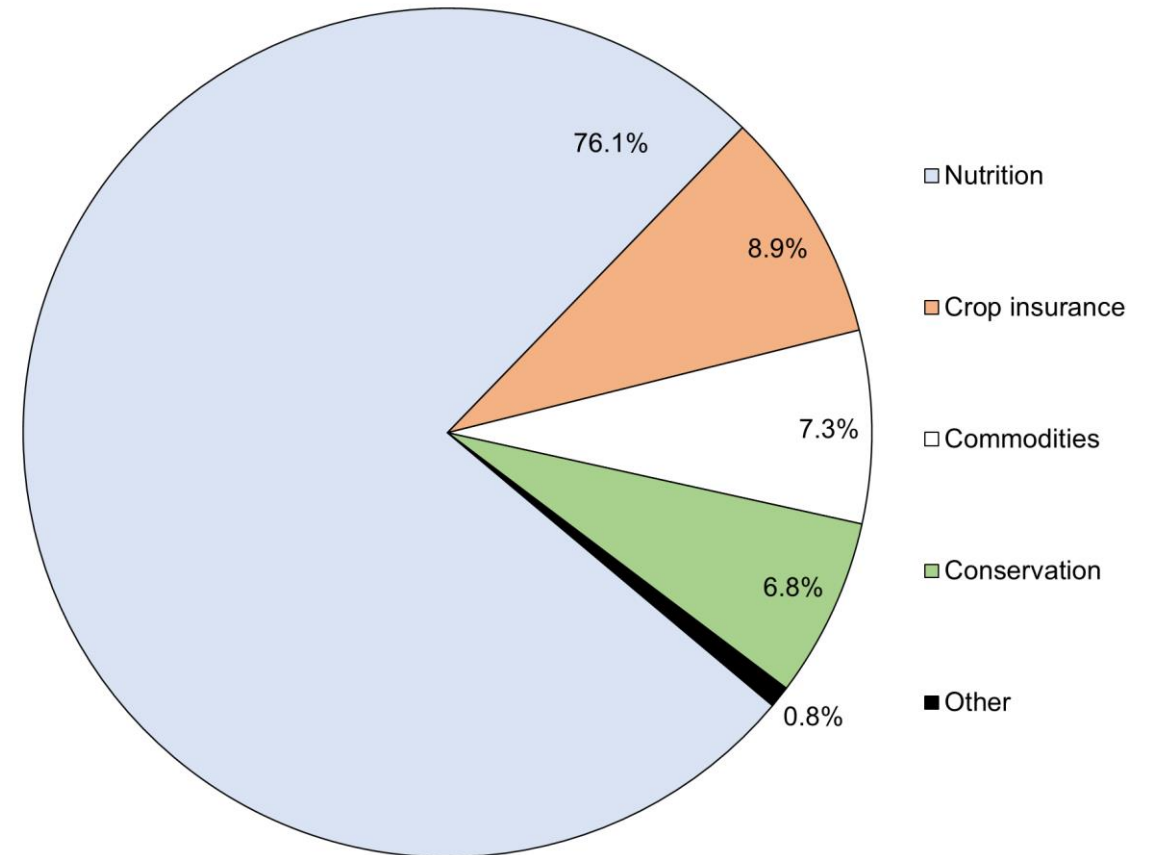
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Web Page: <https://cropeconomics.tennessee.edu>

# Farm Bill

Projected outlays under the 2018 Farm Act, 2019–23

- Crop Insurance
- Commodity Programs (ARC-PLC)

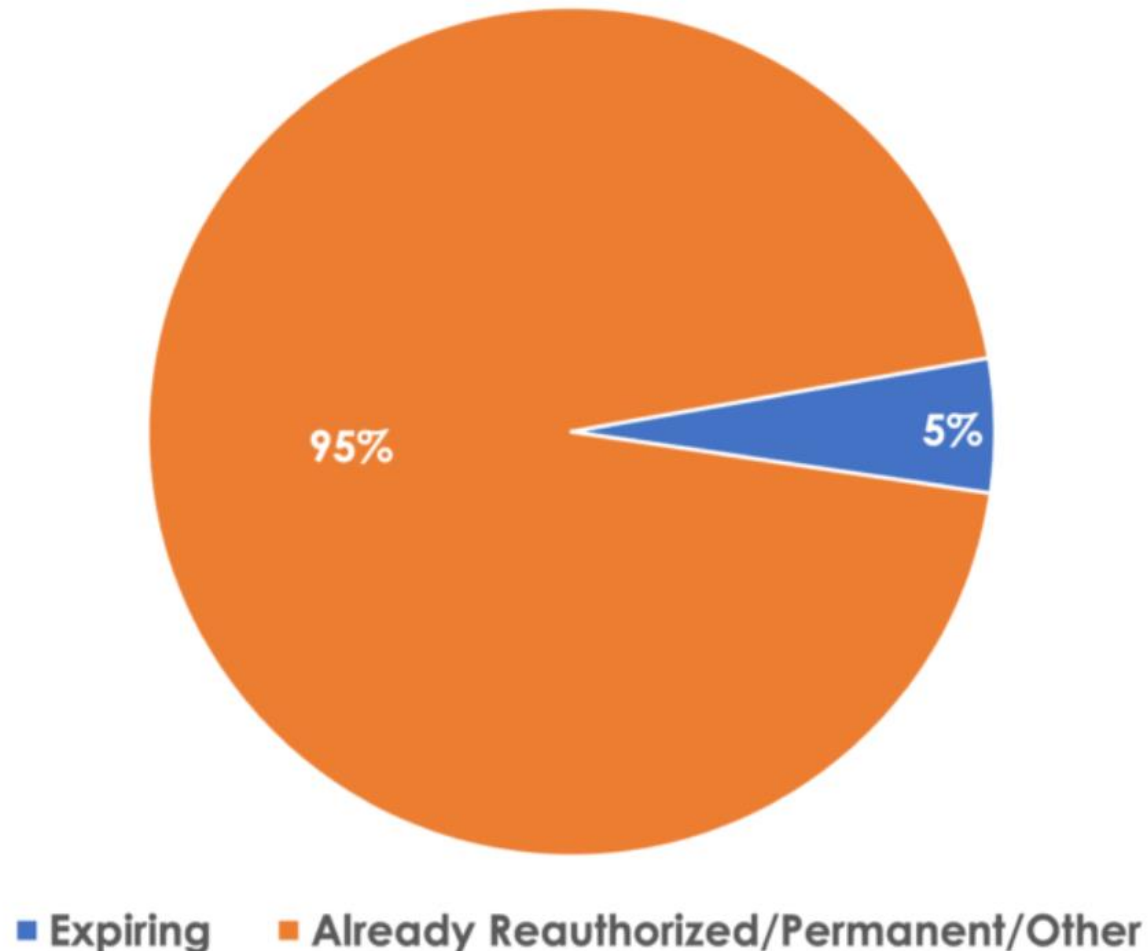


Source: USDA, Economic Research Service based on Congressional Budget Office, Direct Spending Effects for the Agriculture Improvement Act of 2018, December 11, 2018.

# Discussion Points

- Will we have a new farm bill in 2023?
  - Probably not.
- Ad Hoc spending versus Farm Bill
  - Substantial spending to provide relief
- Climate/ conservation
- Size/ budget neutrality

