

Baseline Update for International Dairy, Livestock and Biofuel Markets

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The projections reported here are based on the market outlook reported in the *Baseline Update for U.S. Agricultural Markets*, FAPRI-MU Report #04-21.

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Summary

In 2021 the markets for the commodities in this update have continued to be disrupted by COVID-19. All levels of the markets in many countries have been impacted from the supply of inputs, to processing capability and logistics. African Swine Fever (ASF), particularly in China, has disrupted meat markets. Volatility in these markets in the near term is to be expected and it is important to note that the path these markets take will be more volatile than what is projected here. Furthermore, the numbers presented in this report should not be interpreted as forecasts but as projections. They are estimates of the average values that would prevail under normal weather, current policy and macroeconomic parameters assumed herein.

This update was prepared the weeks of August 23 and August 30, 2021 using data available at that time. Current policies are assumed to remain in place. The update uses data for international dairy and livestock from USDA's Production, Supply and Distribution database, with updates from the latest USDA's GAIN reports and other sources. Biofuels data comes primarily from F.O. Licht supplemented by GAIN reports and some country sources. The macroeconomy is assumed to evolve as forecast by IHS Markit in July 2021. Additionally no further assumptions have been made with regards to any other markets impacts associated with COVID-19.

International Dairy Markets

- International dairy product prices finished 2020 strongly, and although in many cases they have fallen since then they are likely to average levels higher than we have seen in recent years.
- Price strength comes from a number of sources. Undoubtedly supply issues as a result of COVID-19 have been important, but a major driver has been increasing Chinese demand. Production levels in the EU have been flat which means demand has to be met from other exporters some of which have constraints on expanding production.
- Prices in the near term are projected to remain strong, but this will depend on China and the inevitable supply response.
- Higher input price projections contribute to higher projected product prices in later years than previously estimated.

International Livestock Markets

- Due to the impacts of COVID-19, production and domestic use of chicken meat in Thailand and Turkey fell in 2020. Over the next five years chicken meat per capita consumption growth is expected to outpace production growth, leading to lower exports.
- Slower growth in Philippine pork production is expected as the industry recovers from ASF. This leads to a higher level of sustained pork imports over the baseline period.
- Despite sow numbers and pork production increasing in China during 2021, ASF continues to disrupt the industry. New outbreaks have resulted in slower than anticipated recovery and continue to support higher pork import levels than were observed pre-ASF.
- Currently, China's main imports of pork are being sourced from the U.S., Canada, Brazil, and the EU (less Germany). We have assumed this trend will continue over the next few years despite ASF continuing to spread globally and its recent discovery in the Dominican Republic. However, given this is an every evolving situation we continue to monitor it as it a major source of uncertainty in the international livestock market.

- China's appetite for beef is expected to continue growing over the next 5 years as consumption outpaces production leading to higher imports.
- In 2020, Russia became a net exporter of pork and is expected to do so for chicken meat as well in 2021 as they continue to work towards their policy goal of achieving self-sufficiency.

International Biofuel Markets

- Biofuel prices rise in the short-term as feedstock prices strengthen and demand recovers from the lockdowns and income shocks associated with the COVID-19 pandemic.
- Traded ethanol prices weaken in dollar or real terms after demand returns to normal conditions and as feedstock prices flatten or slide lower.
- For biodiesel, use expands over a longer period initially and feedstock price strength endures somewhat beyond the near future, so traded biodiesel prices hold up somewhat longer before also weakening.
- Policies play a large role in driving biofuel use higher in many countries. Use in Brazil could be propelled higher by RenovaBio, depending on program implementation. Consumption in Indonesia, the European Union, and China are also sensitive to policy decisions.
- Policies could help cause global biofuel trade to look different in the future. Indonesia exports are sensitive to policies and domestic market conditions, but could remain low relative to past peaks. U.S. and Brazil trade could reflect the relative contributions of biofuels from different feedstocks towards their fuel policies. Biodiesel trade remains sensitive to the eligibility of different products to count towards different policy goals.

For more detail on related market events, see the FAPRI-MU baseline projections for United States crop and biofuel markets (www.fapri.missouri.edu), the United States livestock, poultry and dairy sectors and on consumer food prices, see a companion report by the MU Agricultural Markets and Policy team (amap.missouri.edu) and the Center for Economic Development at the University of Nevada, Reno for international crop markets (www.unr.edu/business/research-and-outreach/uced).

International dairy

World dairy prices

	2019	2020	2021	2022	2023	2024	2025	2026
Oceania								
	(U.S. dollars per tonne)							
Cheese price	3,915	3,958	4,240	4,133	4,056	4,064	4,092	4,095
Butter price	4,520	3,855	4,904	4,419	4,278	4,235	4,286	4,335
SMP price	2,621	2,799	3,206	3,057	2,891	2,785	2,791	2,786
WMP price	3,133	2,983	3,825	3,570	3,427	3,357	3,399	3,429
Northern Europe								
	(U.S. dollars per tonne)							
Butter price	4,408	3,666	4,716	4,230	4,089	4,047	4,098	4,146
SMP price	2,375	2,454	2,993	2,844	2,678	2,572	2,578	2,573
WMP price	3,288	3,081	3,804	3,548	3,406	3,335	3,378	3,407
	(U.S. dollars per cwt)							
U.S. all milk price*	18.65	18.25	18.13	18.26	18.44	18.43	18.45	18.50

