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Grains and Oilseeds Outlook

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GRAINS AND OILSEEDS OUTLOOK FOR 2023¹

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Wheat, Feed Grains, Rice, and Oilseeds Interagency Commodity Estimates Committees
U.S. Department of Agriculture

Planted Acreage Outlook for 2023 (Table 1)

This paper provides USDA's projections of 2023/24 U.S. supply, demand, and prices for wheat, rice, corn, sorghum, soybeans, and soybean products. These projections include implications of the January 12 NASS *Winter Wheat and Canola Seedings* report, which estimated winter wheat area 11 percent higher than in 2022. As always, normal weather conditions are assumed throughout the season. These forecasts will be updated in the May 12 World Agricultural Supply and Demand Estimates (WASDE) report. The May *WASDE* will incorporate farmers' 2023 planting intentions as indicated in the March 31 NASS *Prospective Plantings* report and survey-based forecasts for winter wheat production, as well as global, country-by-country supply and demand projections.

The initial expectations for 2023 planted area indicate growth in total planted area of corn, wheat, and soybeans relative to the previous year. Combined acreage for the three crops is projected at 228 million acres—a nearly 3-percent increase from 2022. Prices for all three crops are projected to be lower than 2022 but remain elevated relative to historical averages over the past 10 years.

Table 1. Wheat, Corn, and Soybean Planted Acreage, 2016-2023

	2016	2017	2018	2019	2020	2021	2022	2023 1/
	- Million Acres -							
Wheat	50.1	46.1	47.8	45.5	44.5	46.7	45.7	49.5
Corn	94.0	90.2	88.9	89.7	90.7	93.3	88.6	91.0
Soybeans	83.5	90.2	89.2	76.1	83.4	87.2	87.5	87.5
Total	227.6	226.4	225.9	211.3	218.5	227.2	221.8	228.0

1/ Projection

Source: National Agricultural Statistics Service data 2016-2022

Note: Totals may not add due to rounding.

¹This paper incorporates contributions by analysts from the World Agricultural Outlook Board, the Economic Research Service, the FPAC-BC, and the Foreign Agricultural Service.

Production costs for producers are mixed relative to a year ago. According to AMS' *Illinois Production Cost* report² prices for some inputs such as anhydrous ammonia and urea are down from a year ago, while diesel is higher. Interest costs have increased sharply, with the 3-month Treasury Bill yielding between 4 and 5 percent since the start of calendar year 2023 compared to less than 0.5 percent during most of February a year ago. While prices for most crops are expected to remain high by historical standards, crop revenue diversification will be a key factor in producer planting decisions, and it is likely crop rotations will weigh heavily in the current market environment. Since the start of February, prices for fall delivery of corn in Illinois have averaged about \$5.60 per bushel, essentially unchanged relative to the same period last year, while soybean prices for fall delivery have averaged about \$13.50 per bushel, down from about \$14 during all of February a year ago.³

Among the three main crops, wheat area is projected to increase the most, in response to continued high global prices and tight U.S and global supplies, partially due to the ongoing war in Ukraine. Soybean area is expected to remain about the same as in 2022. Demand for soybeans in the United States is expected to be driven by stronger demand for domestic crush—largely driven by growth in biofuel use- while exports likely face competition from continued production growth in South American during the 2023/24 U.S. marketing year. Corn planted area is projected to increase about 3 percent relative to last year when plantings were affected by weather-related delays and prevented planting in key-producing regions.

Corn Supply, Demand, and Price Outlook for 2023/24 (Table 2)

The U.S. corn outlook for 2023/24 is for larger production, greater domestic use, increased exports, and higher ending stocks. The corn crop is projected at 15.085 billion bushels, about 10 percent above a year ago and if realized the second highest on record behind 2016/17. Corn planted area is forecast at 91.0 million acres, up 2.4 million from a year ago. The yield projection of 181.5 bushels per acre is based on a weather-adjusted trend assuming normal planting progress and summer growing season weather. Despite beginning stocks that are lower than a year ago, total corn supplies are forecast at 16.377 billion bushels, or up about 8 percent.