# Estimated Mandatory Spending in the 2018 Farm Bill that will expire on September 30, 2023

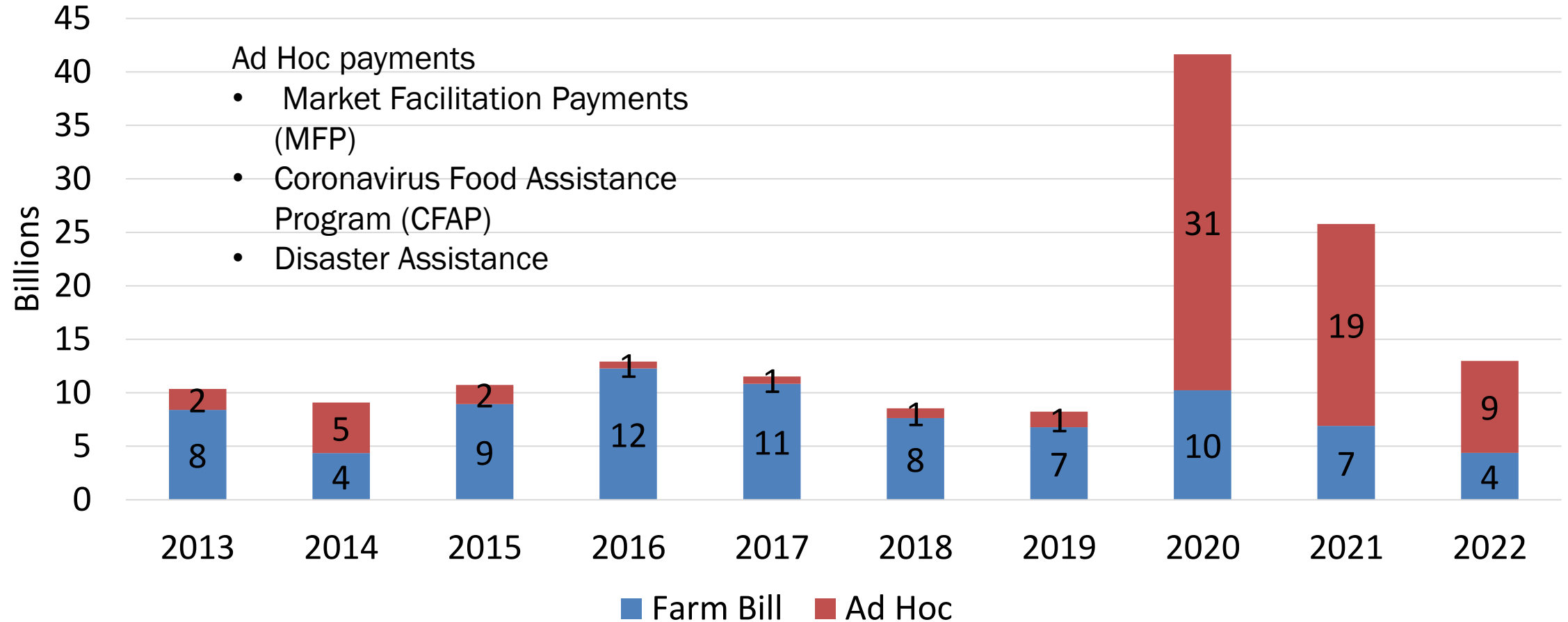


- SNAP is an appropriated entitlement. In other words, if the farm bill expires, the appropriators will continue to fund SNAP.
- Crop insurance is permanently authorized by legislation outside of the farm bill.
- The Inflation Reduction Act (IRA) recently reauthorized spending for the major conservation programs.
- Annual appropriations bills have provided significant funding for ad hoc disaster programs over the past four years for programs such as WHIP, WHIP+, and ERP.

Source: <https://southernagtoday.org/2023/01/what-if-we-dont-get-a-farm-bill-in-2023/>

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# Ad Hoc Versus Farm Bill Payments



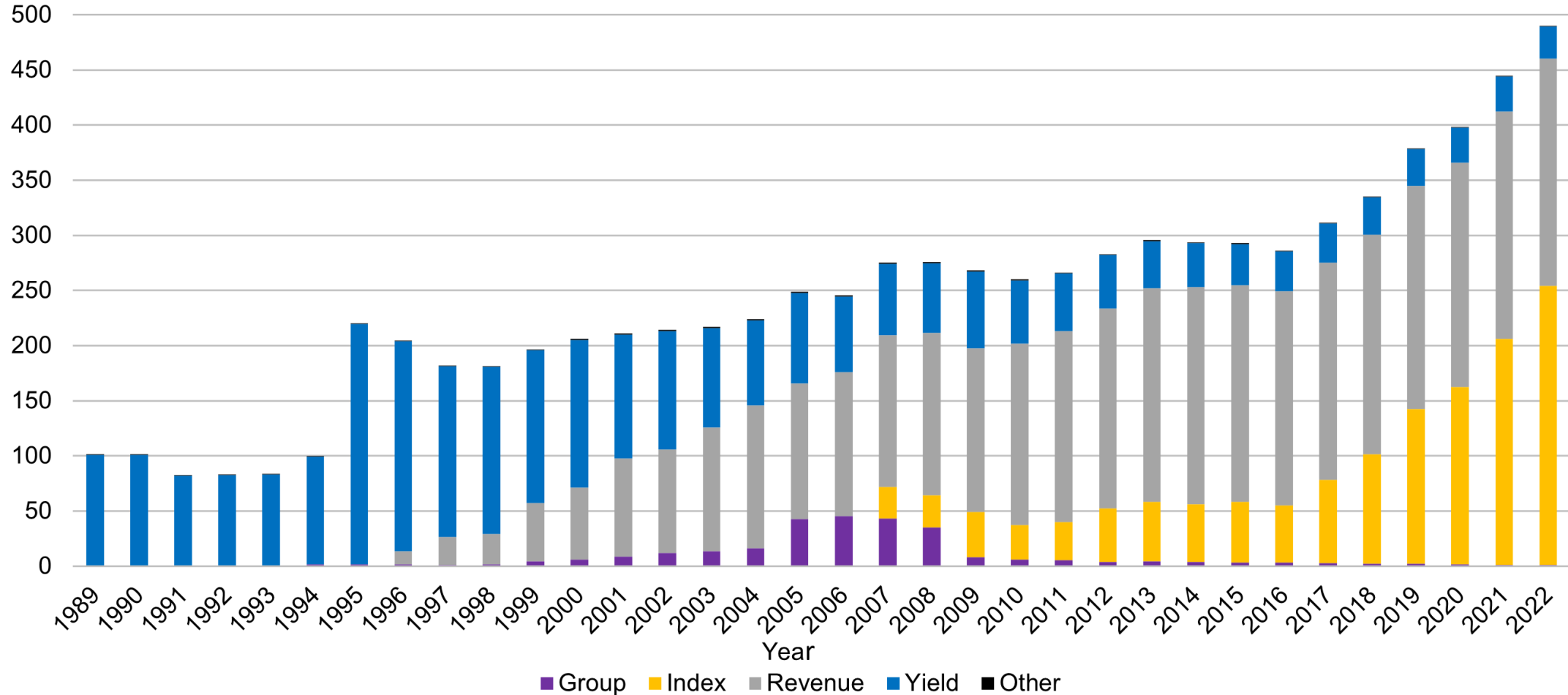


# CROP INSURANCE

# Crop Insurance

## Acres covered under crop insurance by program type

Million acres



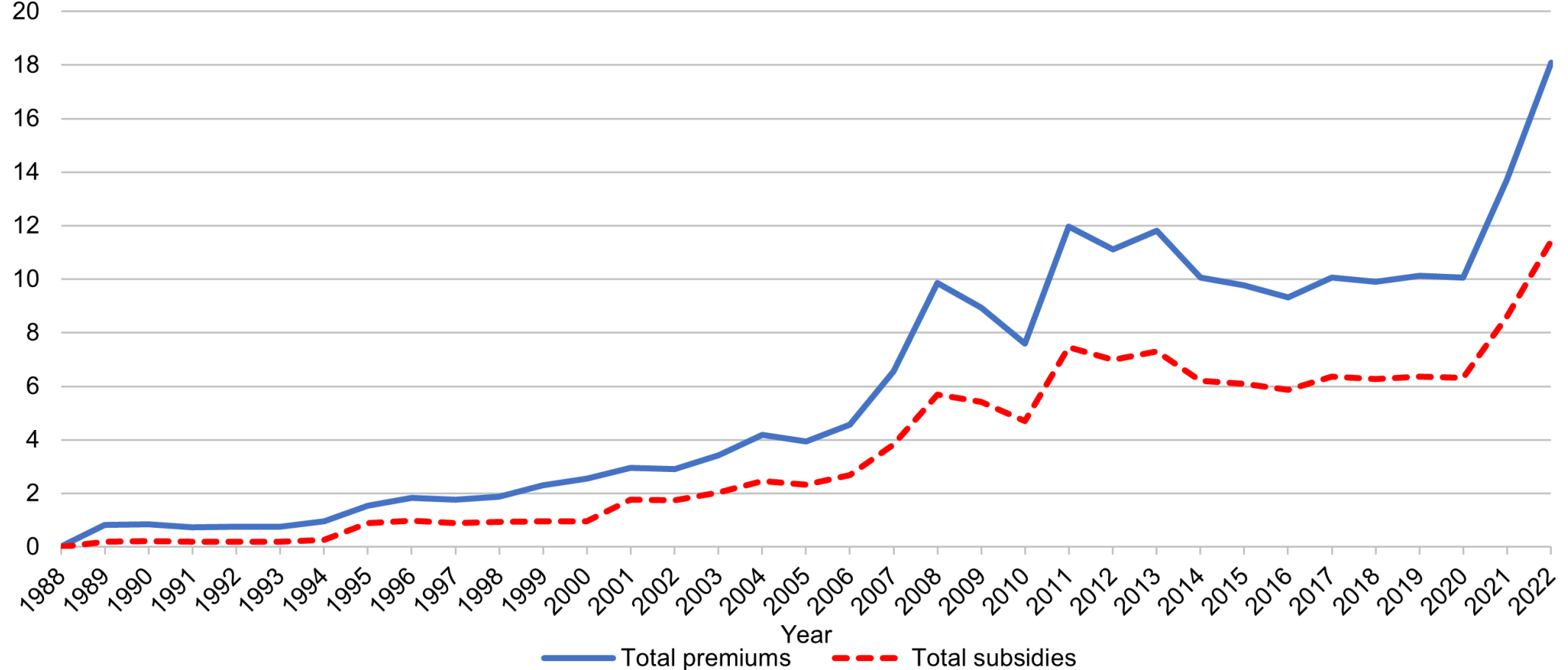
Source: USDA, Economic Research Service using data from USDA, Risk Management Agency, Summary of Business Reports, as of September 5, 2022.



# Crop Insurance

## Federal crop insurance premiums and subsidies

U.S. dollars (billion)



Note: Total subsidies do not include State subsidies, additional subsidies, or Emergency Financial Assistance premium discounts.

Source: USDA, Economic Research Service using data from USDA, Risk Management Agency, Summary of Business Report, as of September 5, 2022.