* From AMAP projections

New Zealand

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	4,946	4,922	4,850	4,868	4,867	4,831	4,806	4,818
	(Kilograms per head)							
Yield	4,438	4,499	4,613	4,616	4,647	4,694	4,755	4,806
	(Thousand tonnes)							
Milk production	21,896	21,980	22,415	22,467	22,534	22,619	22,881	23,184
Fluid use	520	525	528	534	541	547	551	556
Factory use	21,002	21,101	21,532	21,579	21,639	21,718	21,976	22,274
Cheese								
Production	365.0	350.0	383.4	380.0	370.4	377.4	384.5	388.2
Imports	13.0	10.0	13.0	10.0	13.0	10.0	13.0	10.0
Exports	335.0	327.0	360.7	350.7	343.4	347.3	357.3	357.2
Consumption	38.0	38.0	38.6	39.0	39.7	40.1	40.3	40.8
Stocks	73.0	68.0	65.2	65.4	65.8	65.8	65.6	65.8
Butter								
Production	525.0	500.0	499.7	489.5	488.2	494.0	504.9	515.9
Imports	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exports	509.0	471.0	472.2	459.1	457.8	463.6	474.6	485.0
Consumption	29.0	30.0	30.0	30.3	30.9	31.2	31.4	31.8
Stocks	93.0	93.0	91.5	92.5	93.1	93.2	93.0	93.2
SMP								
Production	375.0	370.0	376.7	372.2	364.4	371.8	386.1	399.8
Imports	4.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Exports	373.0	356.0	381.2	365.5	357.2	364.9	379.7	392.8
Consumption	7.0	14.0	14.1	14.2	14.4	14.5	14.6	14.7
Stocks	116.0	124.0	113.4	113.8	114.7	115.1	114.9	115.1
WMP								
Production	1,490.0	1,549.0	1,591.9	1,593.9	1,596.2	1,581.7	1,599.1	1,614.8
Imports	4.0	2.0	2.7	2.9	2.5	2.7	2.7	2.6
Exports	1,536.0	1,533.0	1,580.8	1,576.2	1,578.1	1,564.7	1,583.3	1,597.8
Consumption	20.0	18.0	18.5	18.7	18.9	19.1	19.2	19.4
Stocks	150.0	150.0	145.3	147.1	148.8	149.4	148.7	148.9
	(New Zealand dollars per 100kg)							
Average milk price	51.77	53.46	61.75	59.49	57.20	57.96	61.26	62.39

Australia

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	1,440	1,420	1,410	1,418	1,425	1,418	1,418	1,424
	(Kilograms per head)							
Yield	6,176	6,430	6,526	6,586	6,625	6,682	6,741	6,795
	(Thousand tonnes)							
Milk production	8,832	9,099	9,227	9,362	9,418	9,474	9,580	9,701
Fluid use	2,536	2,528	2,549	2,572	2,595	2,618	2,641	2,663
Factory use	6,048	6,306	6,403	6,505	6,538	6,572	6,655	6,753
Cheese								
Production	364.0	373.0	384.8	390.4	385.7	397.8	406.4	413.1
Imports	97.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
Exports	160.0	153.0	169.4	172.0	164.0	174.5	178.9	181.4
Consumption	297.0	305.0	312.4	316.3	319.7	321.6	325.4	329.5
Stocks	54.0	67.0	68.1	68.2	68.2	67.9	68.0	68.3
Butter								
Production	70.0	75.0	83.4	80.9	82.9	84.1	86.9	90.7
Imports	40.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Exports	18.0	16.0	23.8	15.8	16.9	17.1	18.3	20.7
Consumption	104.0	105.0	103.7	107.1	108.8	110.0	111.5	112.9
Stocks	81.0	78.0	76.8	77.8	77.9	77.9	77.9	77.9
SMP								
Production	150.0	155.0	162.0	163.4	164.1	160.2	161.3	164.2
Imports	15.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Exports	128.0	129.0	134.7	134.5	133.8	129.2	129.5	131.5
Consumption	45.0	43.0	43.5	44.6	45.8	46.8	47.6	48.5
Stocks	55.0	54.0	53.9	54.2	54.7	54.9	55.0	55.2
WMP								
Production	37.0	47.0	57.0	61.3	65.4	63.9	65.5	68.1
Imports	37.0	43.0	36.0	38.7	39.2	38.0	38.6	38.6
Exports	42.0	37.0	54.5	59.0	63.3	60.1	61.8	63.9
Consumption	33.0	40.0	39.6	40.5	41.2	41.7	42.3	42.8
Stocks	24.0	37.0	36.0	36.5	36.6	36.7	36.7	36.7

China

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	6,100	6,150	6,200	6,240	6,276	6,253	6,216	6,202
	(Kilograms per head)							
Yield	5,226	5,571	5,568	5,654	5,732	5,817	5,912	6,006
	(Thousand tonnes)							
Milk production	32,976	35,500	35,777	36,559	37,105	37,495	37,971	38,519
Fluid use	13,200	13,000	13,131	13,451	13,737	13,999	14,229	14,452
Factory use	20,642	23,515	23,671	24,159	24,443	24,591	24,856	25,198
Cheese								
Production	282.0	283.0	281.9	290.0	292.9	305.8	314.7	322.0
Imports	115.0	129.0	210.3	238.8	271.5	293.5	318.7	345.3
Exports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption	397.0	412.0	492.1	528.8	564.5	599.3	633.4	667.4
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter								
Production	110.0	110.0	123.9	122.4	121.1	121.5	124.6	128.2
Imports	91.0	123.0	122.7	129.5	133.4	135.4	133.7	131.3
Exports	3.0	2.0	2.3	2.4	2.3	2.3	2.3	2.3
Consumption	198.0	231.0	244.3	249.4	252.2	254.5	255.9	257.2
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SMP								
Production	15.0	20.0	21.2	20.5	20.0	19.8	20.5	21.1
Imports	344.0	336.0	475.7	489.7	503.0	515.3	525.7	535.7
Exports	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Consumption	358.0	355.0	495.8	509.1	522.0	534.2	545.1	555.9
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WMP								
Production	1,052.0	992.0	961.7	1,030.6	1,084.6	1,105.3	1,139.6	1,182.1
Imports	671.0	644.0	803.5	861.5	870.9	909.7	925.8	933.1
Exports	1.0	1.0	1.3	1.1	1.1	1.2	1.2	1.2
Consumption	1,722.0	1,585.0	1,815.3	1,889.8	1,953.6	2,013.3	2,064.1	2,114.1
Stocks	50.0	100.0	48.6	49.9	50.6	51.1	51.2	51.2