Total U.S. corn use for 2023/24 is forecast higher relative to last year on growth in domestic use and exports. Food, seed, and industrial (FSI) use is unchanged at 6.690 billion bushels. Corn used for ethanol is forecast at 5.250 billion bushels, based on expectations of flat motor gasoline consumption. Feed and residual use is up about 6 percent to 5.600 billion, reflecting corn production that is higher than a year ago and lower expected prices during the year. Exports are up 275 million bushels to 2.200 billion, with expectations of reduced exportable supplies in Ukraine, modest global trade growth, and continued robust demand from China. Ending stocks are projected at 1.887 billion bushels, up 620 million from a year ago and resulting in stocks relative to use at 13.0 percent, which if realized would be the highest since 2019/20. The season-average corn price received by producers is forecast down \$1.10 to \$5.60 per bushel.

² *Illinois Production Cost Report* (GX_GR210) can be accessed via <https://mymarketnews.ams.usda.gov/viewReport/3195>

³ *Illinois Grain Bids Report* can be accessed via <https://mymarketnews.ams.usda.gov/viewReport/3192>

Soybean Supply, Demand, and Price Outlook for 2023/24 (Tables 3, 4 & 5)

The 2023/24 outlook for U.S. soybeans is for higher supplies, crush, exports, and ending stocks. Soybean supplies are projected at 4.8 billion bushels, 4 percent above 2022/23 with increased production partly offset with lower beginning stocks. Soybean production is projected at 4.5 billion bushels, 5 percent above a year earlier with higher yields accounting for most of the increase. The yield forecast of 52.0 bushels per acre is based on a weather-adjusted trend assuming normal growing season weather. Planted area is unchanged from 2022/23 at 87.5 million acres.

Soybean crush is projected to rise to a record 2.31 billion bushels, supported by meal demand growth and high prices for biofuel feedstocks in the United States. Soybean oil prices have increased substantially since early 2021 driven by tight global vegetable oil supplies and numerous announcements to expand renewable diesel capacity in the United States. During the past year, soybean oil used in biofuel has increased and U.S. prices have risen to levels above the world market, driving exports to historical lows. This trend is expected to continue under current state mandates and the Environmental Protection Agency's (EPA) proposed rule for 2023 through 2025. As stated in EPA's proposal, USDA assumes that non-cellulosic advanced biofuel (biomass-based diesel) will be used to satisfy part of the implied conventional renewable fuel volume requirement. Soybean oil for biofuel is expected to grow 8 percent to 12.5 billion pounds in 2023/24. As new renewable diesel producers enter the market, competition for biofuel feedstocks will continue to support soybean oil prices and limit growth in other domestic markets and exports.

With increased soybean meal production and limited gains in domestic soybean meal use, soybean meal exports are forecast at a record 14.5 million short tons. Soybean meal exports are expected to be relatively strong in the first part of the marketing year with limited exportable supplies in Argentina. Soybean meal prices are forecast down to \$410 per short ton.

Soybean exports for 2023/24 are projected at 2.03 billion bushels, up 35 million from the 2022/23 forecast. With a record harvest currently underway in Brazil, South American supplies will be higher this year as the U.S. 2023/24 export season gets underway. With another large South American harvest expected in early 2024, export competition will likely limit potential gains in U.S. exports in the second half of the marketing year.

Soybean ending stocks for 2023/24 are projected at 290 million bushels, up 65 million from the 2022/23 forecast. The soybean season-average farm price is projected at \$12.90 per bushel, down from 2022/23 as global soybean production recovers from consecutive South American drought-reduced crops. Although current forward price opportunities remain near last year's level, price expectations are likely to moderate later this year.

Wheat Supply, Demand, and Price Outlook for 2023/24 (Table 6)

The 2023/24 outlook for U.S. wheat is for increased supplies, larger total use, and slightly higher ending stocks. U.S. wheat production is projected 14 percent above 2022/23 at 1,887 million bushels on both higher area and yield. The NASS *Winter Wheat and Canola Seedings* report estimated winter wheat seeded area at 37.0 million acres, up 11 percent from 2022/23 and the largest since 2015/16. Combined spring and durum wheat plantings for 2023/24 are projected slightly higher than last year with the area expansion constrained by expected favorable net returns for corn, soybeans, and other crops in the Northern Plains. Total wheat planted area for 2023/24 is projected at 49.5 million acres, up nearly 3.8 million acres from last year and the highest wheat area since 2016/17. Wheat harvested area is based on 10-year average harvest-to-plant (H-to-P) ratios for all states with the exceptions of Kansas, Oklahoma, and Texas, where last year's H-to-P ratios are used. This is in recognition of the long-term drought continuing to affect the Southern Plains region. The 2023/24 H-to-P ratio of 77.5 percent is similar to last year's 77.6 percent and below the 10-year average of 82.1 percent. The all wheat yield for 2023/24 is projected up 6 percent from last year's drought-affected yield at 49.2 bushels per acre and is based on a long-term linear trend. A larger crop more than offsets lower beginning stocks to raise 2023/24 supplies by 4 percent to 2,575 million bushels.