# Tennessee Corn Crop Insurance Summary

| Commodity<br>Year | Policies Sold | Quantity<br>(acres) | Liabilities (\$) | Total Prem (\$) | Subsidy (\$) | Indemnity (\$) | Loss Ratio      |
|-------------------|---------------|---------------------|------------------|-----------------|--------------|----------------|-----------------|
| 2014              | 6667          | 698,768             | 293,213,663      | 28,290,315      | 18,596,039   | 7,545,213      | 0.266706        |
| 2015              | 6784          | 615,237             | 255,055,467      | 26,458,943      | 17,592,668   | 4,355,097      | 0.164598        |
| 2016              | 6756          | 692,144             | 269,604,930      | 28,380,530      | 19,130,020   | 8,876,114      | 0.312753        |
| 2017              | 6761          | 630,123             | 246,714,362      | 23,809,967      | 16,287,935   | 4,938,193      | 0.2074          |
| 2018              | 6601          | 604,716             | 249,655,937      | 22,608,482      | 15,455,348   | 5,204,762      | 0.230212        |
| 2019              | 6792          | 789,244             | 333,978,118      | 30,480,281      | 20,921,565   | 4,843,734      | 0.158913        |
| 2020              | 7033          | 779,737             | 329,048,539      | 27,609,842      | 18,917,149   | 14,388,217     | 0.521126        |
| 2021              | 6875          | 838,493             | 446,770,554      | 42,610,911      | 29,301,152   | 6,324,384      | 0.148421        |
| 2022              | 6699          | 706,160             | 499,917,532      | 48,734,017      | 33,559,200   | 65,917,292     | <b>1.352593</b> |

# Tennessee Soybean Crop Insurance Summary

| Commodity Year | Policies Sold | Quantity (acres) | Liabilities (\$)   | Total Prem (\$) | Subsidy (\$)      | Indemnity (\$) | Loss Ratio |
|----------------|---------------|------------------|--------------------|-----------------|-------------------|----------------|------------|
| 2014           | 6750          | 1,340,817        | 370,813,938        | 40,589,329      | <b>27,635,458</b> | 8,288,080      | 0.204193   |
| 2015           | 6915          | 1,440,863        | 367,217,289        | 41,192,663      | <b>28,071,104</b> | 11,823,073     | 0.287018   |
| 2016           | 6865          | 1,350,241        | 325,691,393        | 35,273,407      | <b>24,330,891</b> | 7,868,432      | 0.223069   |
| 2017           | 6884          | 1,397,850        | 387,672,736        | 43,770,149      | <b>30,734,297</b> | 8,180,923      | 0.186906   |
| 2018           | 6509          | 1,411,231        | 413,444,745        | 36,942,464      | <b>25,982,448</b> | 22,653,115     | 0.613199   |
| 2019           | 6614          | 1,182,936        | 334,867,428        | 28,409,665      | <b>19,811,677</b> | 20,097,305     | 0.70741    |
| 2020           | 6705          | 1,386,769        | 395,228,187        | 31,294,766      | <b>21,974,860</b> | 8,809,560      | 0.281502   |
| 2021           | 6660          | 1,283,476        | 494,312,909        | 43,437,395      | <b>30,215,488</b> | 9,912,593      | 0.228204   |
| 2022           | 6566          | 1,400,936        | <b>670,452,501</b> | 57,071,484      | <b>39,440,462</b> | 22,274,283     | 0.390287   |

# Tennessee Wheat Crop Insurance Summary

| Commodity Year | Policies Sold | Quantity | Liabilities (\$) | Total Prem (\$) | Subsidy (\$) | Indemnity (\$) | Loss Ratio      |
|----------------|---------------|----------|------------------|-----------------|--------------|----------------|-----------------|
| 2014           | 3771          | 378,392  | 89,219,193       | 10,049,427      | 7,214,058    | 4,759,731      | 0.473632        |
| 2015           | 3840          | 343,724  | 75,662,908       | 8,015,756       | 5,479,525    | 4,638,095      | 0.578622        |
| 2016           | 3701          | 303,904  | 57,720,685       | 6,708,531       | 4,629,809    | 2,606,481      | 0.388532        |
| 2017           | 3640          | 276,018  | 49,332,818       | 5,568,034       | 3,892,413    | 3,256,218      | 0.584805        |
| 2018           | 3597          | 271,457  | 53,093,936       | 5,558,148       | 3,945,370    | 5,066,747      | 0.911589        |
| 2019           | 3525          | 315,038  | 63,228,143       | 8,202,554       | 5,480,698    | 15,893,486     | <b>1.937626</b> |
| 2020           | 3562          | 253,743  | 50,422,049       | 5,994,621       | 4,160,835    | 9,694,545      | <b>1.617207</b> |
| 2021           | 3555          | 263,495  | 68,500,364       | 7,270,404       | 5,177,477    | 962,237        | 0.132349        |
| 2022           | 3635          | 284,608  | 95,560,059       | 10,740,416      | 7,688,435    | 2,829,194      | 0.263415        |



# PROJECTED PRICES FOR 2023?

# Corn Crop Insurance Prices

| Commodity Year | Sales Closing Date | Projected Price Market Symbol | Projected Price Date Range | Projected Price | Price Volatility | Harvest Price Date Range | Harvest Price | Harvest less Projected |
|----------------|--------------------|-------------------------------|----------------------------|-----------------|------------------|--------------------------|---------------|------------------------|
| 2011           | 3/15/2011          | ZCZ11                         | 02/01 - 02/28              | \$6.01          | 0.29             | 10/01 - 10/31            | \$6.32        | \$0.31                 |
| 2012           | 3/15/2012          | ZCZ12                         | 02/01 - 02/29              | \$5.68          | 0.22             | 10/01 - 10/31            | \$7.50        | \$1.82                 |
| 2013           | 3/15/2013          | ZCZ13                         | 02/01 - 02/28              | \$5.65          | 0.2              | 10/01 - 10/31            | \$4.39        | (\$1.26)               |
| 2014           | 3/15/2014          | ZCZ14                         | 02/01 - 02/28              | \$4.62          | 0.19             | 10/01 - 10/31            | \$3.49        | (\$1.13)               |
| 2015           | 3/15/2015          | ZCZ15                         | 02/01 - 02/28              | \$4.15          | 0.21             | 10/01 - 10/31            | \$3.83        | (\$0.32)               |
| 2016           | 3/15/2016          | ZCZ16                         | 02/01 - 02/29              | \$3.86          | 0.17             | 10/01 - 10/31            | \$3.49        | (\$0.37)               |
| 2017           | 3/15/2017          | ZCZ17                         | 02/01 - 02/28              | \$3.96          | 0.19             | 10/01 - 10/31            | \$3.49        | (\$0.47)               |
| 2018           | 3/15/2018          | ZCZ18                         | 02/01 - 02/28              | \$3.96          | 0.15             | 10/01 - 10/31            | \$3.68        | (\$0.28)               |
| 2019           | 3/15/2019          | ZCZ19                         | 02/01 - 02/28              | \$4.00          | 0.15             | 10/01 - 10/31            | \$3.90        | (\$0.10)               |
| 2020           | 3/15/2020          | ZCZ20                         | 02/01 - 02/29              | \$3.88          | 0.15             | 10/01 - 10/31            | \$3.99        | \$0.11                 |
| 2021           | 3/15/2021          | ZCZ21                         | 02/01 - 02/28              | \$4.58          | 0.23             | 10/01 - 10/31            | \$5.37        | \$0.79                 |
| <b>2022</b>    | <b>3/15/2022</b>   | <b>ZCZ22</b>                  | <b>02/01 - 02/28</b>       | <b>\$5.90</b>   | <b>0.23</b>      | <b>10/01 - 10/31</b>     | <b>\$6.86</b> | <b>\$0.96</b>          |

**November Futures at \$5.89 January 31**

Source: USDA RMA <https://prodwebnlb.rma.usda.gov/apps/pricediscovery>

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# Soybean Crop Insurance Prices