India

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	54,600	56,450	58,000	57,260	57,986	59,175	60,642	62,272
	(Kilograms per head)							
Yield	1,657	1,639	1,651	1,682	1,706	1,729	1,751	1,773
	(Thousand tonnes)							
Milk production	191,000	194,800	197,869	201,757	206,427	211,690	217,365	223,235
Fluid use	79,000	81,000	80,372	82,423	84,812	87,544	90,508	93,654
Factory use	111,990	113,790	117,487	119,324	121,605	124,136	126,847	129,572
Cheese								
Production	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Imports	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Exports	7.4	7.6	7.6	7.5	7.6	7.5	7.5	7.5
Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter								
Production	5,850.0	6,100.0	6,310.8	6,449.6	6,609.1	6,783.1	6,969.4	7,157.7
Imports	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exports	47.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Consumption	5,803.0	6,081.0	6,291.7	6,430.6	6,590.0	6,764.1	6,950.3	7,138.6
Stocks	0.0	0.0	0.2	0.2	0.3	0.3	0.4	0.5
SMP								
Production	635.0	660.0	680.9	689.5	692.9	700.1	717.0	733.5
Imports	1.0	1.0	0.7	0.9	0.9	0.8	0.8	0.8
Exports	8.0	5.0	19.0	25.0	10.8	1.4	5.1	7.7
Consumption	601.0	636.0	663.2	665.0	682.5	699.1	712.5	726.5
Stocks	42.0	62.0	61.3	61.7	62.2	62.6	62.7	62.9

European Union and United Kingdom

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	22,908	22,633	22,400	22,261	22,261	22,256	22,210	22,227
	(Kilograms per head)							
Yield	6,816	6,995	7,059	7,168	7,268	7,361	7,468	7,555
	(Thousand tonnes)							
Milk production	159,900	162,230	162,375	164,321	166,512	168,401	170,671	172,875
Fluid use	33,300	33,500	33,690	33,538	33,343	33,199	32,982	32,753
Factory use	125,676	127,682	127,626	129,698	132,061	134,072	136,541	138,955
Cheese								
Production	10,210.0	10,340.0	10,630.6	10,813.5	10,916.0	11,194.2	11,342.7	11,445.2
Imports	63.0	63.0	61.7	62.6	62.4	62.2	62.4	62.3
Exports	879.0	943.0	1,067.0	1,080.4	1,060.9	1,194.1	1,240.9	1,252.0
Consumption	9,394.0	9,460.0	9,625.3	9,795.6	9,917.5	10,062.3	10,164.3	10,255.5
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter								
Production	2,375.0	2,410.0	2,392.1	2,391.6	2,404.1	2,416.6	2,430.2	2,443.7
Imports	16.0	4.0	14.0	11.3	9.8	11.7	10.9	10.8
Exports	217.0	247.0	226.4	206.2	202.6	203.4	202.5	202.2
Consumption	2,174.0	2,167.0	2,179.8	2,196.7	2,211.2	2,224.8	2,238.6	2,252.2
Stocks	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
SMP								
Production	1,760.0	1,820.0	1,780.3	1,819.8	1,915.0	1,937.7	2,007.2	2,089.1
Imports	6.0	2.0	3.7	3.9	3.2	3.6	3.6	3.4
Exports	962.0	829.0	808.7	847.9	941.7	967.6	1,044.6	1,133.9
Consumption	979.0	993.0	975.2	975.7	976.5	973.7	966.1	958.6
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WMP								
Production	740.0	750.0	767.8	802.7	860.0	869.5	911.1	964.9
Imports	5.0	1.0	2.7	2.9	2.2	2.6	2.6	2.4
Exports	298.0	332.0	357.1	386.3	439.6	447.4	488.4	541.5
Consumption	447.0	419.0	413.3	419.3	422.6	424.7	425.2	425.8
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices	(Euro per tonne)							
Milk	347.79	340.49	351.20	335.61	331.49	323.33	322.67	323.41
Butter	3920.56	3370.07	3908.98	3500.98	3531.36	3569.77	3601.59	3633.37
Cheese	3028.95	3035.01	3000.00	2920.17	2883.32	2779.54	2764.32	2768.85
Skim milk powder	2100.32	2203.55	2408.73	2271.72	2110.26	2005.57	1985.89	1960.67
Whole milk powder	2912.70	2786.46	3195.84	2932.83	2791.87	2715.05	2724.57	2728.83

Canada

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	968	967	967	970	958	950	944	938
	(Kilograms per head)							
Yield	10,236	10,290	10,284	10,459	10,587	10,711	10,824	10,936
	(Thousand tonnes)							
Milk production	9,903	9,950	9,974	10,017	10,063	10,107	10,152	10,199
Fluid use	2,816	2,875	2,899	2,892	2,888	2,882	2,876	2,871
Factory use	6,670	6,650	6,652	6,702	6,752	6,803	6,854	6,905
Cheese								
Production	515.0	510.0	516.1	519.5	522.1	524.9	527.4	530.2
Imports	36.0	41.0	46.0	49.6	53.7	57.5	61.9	65.4
Exports	12.0	11.0	11.0	10.9	10.8	10.8	10.8	10.8
Consumption	539.0	540.0	550.6	558.3	564.9	571.5	578.3	584.8
Stocks	85.0	85.0	85.5	85.4	85.4	85.4	85.5	85.5
Butter								
Production	112.0	120.0	121.5	124.1	126.2	128.4	130.4	132.6
Imports	25.0	24.0	29.0	28.2	27.9	27.7	27.8	27.7
Exports	2.0	5.0	5.2	5.0	4.9	4.9	4.9	4.9
Consumption	141.0	139.0	145.2	147.2	149.3	151.3	153.3	155.4
Stocks	27.0	27.0	27.1	27.1	27.1	27.1	27.1	27.1
SMP								
Production	97.0	90.0	82.3	85.1	87.7	90.4	93.0	95.7
Imports	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Exports	47.0	39.0	29.3	31.3	33.0	34.8	36.4	38.2
Consumption	52.0	53.0	54.7	55.8	56.7	57.6	58.5	59.4
Stocks	30.0	30.0	30.3	30.3	30.4	30.5	30.5	30.6
	(Canadian dollars per tonne)							
Prices								
Milk	746.18	759.42	773.17	787.15	801.38	815.86	830.58	845.56
Butter	8,346.43	8,492.05	8,643.41	8,797.43	8,954.16	9,113.65	9,275.95	9,441.10
Cheese	8,456.81	8,600.53	8,749.92	8,901.94	9,056.63	9,214.04	9,374.22	9,537.22
SMP	7,024.15	7,046.91	7,069.56	7,092.33	7,115.21	7,138.20	7,161.31	7,184.53