At 1,967 million bushels, projected 2023/24 total use is up 4 percent from a year earlier but below the 5-year average. Domestic use is projected modestly higher on larger feed and residual use as increased supplies of wheat are expected to be more competitively priced than corn during the summer months in some states outside the Corn Belt who had significantly smaller corn production last year. Food use is projected marginally higher to a new record 977 million bushels, based on population growth. Higher wheat exports are expected with increased supplies although exports are still forecast below the 5-year average at 825 million bushels. U.S. wheat export prices are expected to remain uncompetitive in several markets, limiting export gains. With supplies projected to increase more than total use, 2023/24 ending stocks are raised modestly to 608 million bushels. This is 7 percent above last year but well below the 5-year average. The increased stocks and slightly higher stocks-to-use ratio of 30.9 percent contributes to a projected 2023/24 season-average farm price (SAFP) of \$8.50 per bushel, down \$0.50 from 2022/23 but still the second highest SAFR on record.

Rice Supply, Demand, and Price Outlook for 2023/24 (Tables 7 & 8)

The 2023/24 rice outlook is for a partial rebound in production, larger domestic and residual use, higher exports, and increased ending stocks. All rice production is projected at 185.0 million hundredweight (cwt), up 15 percent from a year earlier. Total 2023 planted area is projected up almost 13 percent from this year to 2.5 million acres. Medium- and short grain area in California is expected to partially rebound on strong winter precipitation to date that raised reservoir levels. The all rice yield projection is 7,523 pounds per acre, 2 percent higher than last year, and is based on normal planting progress and weather conditions. Despite lower beginning stocks relative to a year ago, total rice supplies are forecast at 257.0 million cwt, up 6 percent.

Total domestic consumption and residual use is projected 4 million cwt higher to 151.0 million, primarily on increased disappearance of long-grain rice. Exports are forecast at 70.0 million cwt,

an increase of 8.0 million from this year but still significantly below previous years, as still relatively tight supplies and uncompetitive U.S. prices limit growth in exports, especially for medium- and short-grain rice. All rice ending stocks are forecast to increase 3.0 million cwt, to 36.1 million. The all-rice season average farm price is forecast to decline \$1.00 per cwt to \$18.40, as prices for all classes of rice recede from 2022/23 record or near-record levels but remain elevated.

Table 2. Corn Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 1/	2023/24 2/
Area planted (mil. ac.)	90.7	93.3	88.6	91.0
Area harvested	82.3	85.3	79.2	83.1
Yield (bu./ac.)	171.4	176.7	173.3	181.5
Production (mil. bu.)	14,111	15,074	13,730	15,085
Beginning stocks	1,919	1,235	1,377	1,267
Imports	24	24	50	25
Supply	16,055	16,333	15,157	16,377
Feed & residual	5,607	5,718	5,275	5,600
Ethanol 3/	5,028	5,326	5,250	5,250
Total food, seed & industrial	6,467	6,766	6,690	6,690
Total domestic use	12,074	12,484	11,965	12,290
Exports	2,747	2,471	1,925	2,200
Total use	14,821	14,956	13,890	14,490
Ending stocks	1,235	1,377	1,267	1,887
Stocks/use (percent)	8.3	9.2	9.1	13.0
Season-avg. farm price (\$/bu.)	4.53	6.00	6.70	5.60

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, use, ending stocks, and season-average farm price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023. 2/ Projections based on analysis by USDA's Feed Grains Interagency Commodity Estimates Committee. 3/ Corn used to produce ethanol and by-products including, distillers' grains, corn gluten feed, corn gluten meal, and corn oil.

Note: Totals may not add due to rounding.