| Commodity Year | Sales Closing Date | Market Symbol | Projected Price Date Range | Projected Price | Price Volatility | Harvest Price Date Range | Market Symbol | Harvest Price  | Harvest less Projected |
|----------------|--------------------|---------------|----------------------------|-----------------|------------------|--------------------------|---------------|----------------|------------------------|
| 2011           | 3/15/2011          | ZSF12         | 02/01 - 02/28              | \$13.52         | 0.24             | 10/01 - 10/31            | ZSF12         | \$11.71        | (\$1.81)               |
| 2012           | 3/15/2012          | ZSF13         | 02/01 - 02/29              | \$12.60         | 0.18             | 10/01 - 10/31            | ZSF13         | \$14.48        | \$1.88                 |
| 2013           | 3/15/2013          | ZSF14         | 02/01 - 02/28              | \$12.91         | 0.18             | 10/01 - 10/31            | ZSF14         | \$12.93        | \$0.02                 |
| 2014           | 3/15/2014          | ZSF15         | 02/01 - 02/28              | \$11.41         | 0.13             | 10/01 - 10/31            | ZSF15         | \$10.32        | (\$1.09)               |
| 2015           | 3/15/2015          | ZSF16         | 02/01 - 02/28              | \$9.78          | 0.16             | 10/01 - 10/31            | ZSF16         | \$8.66         | (\$1.12)               |
| 2016           | 3/15/2016          | ZSF17         | 02/01 - 02/29              | \$8.90          | 0.13             | 10/01 - 10/31            | ZSF17         | \$10.07        | \$1.17                 |
| 2017           | 3/15/2017          | ZSF18         | 02/01 - 02/28              | \$10.23         | 0.15             | 10/01 - 10/31            | ZSF18         | \$9.88         | (\$0.35)               |
| 2018           | 3/15/2018          | ZSF19         | 02/01 - 02/28              | \$10.21         | 0.13             | 10/01 - 10/31            | ZSF19         | \$8.83         | (\$1.38)               |
| 2019           | 3/15/2019          | ZSF20         | 02/01 - 02/28              | \$9.63          | 0.12             | 10/01 - 10/31            | ZSF20         | \$9.12         | (\$0.51)               |
| 2020           | 3/15/2020          | ZSF21         | 02/01 - 02/29              | \$9.21          | 0.11             | 10/01 - 10/31            | ZSF21         | \$11.45        | \$2.24                 |
| 2021           | 3/15/2021          | ZSF22         | 02/01 - 02/28              | \$11.81         | 0.19             | 10/01 - 10/31            | ZSF22         | \$12.43        | \$0.62                 |
| <b>2022</b>    | <b>3/15/2022</b>   | <b>ZSF23</b>  | <b>02/01 - 02/28</b>       | <b>\$14.30</b>  | <b>0.2</b>       | <b>10/01 - 10/31</b>     | <b>ZSF23</b>  | <b>\$14.44</b> | <b>\$0.14</b>          |

**November Futures at \$13.61 January 31**

Source: USDA RMA <https://prodwebnfb.rma.usda.gov/apps/pricediscovery>

# Changes to crop insurance?

- Dramatic changes seem unlikely.
- Premium subsidization levels.
- Changes to prevented planting factors and other options
- Additional commodities (livestock?).
- Premium subsidization further tied to environmental / climate compliance.





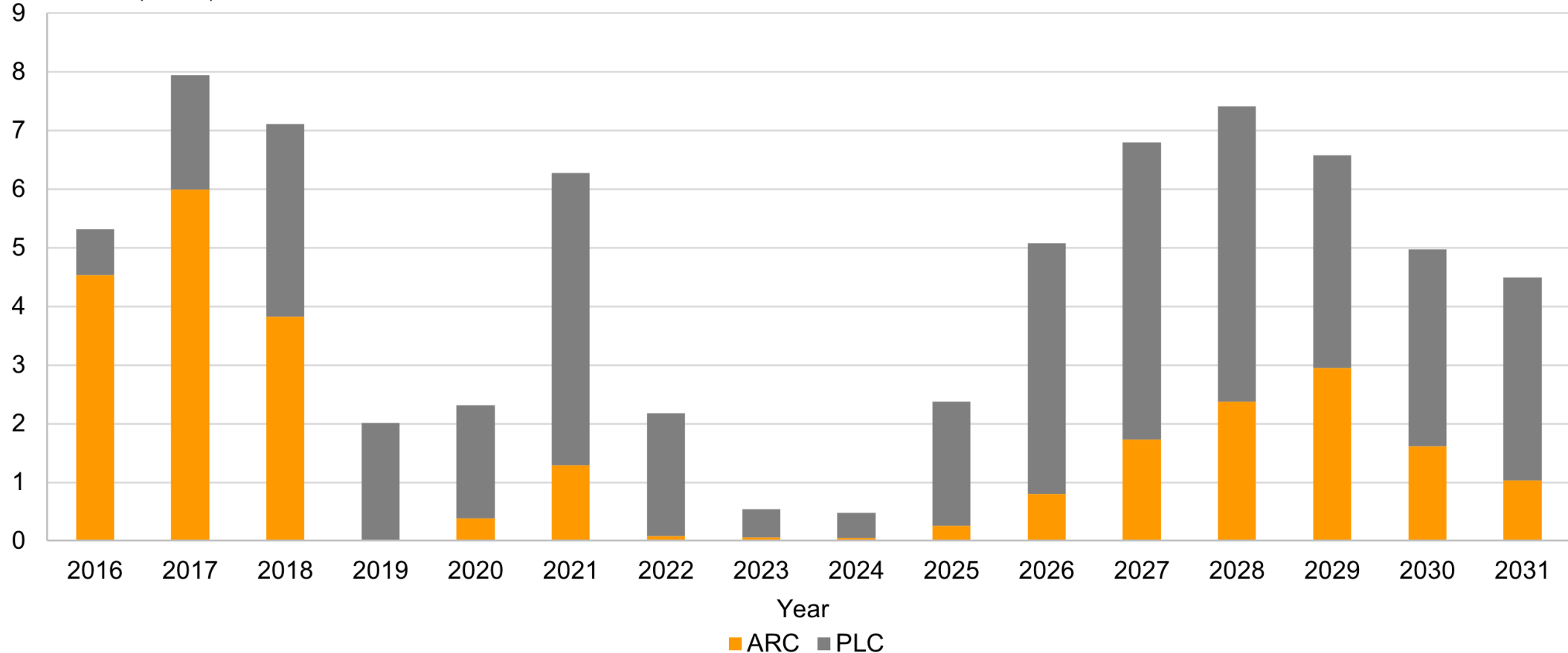
ARC and PLC

# COMMODITY TITLE

# Commodity Title (ARC-PLC)

## Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) outlays

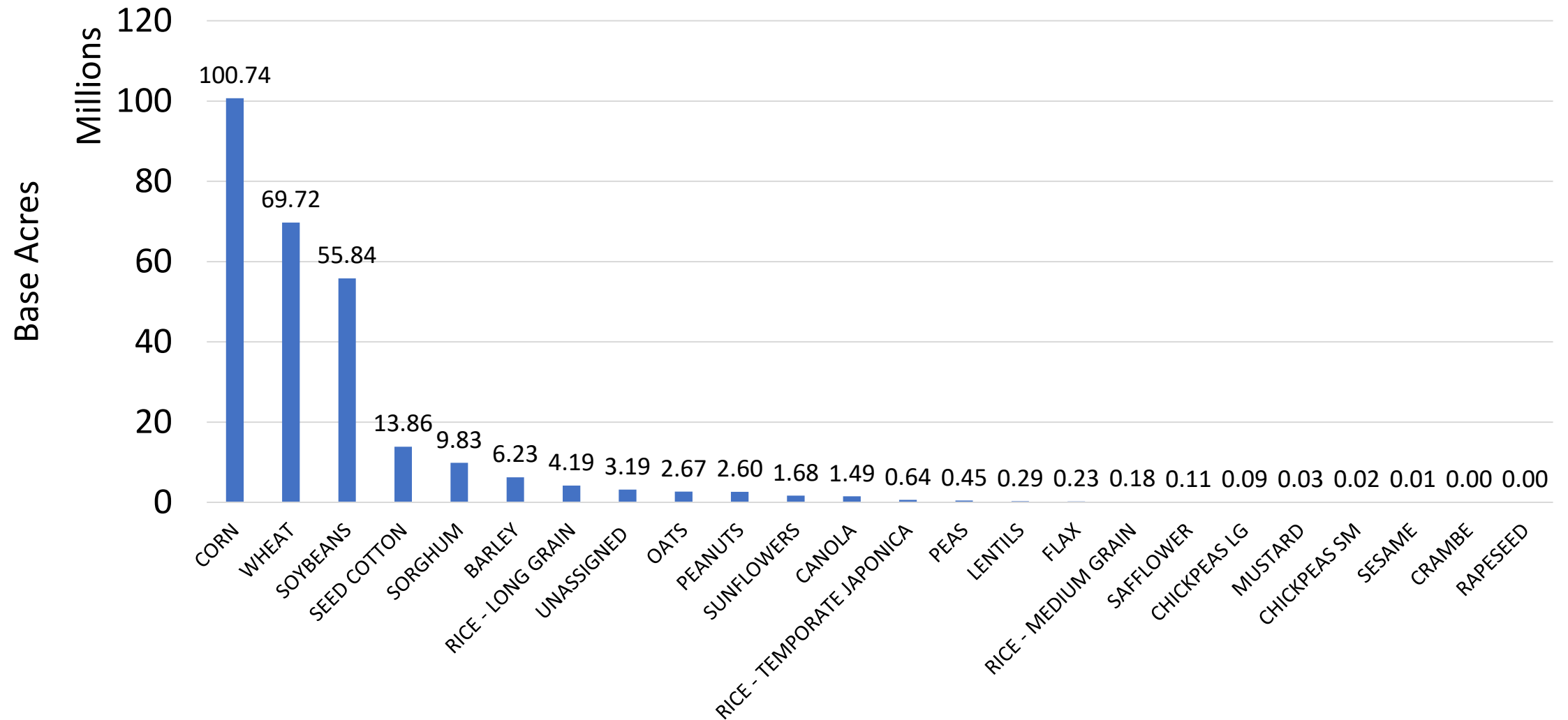
U.S. dollars (billion)