Mexico

	2019	2020	2021	2022	2023	2024	2025	2026
	(Thousand head)							
Dairy cows	6,500	6,550	6,600	6,655	6,697	6,701	6,714	6,752
	(Kilograms per head)							
Yield	1,939	1,939	1,938	1,955	1,970	1,991	2,015	2,037
	(Thousand tonnes)							
Milk production	12,820	12,921	13,017	13,225	13,371	13,527	13,740	13,978
Fluid use	4,190	4,145	4,182	4,206	4,209	4,195	4,173	4,152
Factory use	8,651	8,793	8,852	9,036	9,178	9,349	9,584	9,843
Cheese								
Production	437.0	446.0	447.2	463.5	472.7	498.1	522.3	545.6
Imports	121.0	114.0	121.4	120.8	124.1	108.9	93.8	80.1
Exports	7.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Consumption	551.0	549.0	557.5	573.3	585.8	596.0	605.1	614.6
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter								
Production	231.0	233.0	237.8	239.3	238.1	238.4	244.2	251.4
Imports	59.0	42.0	37.7	50.6	59.3	64.7	62.9	59.8
Exports	13.0	9.0	9.3	9.3	9.3	9.2	9.0	8.9
Consumption	277.0	266.0	266.2	280.5	288.2	293.9	298.1	302.3
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SMP								
Production	44.0	45.0	45.7	47.9	49.6	50.8	51.3	51.8
Imports	361.0	309.0	339.9	346.7	352.6	357.6	361.3	365.1
Exports	65.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Consumption	340.0	318.0	349.5	358.6	366.2	372.4	376.5	380.8
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WMP								
Production	120.0	122.0	123.7	127.4	131.6	132.3	134.8	138.0
Imports	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Exports	17.0	20.0	11.5	9.5	10.2	8.3	9.5	11.3
Consumption	106.0	105.0	115.3	120.9	124.4	127.0	128.3	129.7
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

International livestock

World meat market

	2019	2020	2021	2022	2023	2024	2025	2026
Sum of production								
								(Thousand tonnes)
Beef	37,663	36,766	36,716	36,880	37,102	37,503	37,804	38,182
Pork	81,441	75,740	83,925	87,631	90,105	92,218	94,497	96,554
Chicken	62,102	62,896	63,035	62,979	63,135	63,853	64,790	65,866
Sum of domestic use								
Beef	35,072	34,852	35,240	35,499	35,948	36,443	36,765	37,111
Pork	81,407	76,600	84,707	88,243	90,567	92,591	94,792	96,768
Chicken	58,536	59,599	59,555	59,759	59,955	60,646	61,568	62,587
Sum of beef trade								
Imports	6,174	6,815	6,971	7,122	7,218	7,316	7,417	7,528
Exports	8,757	8,535	8,578	8,587	8,537	8,562	8,613	8,727
Rest of world net imports	2,583	1,720	1,607	1,465	1,319	1,246	1,196	1,199
Sum of pork trade								
Imports	6,642	9,074	9,187	8,722	8,404	8,212	8,126	7,990
Exports	9,003	11,162	11,327	10,959	10,760	10,685	10,721	10,703
Rest of world net imports	2,361	2,088	2,140	2,237	2,356	2,474	2,595	2,713
Sum of chicken trade								
Imports	3,895	4,115	4,046	4,171	4,188	4,074	4,002	3,934
Exports	10,648	10,670	10,862	10,730	10,750	10,754	10,794	10,889
Rest of world net imports	6,752	6,555	6,816	6,559	6,562	6,680	6,792	6,954

World meat trade

	2019	2020	2021	2022	2023	2024	2025	2026
Beef net trade								
Exporters (Thousand tonnes)								
Australia	1,724	1,456	1,280	1,181	1,148	1,186	1,232	1,246
Brazil	2,271	2,491	2,325	2,417	2,289	2,366	2,383	2,489
Canada	321	264	335	276	268	280	297	306
India	1,494	1,284	1,375	1,431	1,465	1,329	1,294	1,287
New Zealand	609	626	623	634	626	632	637	637
United States	-14	-177	121	87	169	188	159	130
Importers								
China	2,156	2,766	2,980	3,114	3,237	3,348	3,424	3,481
European Union	11	-65	-40	-26	-37	-44	-49	-46
Japan	847	825	817	819	814	807	804	805
Korea	550	549	575	572	569	577	590	612
Mexico	-126	-181	-185	-245	-267	-277	-281	-272
Russia	384	330	305	326	328	324	317	316
Other countries	2,583	1,720	1,607	1,465	1,319	1,246	1,196	1,199
Pork net trade								
Exporters (Thousand tonnes)								
Brazil	859	1,176	1,273	1,308	1,275	1,280	1,260	1,243
Canada	1,042	1,270	1,285	1,247	1,238	1,215	1,211	1,209
EU	3,531	4,516	4,435	4,086	3,957	3,848	3,846	3,790
United States	2,438	2,892	2,911	2,857	2,825	2,854	2,898	2,935
Importers								
China	2,316	5,181	4,885	4,384	3,994	3,669	3,413	3,171
Japan	1,490	1,408	1,421	1,448	1,465	1,478	1,502	1,523
Korea	692	553	599	641	648	644	663	681
Mexico	751	601	595	554	585	677	764	789
Philippines	221	166	424	399	416	425	451	475
Russia	39	-143	-160	-164	-167	-169	-172	-174
Other countries	2,361	2,088	2,140	2,237	2,356	2,474	2,595	2,713
Chicken net trade								
Exporters (Thousand tonnes)								
Brazil	3,806	3,736	3,845	3,873	3,836	3,774	3,767	3,809
Canada	-48	-60	-50	-51	-52	-53	-54	-55
China	-152	-611	-475	-345	-191	-220	-238	-242
EU	817	858	800	689	667	657	650	636
India	3	3	3	3	3	3	3	3
Thailand	879	872	924	802	767	798	801	792
Turkey	402	440	445	438	422	432	427	426
United States	3,162	3,276	3,340	3,347	3,391	3,481	3,577	3,683
Importers								
Japan	1,069	997	1,028	1,119	1,162	1,171	1,174	1,165
Korea	128	114	145	170	170	167	161	153
Mexico	869	835	853	943	1,002	924	896	885
Russia	51	13	-10	-36	-54	-71	-89	-107
Other countries	6,752	6,555	6,816	6,559	6,563	6,680	6,792	6,954