Table 3. Soybean Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 /1	2023/24 /2
Area planted (mil. ac.)	83.4	87.2	87.5	87.5
Area harvested	82.6	86.3	86.3	86.7
Yield (bu./ac.)	51.0	51.7	49.5	52.0
Production (mil. bu.)	4,216	4,465	4,276	4,510
Beginning stocks	525	257	274	225
Imports	20	16	15	15
Supply	4,761	4,738	4,566	4,750
Crush	2,141	2,204	2,230	2,310
Seed and Residual	97	102	120	126
Total domestic use	2,238	2,306	2,350	2,436
Exports	2,266	2,158	1,990	2,025
Total use	4,504	4,464	4,340	4,461
Ending stocks	257	274	225	290
Stocks/use (percent)	5.7	6.1	5.2	6.5
Season-avg. farm price (\$/bu.)	10.80	13.30	14.30	12.90

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, crush, exports, ending stocks, and season-average farm price are projections from the *World Agricultural Supply and Demand Estimates* report, February 8, 2023.

2/ Projections based on analysis by the USDA's Oilseeds Interagency Commodity Estimates Committee.

Note: Totals may not add due to rounding.

Table 4. Soybean Meal Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 /1	2023/24 /2
Production (thou. short tons)	50,565	51,811	52,639	54,475
Beginning stocks	341	341	311	350
Imports	784	649	600	600
Supply	51,691	52,800	53,550	55,425
Domestic Use	37,674	38,966	39,500	40,475
Exports	13,675	13,524	13,700	14,500
Total use	51,350	52,490	53,200	54,975
Ending stocks	341	311	350	450
Avg. price (\$/short ton) 3/	392.31	439.81	450.00	410.00

1/ Production, imports, use, ending stocks, and average price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023.

2/ Projections based on analysis by the USDA's Oilseeds Interagency Commodity Estimates Committee.

3/ The average price is for 48-percent protein meal at Decatur, Illinois.

Note: Totals may not add due to rounding.

Table 5. Soybean Oil Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 /1	2023/24 /2
Production (mil. lbs.)	25,023	26,143	26,245	27,120
Beginning stocks	1,853	2,131	1,991	1,936
Imports	302	303	300	350
Supply	27,177	28,578	28,536	29,406
Domestic Use	23,314	24,813	25,900	26,800
Biofuel 3/	8,920	10,348	11,600	12,500
Food, Feed, Other Industrial	14,394	14,465	14,300	14,300
Exports	1,731	1,773	700	800
Total use	25,046	26,587	26,600	27,600
Ending stocks	2,131	1,991	1,936	1,806
Avg. price (cents/lb.) 4/	56.9	73.0	68.0	60.0

1/ Production, imports, use, ending stocks, and average price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023.

2/ Projections based on analysis by the USDA's Oilseeds Interagency Commodity Estimates Committee.

3/ Reflects soybean oil used for biofuel as reported by the U.S. Energy Information Administration.

4/ The average price is for crude soybean oil at Decatur, Illinois.

Note: Totals may not add due to rounding.

Table 6. Wheat Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 1/	2023/24 2/
Area planted (mil. ac.)	44.5	46.7	45.7	49.5
Area harvested	36.8	37.1	35.5	38.4
Yield (bu./ac.)	49.7	44.3	46.5	49.2
Production (mil. bu.)	1,828	1,646	1,650	1,887
Beginning stocks	1,028	845	698	568
Imports	100	95	120	120
Supply	2,956	2,587	2,468	2,575
Feed & residual	93	59	80	100
Food & seed	1,024	1,029	1,045	1,042
Total domestic use	1,117	1,088	1,125	1,142
Exports	994	800	775	825
Total use	2,111	1,888	1,900	1,967
Ending stocks	845	698	568	608
Stocks/use (percent)	40.0	37.0	29.9	30.9
Season-avg. farm price (\$/bu.)	5.05	7.63	9.00	8.50

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, use, ending stocks, and season-average farm price are projections from the World Agricultural Supply and Demand Estimates, February 8, 2023. 2/ Projections based on analysis by USDA's Wheat Interagency Commodity Estimates Committee. Note: Totals may not add due to rounding.