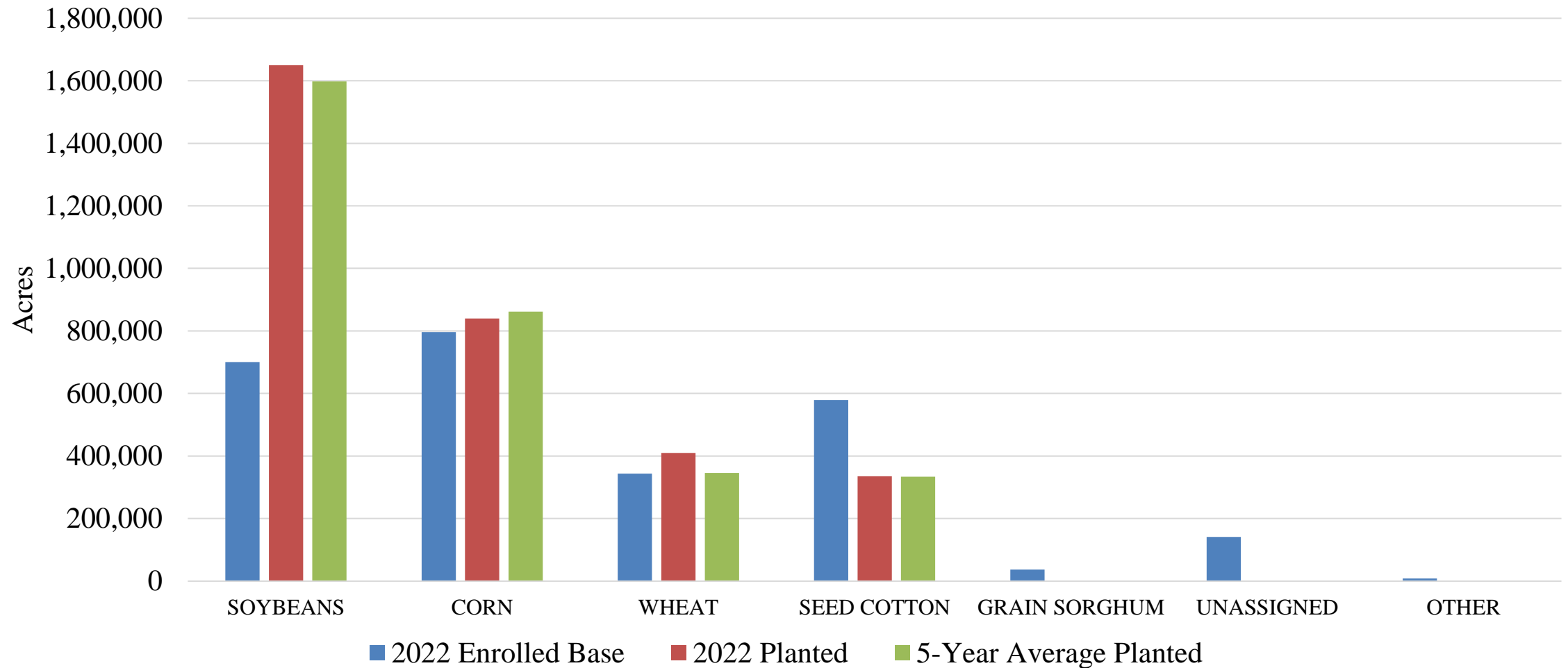
Note: ARC/PLC outlays are reported here by fiscal year and reflect the 2-year offset in timing of payments between program year and fiscal year.

Source: Actual outlays (2016–20), USDA Budget Explanatory Notes; estimated outlays (2021–26) and projected outlays (2027–31), Congressional Budget Office, USDA Mandatory Farm Programs, May 2022.

# Base Acres – U.S.



# Tennessee Base Acres Versus Planted



# Average ARC/PLC Payment per Base Acre

- 2014-2018

|           | <u>Corn</u> | <u>Soybean</u> | <u>Wheat</u> | <u>Sorghum</u> | <u>Cotton*</u> |
|-----------|-------------|----------------|--------------|----------------|----------------|
| Tennessee | \$16.09     | \$4.69         | \$20.76      | \$26.32        | \$27.88        |
| U.S.      | \$23.50     | \$7.21         | \$14.60      | \$25.03        | \$27.48        |

\* 2018 only

- 2019 and 2020

|           | <u>Corn</u> | <u>Soybean</u> | <u>Wheat</u> | <u>Sorghum</u> | <u>Cotton</u> |
|-----------|-------------|----------------|--------------|----------------|---------------|
| Tennessee | \$4.29      | \$4.93         | \$22.79      | \$9.14         | \$58.41       |
| U.S       | \$8.07      | \$6.53         | \$18.90      | \$12.33        | \$52.85       |

# Planted Acres of Nine Primary Covered Commodities for 2021 and 2022 and 2021 Base Acres

|                | Planted Acres<br>2021 | Planted Acres<br>2022 | 2021 and 2022<br>Average | 2021<br>Base Acres   | 2021 and 2022 Average<br>Minus 2021 Base |
|----------------|-----------------------|-----------------------|--------------------------|----------------------|--|
| Alabama        | 1,430,000             | 1,445,000             | 1,437,500                | 1,690,370.13         | (252,870.13)                             |
| Arkansas       | 5,837,000             | 5,821,000             | 5,829,000                | 6,971,170.14         | (1,142,170.14)                           |
| Florida        | 357,000               | 335,000               | 346,000                  | 462,241.94           | (116,241.94)                             |
| Georgia        | 2,845,000             | 2,760,000             | 2,802,500                | 3,353,718.42         | (551,218.42)                             |
| Kentucky       | 3,910,000             | 4,080,000             | 3,995,000                | 3,203,051.96         | 791,948.04                               |
| Louisiana      | 2,190,000             | 2,260,000             | 2,225,000                | 3,153,695.35         | (928,695.35)                             |
| Mississippi    | 3,613,000             | 3,630,000             | 3,621,500                | 3,901,475.43         | (279,975.43)                             |
| North Carolina | 3,596,000             | 3,812,000             | 3,704,000                | 3,639,372.42         | 64,627.58                                |
| Oklahoma       | 6,341,000             | 6,235,000             | 6,288,000                | 9,034,731.40         | (2,746,731.40)                           |
| South Carolina | 1,199,000             | 1,155,000             | 1,177,000                | 1,507,198.11         | (330,198.11)                             |
| Tennessee      | 3,245,000             | 3,510,000             | 3,377,500                | 2,944,803.54         | 432,696.46                               |
| Texas          | 17,107,000            | 17,440,000            | 17,273,500               | 20,910,575.09        | (3,637,075.09)                           |
| Virginia       | 1,460,000             | 1,622,000             | 1,541,000                | 1,383,104.18         | 157,895.82                               |
| <b>Total</b>   | <b>53,130,000</b>     | <b>54,105,000</b>     | <b>53,617,500</b>        | <b>62,155,508.11</b> | <b>(8,538,008.11)</b>                    |

Planted Acres are for the following 9 covered commodities -- Corn, Cotton, Rice, Soybeans, Wheat, Sorghum, Peanuts, Barley and Oats.



# Statutory Reference Prices and Calculated “Effective Reference Prices” Based Off of Historical and CBO Estimated Prices for Covered Commodities

|                 | Statutory Reference Price | 2023  | 2024  | 2025  | 2026  | 2027  | 2028  | 115% of Statutory |
|-----------------|---------------------------|-------|-------|-------|-------|-------|-------|-------------------|
| Corn            | 3.70                      | 3.32  | 4.01  | 4.24  | 4.24  | 4.12  | 3.54  | 4.26              |
| Soybean         | 8.40                      | 8.13  | 9.03  | 9.58  | 9.58  | 9.41  | 8.73  | 9.66              |
| Wheat           | 5.50                      | 4.23  | 5.05  | 5.39  | 5.49  | 5.49  | 4.82  | 6.33              |
| Seed Cotton     | 0.37                      | 0.29  | 0.32  | 0.33  | 0.33  | 0.33  | 0.31  | 0.42              |
| Long Grain Rice | 14.00                     | 10.23 | 10.82 | 11.54 | 11.93 | 11.95 | 11.95 | 16.10             |
| Peanuts         | 0.27                      | 0.19  | 0.19  | 0.20  | 0.20  | 0.20  | 0.20  | 0.31              |
| Grain Sorghum   | 3.95                      | 3.30  | 4.06  | 4.36  | 4.36  | 4.08  | 3.49  | 4.54              |
| All Barley      | 4.95                      | 3.98  | 4.18  | 4.25  | 4.25  | 4.22  | 4.02  | 5.69              |
| Oats            | 2.40                      | 2.34  | 2.77  | 3.07  | 3.26  | 3.26  | 3.03  | 2.76              |
| Sunflower Seed  | 0.20                      | 0.16  | 0.20  | 0.21  | 0.21  | 0.20  | 0.18  | 0.23              |
| Canola          | 0.20                      | 0.15  | 0.16  | 0.18  | 0.19  | 0.19  | 0.17  | 0.23              |
| Flaxseed        | 11.28                     | 8.65  | 10.55 | 10.90 | 10.90 | 10.71 | 9.04  | 12.97             |
| Safflower       | 0.20                      | 0.17  | 0.19  | 0.20  | 0.21  | 0.21  | 0.20  | 0.23              |
| Mustard Seed    | 0.20                      | 0.24  | 0.24  | 0.26  | 0.26  | 0.26  | 0.26  | 0.23              |
| Rapeseed        | 0.20                      | 0.16  | 0.17  | 0.18  | 0.18  | 0.17  | 0.18  | 0.23              |
| Dry Peas        | 14.00                     | 9.11  | 8.60  | 8.45  | 8.50  | 8.50  | 8.50  | 16.10             |
| Lentils         | 19.97                     | 17.03 | 15.07 | 15.84 | 16.01 | 16.29 | 16.15 | 22.97             |
| Large Chickpea  | 21.54                     | 21.62 | 18.05 | 18.19 | 18.70 | 18.70 | 18.70 | 24.77             |
| Small Chickpea  | 19.04                     | 19.01 | 18.05 | 18.47 | 19.55 | 20.12 | 20.12 | 21.90             |

Source: <https://southernagtoday.org/2022/12/what-is-the-expected-impact-of-high-commodity-prices-on-effective-reference-prices-for-covered-commodities/>



# Commodity Title

- Signup 2023.
- Base acre update or reallocation
- Changes to reference prices.
- Margin protection.
- ARC / PLC enrollment.
- Payment eligibility



# TRADE

# U.S. Agricultural Exports Hit Records in FY 2022



U.S. agricultural exports in FY 2022 reached a new record, up **\$24.7 billion** from the previous record in FY 2021.