Australia

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories								
				(Thousand head)				
Dairy cows	1,440	1,420	1,410	1,418	1,425	1,418	1,418	1,424
Beef cows	11,000	10,300	10,000	10,098	10,387	10,528	10,663	10,757
Cattle	23,655	23,021	23,371	23,173	23,308	23,520	23,761	23,885
Beef								
				(Thousand tonnes)				
Production	2,432	2,123	1,950	1,851	1,817	1,853	1,901	1,919
Imports	15	17	20	20	20	20	20	20
Exports	1,739	1,473	1,300	1,201	1,168	1,206	1,252	1,266
Domestic use	708	667	670	670	668	667	670	673
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita								
				(Kilograms per capita)				
Beef	28.1	26.2	26.0	25.7	25.4	25.0	24.9	24.8

Brazil

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	16,500	16,200	16,400	16,523	16,721	16,583	16,476	16,544
Beef cows	57,200	58,100	58,970	59,919	59,785	61,492	61,572	61,713
Cattle	244,144	252,700	264,430	269,076	268,421	276,783	277,172	277,864
Sows	2,975	3,005	3,050	3,061	3,087	3,107	3,123	3,138
Hogs	37,850	37,350	36,850	37,190	37,363	37,714	37,931	38,212
Beef	(Thousand tonnes)							
Production	10,200	10,100	9,550	9,678	9,771	9,965	10,043	10,292
Imports	43	48	75	76	76	77	77	78
Exports	2,314	2,539	2,400	2,492	2,365	2,442	2,460	2,566
Domestic use	7,929	7,609	7,225	7,261	7,482	7,599	7,661	7,803
Ending stocks	0	0	0	0	0	0	0	0
Pork	(Thousand tonnes)							
Production	3,975	4,125	4,280	4,355	4,375	4,444	4,484	4,540
Imports	2	2	2	2	2	2	2	2
Exports	861	1,178	1,275	1,310	1,277	1,282	1,262	1,245
Domestic use	3,116	2,949	3,007	3,046	3,099	3,163	3,224	3,297
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	13,690	13,880	14,150	14,414	14,566	14,665	14,781	14,952
Imports	5	5	5	5	5	5	5	5
Exports	3,811	3,741	3,850	3,878	3,841	3,779	3,772	3,814
Domestic use	9,884	10,144	10,305	10,541	10,730	10,891	11,013	11,143
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	37.6	35.8	33.8	33.7	34.5	34.9	35.0	35.5
Pork	14.8	13.9	14.1	14.1	14.3	14.5	14.7	15.0
Chicken	46.8	47.7	48.2	48.9	49.5	50.0	50.3	50.6
Total	99.2	97.4	96.0	96.8	98.4	99.4	100.0	101.0

Canada

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	968	967	967	970	958	950	944	938
Beef cows	3,686	3,544	3,531	3,554	3,612	3,644	3,671	3,694
Cattle	11,265	11,150	10,965	10,971	11,032	11,072	11,112	11,143
Sows	1,236	1,228	1,240	1,231	1,234	1,221	1,220	1,219
Hogs	13,970	14,025	13,400	13,326	13,346	13,233	13,226	13,219
Beef	(Thousand tonnes)							
Production	1,342	1,310	1,420	1,383	1,383	1,398	1,418	1,431
Imports	204	249	235	234	233	232	231	230
Exports	525	513	570	510	501	512	528	536
Domestic use	1,030	1,041	1,083	1,107	1,115	1,118	1,120	1,124
Ending stocks	33	38	40	41	41	42	42	43
Pork	(Thousand tonnes)							
Production	2,000	2,130	2,225	2,213	2,215	2,195	2,194	2,193
Imports	242	273	275	282	289	296	303	310
Exports	1,284	1,543	1,560	1,529	1,527	1,511	1,514	1,519
Domestic use	947	874	941	964	975	978	981	982
Ending stocks	80	66	65	67	69	71	73	75
Chicken	(Thousand tonnes)							
Production	1,331	1,305	1,340	1,363	1,390	1,421	1,448	1,474
Imports	172	188	190	193	196	199	202	205
Exports	124	128	140	142	144	146	148	150
Domestic use	1,375	1,363	1,390	1,412	1,441	1,472	1,501	1,527
Ending stocks	58	60	60	62	63	65	66	68
Consumption per capita	(Kilograms per capita)							
Beef	27.4	27.4	28.3	28.6	28.4	28.2	28.0	27.8
Pork	25.2	23.0	24.6	24.9	24.9	24.7	24.5	24.3
Chicken	36.6	35.9	36.3	36.4	36.8	37.2	37.5	37.8
Total	89.3	86.3	89.2	89.9	90.1	90.1	90.0	89.8

China

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	6,100	6,150	6,200	6,240	6,276	6,253	6,216	6,202
Beef cows	52,500	53,000	53,400	55,111	55,959	55,977	56,435	57,207
Cattle	91,380	95,619	98,525	100,017	100,719	100,301	100,507	101,165
Sows	37,000	31,000	38,500	40,176	41,610	42,558	43,742	44,709
Hogs	310,410	406,500	410,000	422,755	434,546	442,045	451,750	459,364
Beef	(Thousand tonnes)							
Production	6,670	6,720	7,050	7,136	7,197	7,415	7,534	7,581
Imports	2,177	2,782	3,000	3,134	3,258	3,368	3,445	3,502
Exports	21	16	20	20	20	21	21	21
Domestic use	8,826	9,486	10,030	10,250	10,434	10,762	10,958	11,062
Ending stocks	0	0	0	0	0	0	0	0
Pork	(Thousand tonnes)							
Production	42,550	36,340	43,750	47,166	49,384	51,211	53,254	55,086
Imports	2,451	5,281	5,000	4,521	4,136	3,814	3,557	3,318
Exports	135	100	115	138	142	145	145	147
Domestic use	44,866	41,521	48,635	51,549	53,378	54,880	56,667	58,257
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	13,800	14,600	14,000	13,216	12,627	12,563	12,712	12,990
Imports	580	999	900	817	727	678	632	585
Exports	428	388	425	472	536	458	394	343
Domestic use	13,952	15,211	14,475	13,561	12,818	12,783	12,950	13,232
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	6.2	6.6	6.9	7.1	7.2	7.4	7.5	7.6
Pork	31.3	28.8	33.7	35.6	36.8	37.7	38.9	39.9
Chicken	9.7	10.6	10.0	9.4	8.8	8.8	8.9	9.1
Total	47.2	46.0	50.6	52.0	52.8	53.9	55.3	56.5