Table 7. Rice Supply, Demand, and Price, 020/21-2023/24

Rice-by-Class	2020/21	2021/22	2022/23 1/	2023/24 2/
<u>All Rice</u>				
Area planted (mil. ac.)	3.0	2.5	2.2	2.5
Area harvested	3.0	2.5	2.2	2.5
Yield (pounds/ac.)	7,619	7,709	7,383	7,523
Production (mil. cwt)	227.5	191.6	160.4	185.0
Beginning stocks	28.7	43.7	39.7	33.1
Imports	34.1	37.8	42.0	39.0
Supply	290.2	273.0	242.1	257.1
Domestic & residual use	153.1	151.1	147.0	151.0
Exports	93.5	82.2	62.0	70.0
Total use	246.6	233.3	209.0	221.0
Ending stocks	43.7	39.7	33.1	36.1
Stocks/use (percent)	17.7	17.0	15.8	16.3
Season avg. farm price (\$/cwt.)	14.40	16.10	19.40	18.40

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, use, ending stocks, and season-average farm price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023. 2/Projections based on analysis by USDA's Rice Interagency Commodity Estimates Committee. Note: Totals may not add due to rounding.

Table 8. Rice-by Class Supply, Demand, and Price, 2020/21-2023/24

Rice-by-Class	2020/21	2021/22	2022/23 1/	2023/24 2/
<u>Long-grain</u>				
Area planted (mil. ac.)	2.3	2.0	1.8	2.0
Area harvested	2.3	1.9	1.8	2.0
Yield (pounds/ac.)	7,422	7,471	7,224	7,340
Production (mil. cwt)	170.8	144.6	128.2	144.5
Beginning stocks	16.9	29.7	24.6	21.8
Imports	27.4	30.7	33.0	31.0
Supply	215.1	205.0	185.8	197.3
Domestic & residual use	120.3	119.7	117.0	120.0
Exports	65.0	60.6	47.0	52.0
Total use	185.3	180.3	164.0	172.0
Ending stocks	29.7	24.6	21.8	25.3
Stocks/use (percent)	16.0	13.7	13.3	14.7
Season avg. farm price (\$/cwt.)	12.60	13.60	16.90	15.75
<u>Medium- and short-grain</u>				
Area planted (mil. ac.)	0.7	0.6	0.4	0.5
Area harvested	0.7	0.6	0.4	0.5
Yield (pounds/ac.)	8,282	8,549	8,094	8,250
Production (mil. cwt)	56.7	47.0	32.2	40.5
Beginning stocks	10.7	11.5	13.0	9.3
Imports	6.7	7.1	9.0	8.0
Supply	72.7	66.0	54.3	57.8
Domestic & residual use	32.8	31.4	30.0	31.0
Exports	28.5	21.5	15.0	18.0
Total use	61.2	53.0	45.0	49.0
Ending stocks	11.5	13.0	9.3	8.8
Stocks/use (percent)	18.7	24.6	20.6	17.9
Season avg. farm price (\$/cwt.)	20.10	26.40	29.20	27.60
California	22.60	31.90	36.00	33.00
Other States	13.00	13.90	17.60	16.25

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, use, ending stocks, and season-average farm price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023. 2/Projections based on analysis by USDA's Rice Interagency Commodity Estimates Committee. Note: Totals may not add due to rounding.

Table 9. Sorghum Supply, Demand, and Price, 2020/21-2023/24

	2020/21	2021/22	2022/23 1/	2023/24 2/
Area planted (mil. ac.)	5.9	7.3	6.3	6.5
Area harvested	5.1	6.5	4.6	5.7
Yield (bu./ac.)	73.2	69.0	41.1	69.2
Production (mil. bu.)	373	448	188	394
Beginning stocks	30	20	47	25
Imports	0	0	0	0
Supply	403	468	235	419
Feed & residual	97	81	70	105
Food, seed & industrial	7	45	50	50
Total domestic use	104	127	120	155
Exports	279	294	90	230
Total use	383	421	210	385
Ending stocks	20	47	25	34
Stocks/use (percent)	5.2	11.2	11.9	8.8
Season-avg. farm price (\$/bu.)	5.04	5.94	6.90	5.60

1/ Acreage, yield, production, and beginning stocks are estimates from the National Agricultural Statistics Service. Imports, use, ending stocks, and season-average farm price are projections from the *World Agricultural Supply and Demand Estimates*, February 8, 2023. 2/ Projections based on analysis by USDA's Feed Grains Interagency Commodity Estimates Committee.

Note: Totals may not add due to rounding.