## \$196.4 billion

Value of U.S. Agricultural Exports in FY 2022

 **14%**  
Percent Increase  
from FY 2021

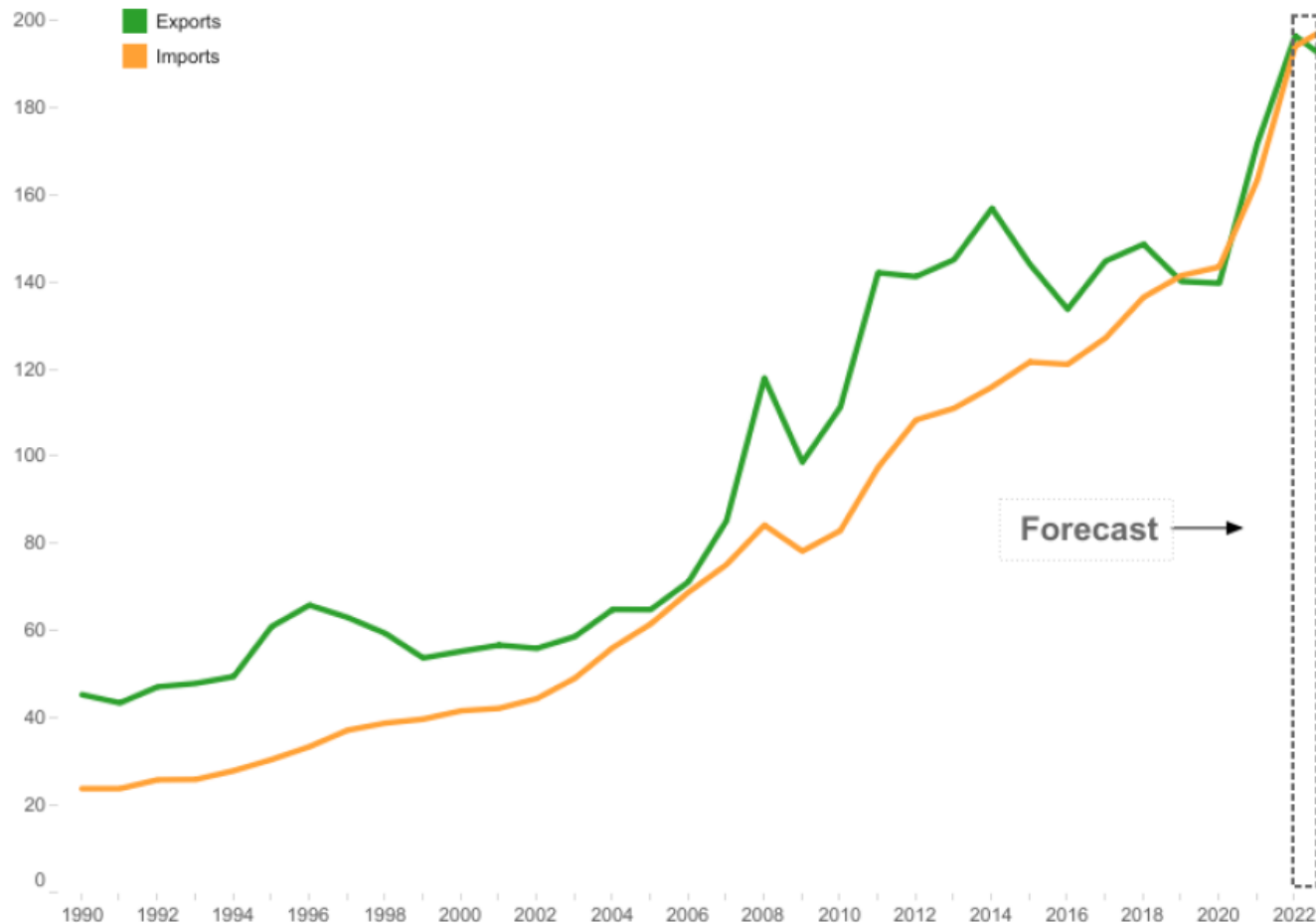
## Top Commodities

The increase in U.S. agricultural exports in FY 2022 was thanks in part to record sales of these top commodities:

|                        |                |                            |                |
|------------------------|----------------|----------------------------|----------------|
| <b>Soybeans</b>        | \$33.3 billion | <b>Feeds &amp; Fodders</b> | \$10.6 billion |
| <b>Corn</b>            | \$19.5 billion | <b>Tree Nuts</b>           | \$9.8 billion  |
| <b>Beef &amp; Veal</b> | \$10.8 billion | <b>Dairy Products</b>      | \$9.1 billion  |

## U.S. agricultural trade

Value, billion dollars

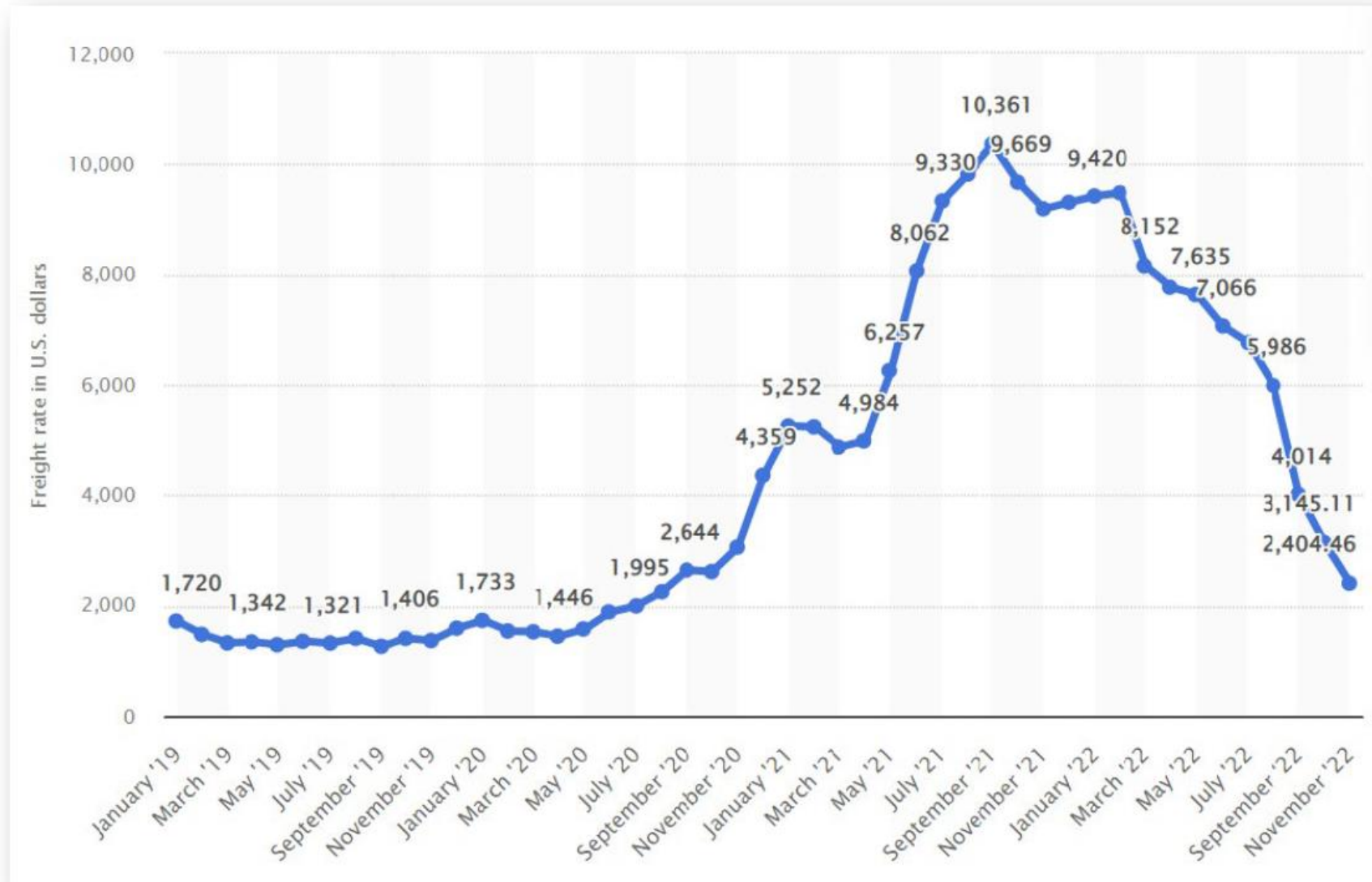


Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

Source: USDA, Economic Research Service

- Agricultural exports in FY 2023 are projected at \$190.0 billion.
  - Down \$3.5 billion from the August forecast.
- Driven by reductions in soybeans, cotton, and corn exports.
- Partially offset by gains in beef, poultry, and wheat.
- Cotton exports are forecast down \$1.0 billion to \$6.0 billion based on lower unit values and demand.