European Union and United Kingdom

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	22,908	22,633	22,400	22,261	22,261	22,256	22,210	22,227
Beef cows	12,222	12,218	12,287	12,387	12,438	12,424	12,363	12,319
Cattle	86,620	85,827	85,230	85,041	85,292	85,319	85,220	85,135
Sows	11,784	11,818	11,822	12,038	11,843	11,799	11,727	11,667
Hogs	147,887	150,987	150,780	152,040	151,143	151,224	151,171	151,148
Beef	(Thousand tonnes)							
Production	7,878	7,803	7,750	7,657	7,669	7,681	7,702	7,714
Imports	341	285	320	329	322	317	314	316
Exports	330	350	360	355	359	361	363	362
Domestic use	7,889	7,738	7,710	7,630	7,631	7,637	7,653	7,668
Ending stocks	0	0	0	0	0	0	0	0
Pork	(Thousand tonnes)							
Production	23,956	24,267	24,800	24,854	24,870	24,951	25,031	25,104
Imports	17	17	15	15	14	14	14	13
Exports	3,548	4,533	4,450	4,100	3,972	3,862	3,860	3,803
Domestic use	20,425	19,751	20,365	20,768	20,913	21,102	21,185	21,315
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	12,550	12,590	12,650	12,626	12,838	13,025	13,241	13,429
Imports	724	609	600	606	612	618	624	631
Exports	1,541	1,467	1,400	1,295	1,279	1,275	1,275	1,266
Domestic use	11,733	11,732	11,850	11,937	12,171	12,368	12,590	12,793
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	15.4	15.1	15.0	14.9	14.9	14.9	14.9	14.9
Pork	39.9	38.5	39.7	40.4	40.7	41.1	41.3	41.5
Chicken	22.9	22.9	23.1	23.2	23.7	24.1	24.5	24.9
Total	78.2	76.5	77.8	78.6	79.3	80.1	80.7	81.4

India

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	54,600	56,450	58,000	57,260	57,986	59,175	60,642	62,272
Cattle	303,200	305,500	306,700	307,258	307,687	307,209	307,298	307,552
Beef	(Thousand tonnes)							
Production	4,270	3,760	4,000	4,103	4,182	4,094	4,110	4,157
Imports	0	0	0	0	0	0	0	0
Exports	1,494	1,284	1,375	1,431	1,465	1,329	1,294	1,287
Domestic use	2,776	2,476	2,625	2,672	2,717	2,765	2,817	2,870
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	4,350	4,000	4,200	4,394	4,535	4,667	4,801	4,932
Imports	0	0	0	0	0	0	0	0
Exports	3	3	3	3	3	3	3	3
Domestic use	4,347	3,997	4,197	4,391	4,532	4,664	4,798	4,929
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	2.0	1.8	1.9	1.9	1.9	1.9	1.9	2.0
Chicken	3.2	2.9	3.0	3.1	3.2	3.3	3.3	3.4
Total	5.2	4.7	4.9	5.0	5.1	5.2	5.3	5.4

Japan

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	730	716	730	731	731	730	730	733
Beef cows	528	559	555	578	593	611	624	630
Cattle	3,907	3,922	3,925	4,035	4,102	4,190	4,251	4,285
Sows	853	845	860	869	876	877	876	870
Hogs	9,090	9,100	9,200	9,282	9,357	9,374	9,371	9,328
Beef	(Thousand tonnes)							
Production	471	479	475	482	485	493	497	501
Imports	853	832	830	832	828	821	818	819
Exports	6	7	13	13	14	14	14	14
Domestic use	1,319	1,297	1,305	1,299	1,298	1,298	1,299	1,304
Ending stocks	162	169	156	158	159	161	162	164
Pork	(Thousand tonnes)							
Production	1,279	1,298	1,300	1,314	1,331	1,339	1,342	1,339
Imports	1,493	1,412	1,425	1,452	1,469	1,482	1,506	1,527
Exports	3	4	4	4	4	4	5	5
Domestic use	2,714	2,724	2,730	2,759	2,793	2,814	2,841	2,859
Ending stocks	263	245	236	239	242	245	248	251
Chicken	(Thousand tonnes)							
Production	1,723	1,765	1,765	1,743	1,732	1,739	1,753	1,774
Imports	1,076	1,005	1,035	1,126	1,169	1,179	1,182	1,173
Exports	7	8	7	7	7	8	8	8
Domestic use	2,789	2,773	2,785	2,860	2,891	2,907	2,924	2,936
Ending stocks	162	151	159	162	165	168	171	174
Consumption per capita	(Kilograms per capita)							
Beef	10.4	10.3	10.4	10.3	10.4	10.4	10.5	10.6
Pork	21.4	21.5	21.7	22.0	22.3	22.6	22.9	23.2
Chicken	22.0	21.9	22.1	22.8	23.1	23.3	23.6	23.8
Total	53.8	53.7	54.1	55.1	55.8	56.4	57.0	57.5

South Korea

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	204	203	204	205	205	204	205	206
Beef cows	1,434	1,491	1,553	1,602	1,646	1,690	1,741	1,788
Cattle	3,645	3,774	3,887	3,973	4,049	4,120	4,194	4,261
Sows	1,063	1,026	1,001	1,038	1,075	1,098	1,118	1,128
Hogs	11,280	11,078	11,000	11,326	11,905	12,308	12,643	12,810
Beef	(Thousand tonnes)							
Production	286	287	310	315	320	322	321	320
Imports	550	549	575	572	569	577	590	612
Exports	0	0	0	0	0	0	0	0
Domestic use	832	831	884	887	888	898	911	931
Ending stocks	15	20	21	22	22	23	23	24
Pork	(Thousand tonnes)							
Production	1,364	1,403	1,375	1,384	1,434	1,472	1,502	1,518
Imports	694	554	600	642	649	645	664	682
Exports	2	1	1	1	1	1	1	1
Domestic use	2,011	1,980	1,975	2,022	2,079	2,113	2,162	2,196
Ending stocks	225	201	200	203	206	209	212	215
Chicken	(Thousand tonnes)							
Production	952	965	930	935	944	958	974	992
Imports	178	170	180	206	208	207	202	196
Exports	50	56	35	37	38	40	41	43
Domestic use	1,070	1,069	1,075	1,103	1,112	1,123	1,133	1,144
Ending stocks	50	60	60	62	64	66	68	70
Consumption per capita	(Kilograms per capita)							
Beef	16.2	16.2	17.2	17.3	17.3	17.5	17.7	18.1
Pork	39.3	38.6	38.5	39.4	40.5	41.2	42.1	42.8
Chicken	20.9	20.9	21.0	21.5	21.7	21.9	22.1	22.3
Total	76.4	75.7	76.7	78.2	79.4	80.5	81.9	83.2

Mexico

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	6,500	6,550	6,600	6,655	6,697	6,701	6,714	6,752
Beef cows	7,700	7,900	7,950	7,852	7,690	7,635	7,655	7,712
Cattle	16,900	17,000	17,258	17,080	16,785	16,684	16,720	16,824
Sows	1,230	1,245	1,255	1,291	1,326	1,350	1,359	1,357
Hogs	11,050	11,500	11,775	12,232	12,604	12,831	12,910	13,102
Beef	(Thousand tonnes)							
Production	2,027	2,079	2,120	2,160	2,169	2,160	2,137	2,123
Imports	189	162	150	147	144	141	138	136
Exports	315	343	335	392	411	419	419	407
Domestic use	1,901	1,898	1,935	1,915	1,903	1,882	1,856	1,852
Ending stocks	0	0	0	0	0	0	0	0
Pork	(Thousand tonnes)							
Production	1,408	1,451	1,495	1,549	1,591	1,616	1,624	1,652
Imports	985	945	985	949	985	1,082	1,174	1,204
Exports	234	344	390	395	400	405	410	415
Domestic use	2,159	2,052	2,090	2,103	2,175	2,292	2,388	2,441
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	3,600	3,725	3,800	3,824	3,849	3,943	4,029	4,112
Imports	875	842	860	950	1,010	932	904	893
Exports	6	7	7	7	8	8	8	8
Domestic use	4,469	4,560	4,653	4,767	4,851	4,867	4,926	4,997
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	14.9	14.7	14.9	14.6	14.3	14.0	13.7	13.6
Pork	16.9	15.9	16.0	16.0	16.4	17.1	17.6	17.9
Chicken	35.0	35.4	35.7	36.2	36.5	36.3	36.4	36.6
Total	66.9	66.0	66.6	66.8	67.2	67.4	67.8	68.1

New Zealand

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	4,946	4,922	4,850	4,868	4,867	4,831	4,806	4,818
Beef cows	1,029	1,105	1,065	1,048	1,041	1,054	1,066	1,063
Cattle	10,151	10,063	10,065	10,093	10,058	10,087	10,110	10,110
Beef	(Thousand tonnes)							
Production	713	727	713	724	715	721	726	726
Imports	14	12	12	12	13	13	13	13
Exports	623	638	635	647	638	645	650	650
Domestic use	104	101	90	90	90	89	89	90
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Beef	21.7	20.9	18.5	18.3	18.2	18.0	17.8	17.8

Philippines

	2019	2020	2021	2022	2023	2024	2025	2026
Pork	(Thousand tonnes)							
Production	1,585	1,115	1,000	1,033	1,063	1,082	1,102	1,114
Imports	222	167	425	400	417	426	452	476
Exports	1	1	1	1	1	1	1	1
Domestic use	1,806	1,281	1,424	1,432	1,479	1,507	1,553	1,589
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Pork	16.7	11.7	12.8	12.7	13.0	13.1	13.3	13.4

Russia

	2019	2020	2021	2022	2023	2024	2025	2026
Animal inventories	(Thousand head)							
Dairy cows	6,711	6,580	6,500	6,457	6,442	6,385	6,338	6,318
Beef cows	1,100	1,200	1,210	1,215	1,212	1,207	1,204	1,198
Cattle	18,022	17,953	17,900	18,217	18,292	18,499	18,780	18,869
Sows	3,290	3,400	3,455	3,448	3,517	3,568	3,607	3,629
Hogs	25,048	25,744	25,500	25,501	25,998	26,368	26,657	26,825
Beef	(Thousand tonnes)							
Production	1,374	1,378	1,378	1,391	1,394	1,403	1,414	1,417
Imports	401	363	340	362	364	361	354	354
Exports	17	33	35	36	36	37	37	38
Domestic use	1,758	1,708	1,683	1,717	1,722	1,727	1,731	1,734
Ending stocks	0	0	0	0	0	0	0	0
Pork	(Thousand tonnes)							
Production	3,324	3,611	3,700	3,764	3,843	3,909	3,964	4,008
Imports	107	13	10	10	10	9	9	9
Exports	68	156	170	174	177	179	181	183
Domestic use	3,363	3,468	3,540	3,600	3,676	3,740	3,792	3,833
Ending stocks	0	0	0	0	0	0	0	0
Chicken	(Thousand tonnes)							
Production	4,668	4,680	4,700	4,901	5,039	5,148	5,226	5,293
Imports	224	229	210	205	200	195	190	185
Exports	173	216	220	241	254	266	279	292
Domestic use	4,712	4,688	4,690	4,865	4,985	5,077	5,138	5,186
Ending stocks	20	25	25	25	25	25	25	25
Consumption per capita	(Kilograms per capita)							
Beef	12.1	11.7	11.5	11.8	11.8	11.9	11.9	12.0
Pork	23.1	23.8	24.3	24.7	25.2	25.7	26.1	26.5
Chicken	32.3	32.1	32.1	33.4	34.2	34.9	35.4	35.8
Total	67.4	67.6	67.9	69.8	71.3	72.5	73.5	74.2