## Global container freight rate index from July 2019 to Nov. 2022 (in U.S. dollars)

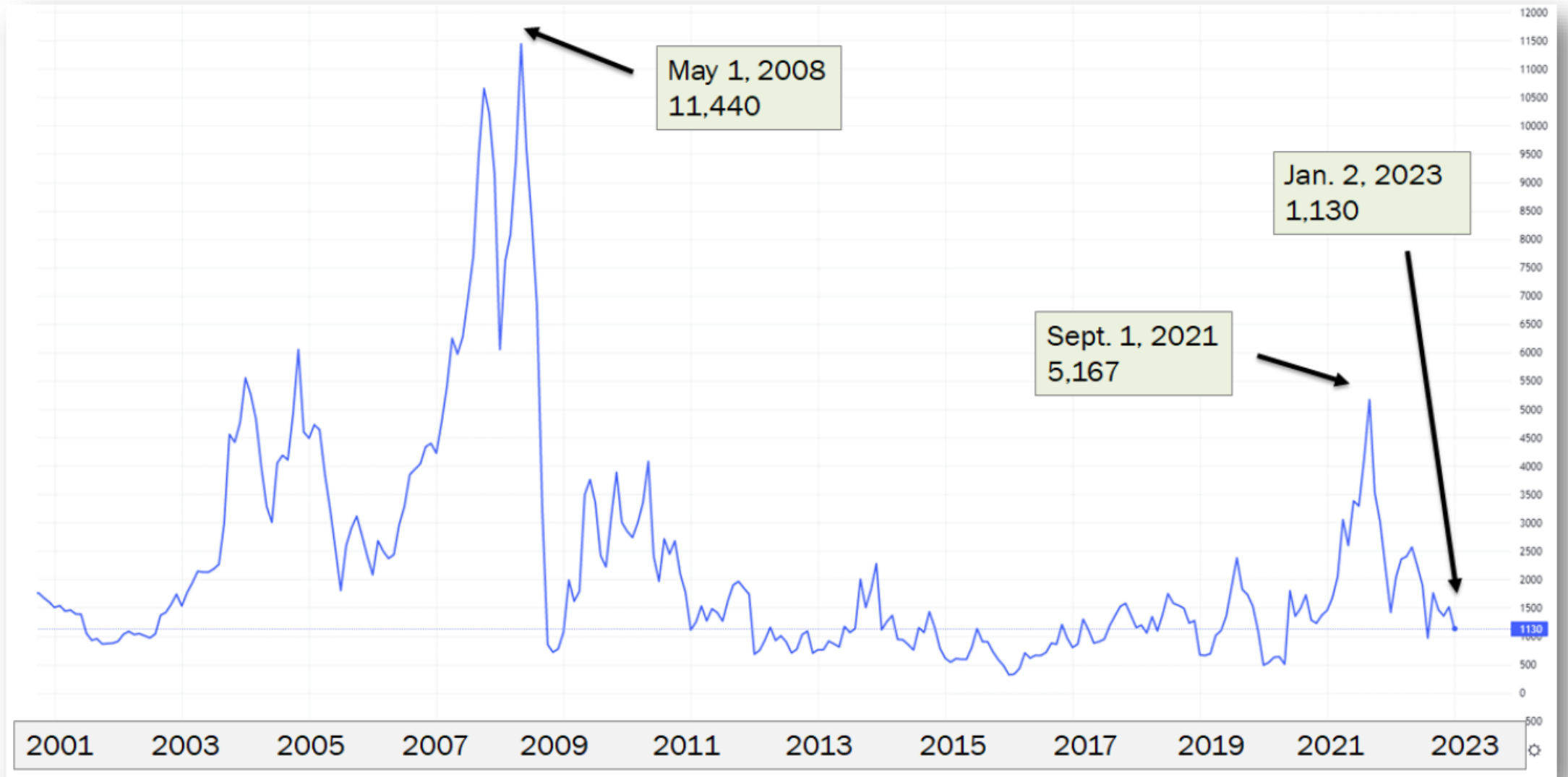


**76%**  
**since**  
**peak**  
**(Sept. 2021)**

Source(s): Freightos; ID 1250636 (downloaded from statista.com)

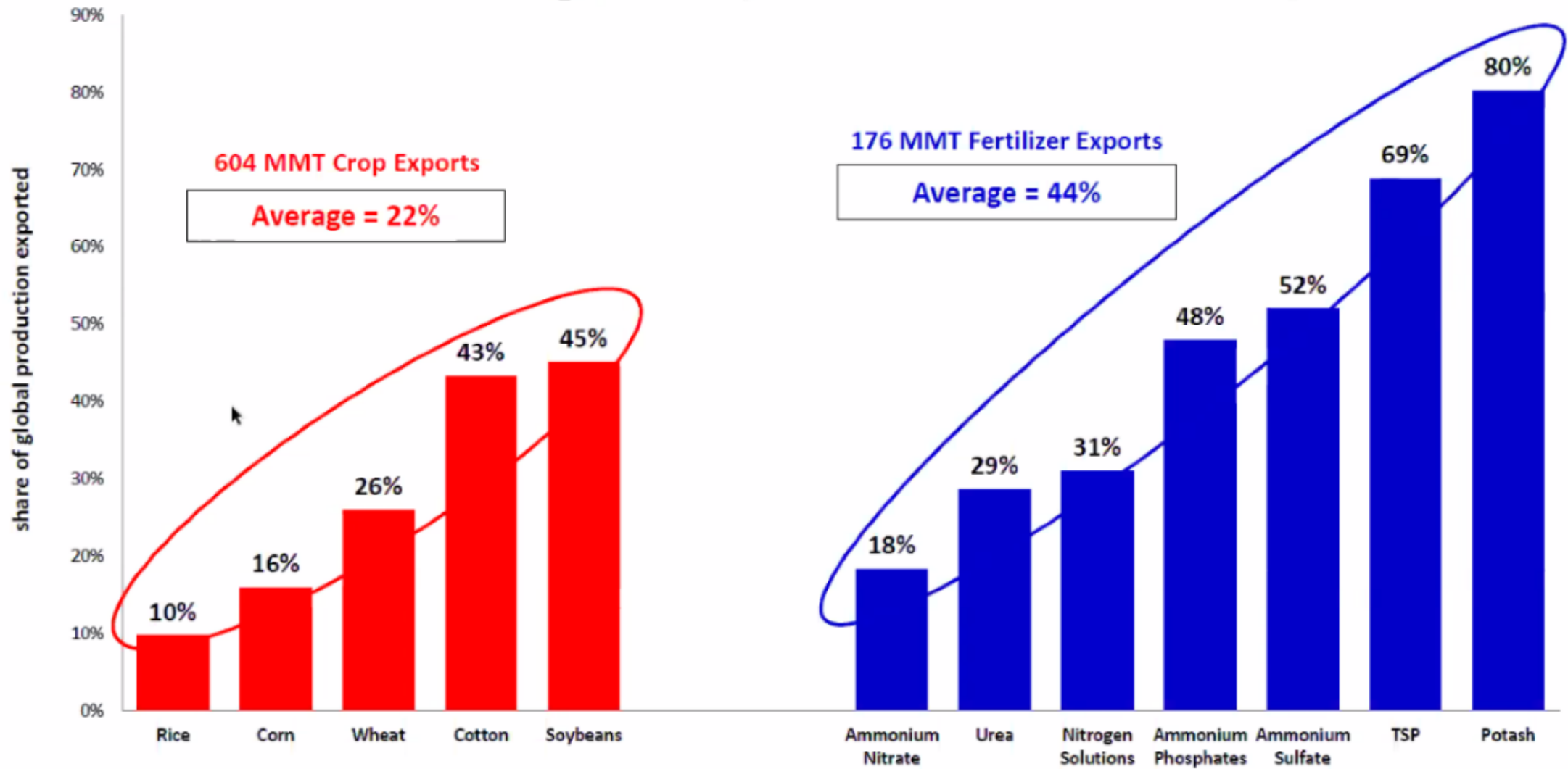


# Baltic Dry Index: January 2001 – January 2023



Source: <https://tradingeconomics.com/commodity/baltic>

## Share of World Crop (2020/21) and Fertilizer Products (2020) Traded



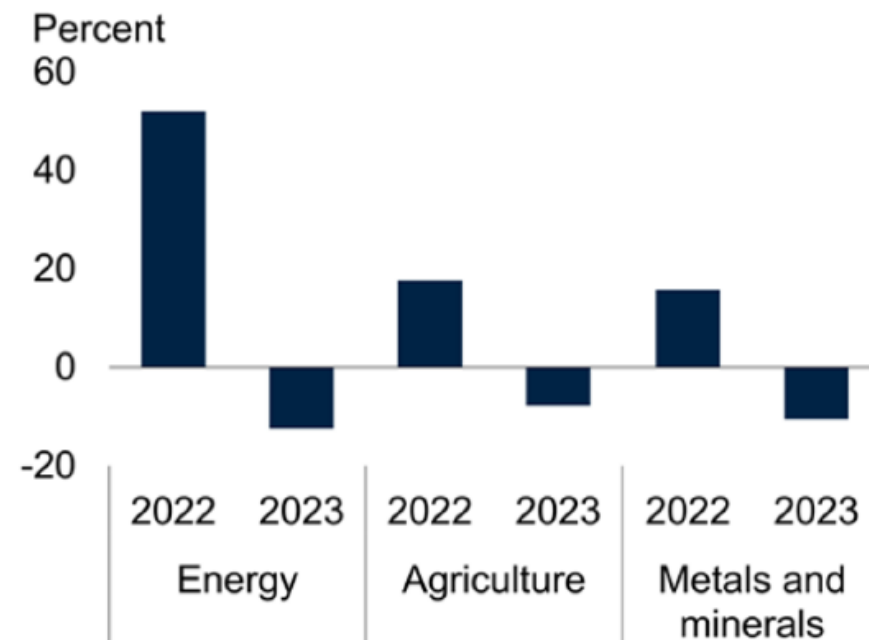
Source: U.S. Department of Agriculture and International Fertilizer Industry Association.  
Averages computed as total exports (crop or fertilizer material) divided by total production.



## A. Russia and Ukraine's share of commodity exports



## B. Commodity price forecasts

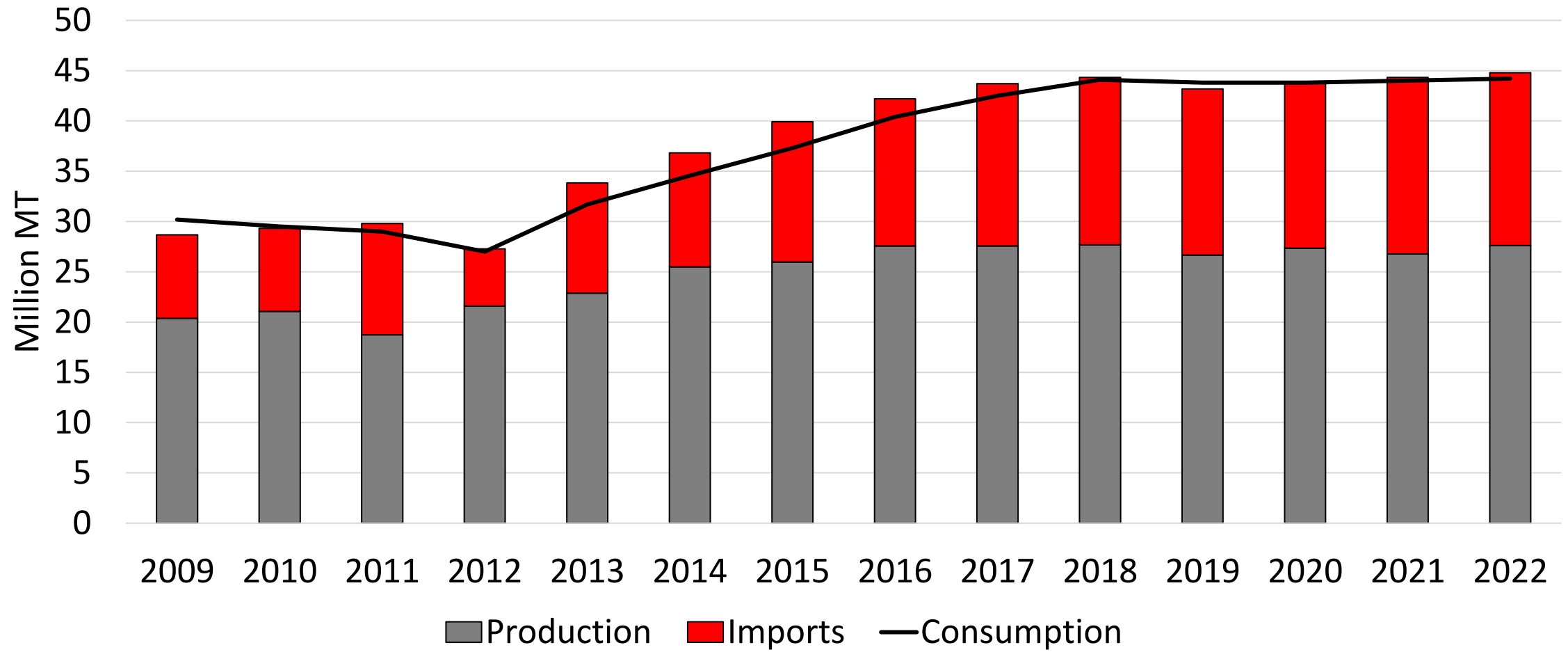


Sources: Bloomberg; BP Statistical Review; Energy Information Administration; International Energy Agency; UN Comtrade; U.S. Department of Agriculture; World Bank.

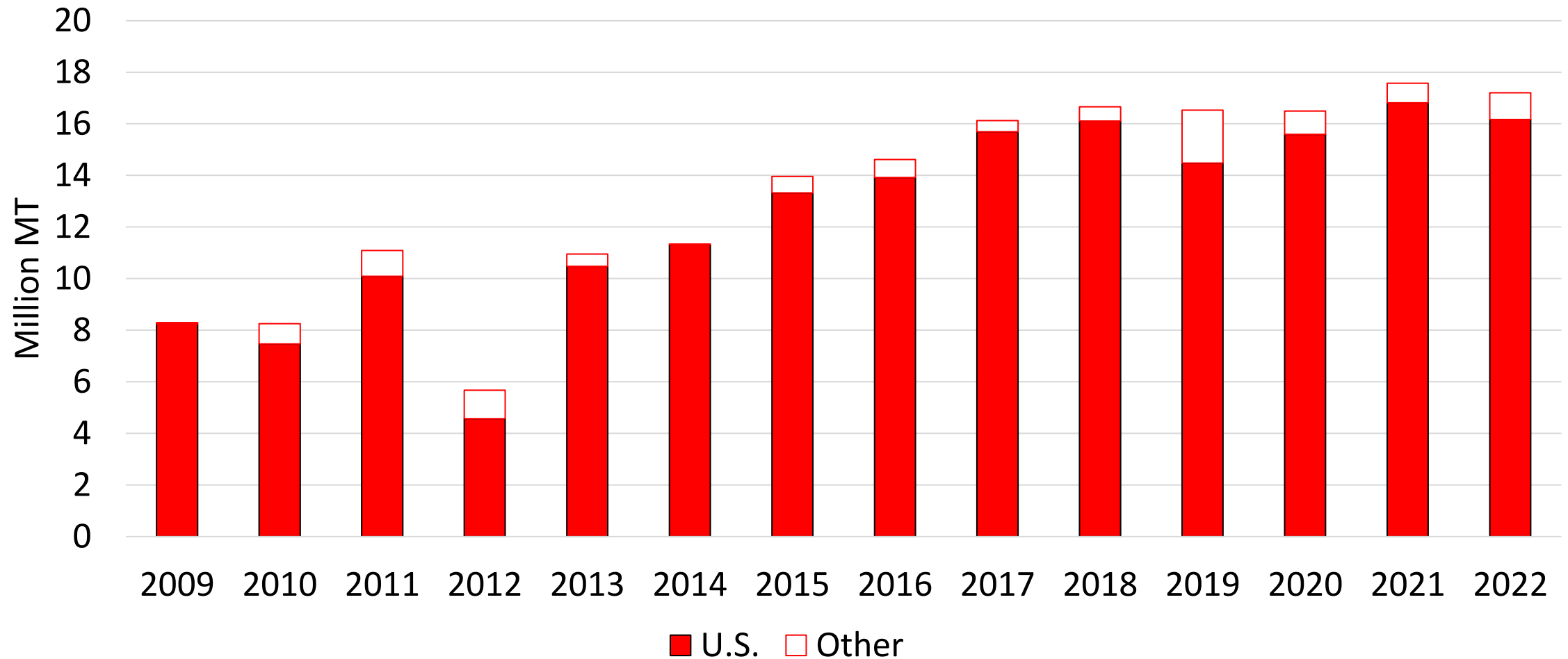
# USMCA GMO Corn

- December 2020 when Mexico's president, Andrés Manuel López Obrador, issued a presidential decree calling for GM corn for human consumption to be phased out by the end of January 2024.
- U.S. exports approximately 15% of total corn production.
  - U.S. corn exports to Mexico represented 25% of all corn exports from 2009-2022.
- ~92% of corn exported to Mexico is yellow corn.

# Mexico Corn Production, Imports, and Consumption, 2009-2022



# Corn Exports to Mexico, 2009-2022



# Policy and Trade Summary

- Extension of the current Bill seems likely.
- Crop insurance remains a cornerstone of the farm safety and is unlikely to change substantially in a new Farm Bill.
- Tennessee could benefit from a base acre update and reallocation.
- Agricultural trade is forecast to reduce slightly in 2023.

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# THANK YOU