Thailand

	2019	2020	2021	2022	2023	2024	2025	2026
Chicken	(Thousand tonnes)							
Production	3,300	3,250	3,340	3,362	3,385	3,454	3,510	3,558
Imports	2	2	1	1	1	1	1	1
Exports	881	874	925	803	768	799	802	793
Domestic use	2,469	2,366	2,420	2,559	2,617	2,654	2,708	2,765
Ending stocks	32	44	40	41	42	44	45	46
Consumption per capita	(Kilograms per capita)							
Chicken	35.5	33.9	34.6	36.5	37.3	37.8	38.5	39.3

Turkey

	2019	2020	2021	2022	2023	2024	2025	2026
Chicken	(Thousand tonnes)							
Production	2,138	2,136	2,160	2,201	2,229	2,272	2,315	2,361
Imports	0	0	0	0	0	0	0	0
Exports	402	440	445	438	422	432	427	426
Domestic use	1,736	1,696	1,715	1,763	1,807	1,840	1,887	1,935
Ending stocks	0	0	0	0	0	0	0	0
Consumption per capita	(Kilograms per capita)							
Chicken	20.8	20.1	20.2	20.6	21.0	21.3	21.8	22.2

International biofuels

World ethanol balances

Calendar year	2019	2020	2021	2022	2023	2024	2025	2026
World ethanol quantities	(Billion liters)							
Production	129.0	118.5	126.1	135.7	143.2	146.1	147.2	147.2
Use	127.7	116.0	124.4	132.0	140.3	143.5	144.9	145.2
Ending stocks	15.3	15.7	15.5	17.1	18.1	18.6	18.9	19.0
Ethanol net exports	(Billion liters)							
Argentina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.6	1.7	0.5	1.9	0.3	0.0	0.2	0.0
Canada	-1.2	-1.1	-1.2	-1.4	-1.4	-1.3	-1.4	-1.4
China	-0.1	0.3	-0.7	-0.8	-0.8	-0.8	-0.9	-0.9
EU	-9.6	-9.3	-9.6	-10.0	-10.2	-10.6	-10.6	-10.5
USA	4.8	4.5	5.1	4.7	6.0	6.8	6.8	6.8
ROW	-1.8	-2.3	-0.8	-1.3	-1.0	-1.2	-1.3	-1.3
Statistical error	7.4	6.2	6.6	6.9	7.0	7.1	7.2	7.3
U.S. Gulf price	(Dollars per liter)							
	0.40	0.36	0.58	0.54	0.53	0.50	0.49	0.49

World biodiesel balances

Calendar year	2019	2020	2021	2022	2023	2024	2025	2026
World biodiesel quantities	(Million tonnes)							
Production	46.0	44.4	46.9	53.7	57.4	59.2	59.9	60.9
Use	44.8	45.6	48.7	53.1	55.7	57.9	59.4	60.9
Ending stocks	11.3	11.4	9.6	10.2	11.9	13.3	13.8	13.9
Biodiesel net exports	(Million tonnes)							
Argentina	-1.2	-1.3	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU	-20.3	-20.3	-20.9	-21.8	-22.2	-22.0	-22.2	-22.6
Indonesia	1.1	0.0	0.3	0.2	0.2	0.2	0.2	0.2
Malaysia	0.6	0.5	0.7	0.9	1.2	1.4	1.3	1.3
USA	-1.0	-1.1	-1.4	-1.7	-1.6	-1.9	-1.8	-1.6
ROW	-0.2	1.3	2.1	2.2	1.6	1.1	1.0	1.1
Statistical error	21.0	20.9	19.3	20.2	20.8	21.2	21.4	21.6
EU border price	(Dollars per liter)							
	0.86	0.84	1.27	1.33	1.24	1.15	1.14	1.18

Ethanol quantities

Calendar year	2019	2020	2021	2022	2023	2024	2025	2026
Argentina	(Billion liters)							
Production	1.24	1.01	1.14	1.23	1.25	1.31	1.36	1.37
Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic use	1.24	0.97	1.15	1.18	1.22	1.27	1.32	1.36
Exports	0.01	0.02	0.03	0.03	0.03	0.02	0.02	0.01
Ending stocks	0.14	0.16	0.12	0.13	0.13	0.15	0.18	0.18
Brazil								
Production	35.17	32.70	34.59	42.06	46.74	48.19	48.66	47.68
Imports	1.46	1.01	0.79	0.68	1.22	1.37	1.37	1.45
Domestic use	34.15	31.08	34.29	38.76	45.66	47.86	48.36	47.85
Exports	2.03	2.75	1.26	2.59	1.54	1.38	1.56	1.44
Ending stocks	8.60	8.48	8.31	9.70	10.46	10.78	10.90	10.74
Canada								
Production	2.11	1.90	1.98	2.04	2.21	2.34	2.35	2.40
Imports	1.28	1.29	1.31	1.52	1.45	1.45	1.52	1.54
Domestic use	3.34	3.00	3.22	3.45	3.54	3.67	3.76	3.83
Exports	0.08	0.14	0.10	0.10	0.10	0.10	0.10	0.10
Ending stocks	0.11	0.15	0.12	0.14	0.17	0.19	0.20	0.20
China								
Production	9.80	9.20	10.00	10.44	10.79	11.10	11.38	11.68
Imports	0.10	0.07	0.80	0.83	0.85	0.87	0.89	0.91
Domestic use	10.10	9.10	10.41	11.25	11.60	11.93	12.24	12.55
Exports	0.02	0.37	0.09	0.02	0.02	0.02	0.02	0.02
Ending stocks	0.55	0.35	0.65	0.65	0.67	0.69	0.71	0.73
European Union and United Kingdom								
Production	7.59	7.49	7.70	7.88	7.84	7.67	7.90	8.26
Domestic use	8.60	8.32	8.65	8.89	9.02	9.14	9.25	9.35
Ending stocks	0.66	0.82	0.83	0.93	0.93	0.96	1.02	1.07
Net exports	-1.03	-1.00	-0.96	-1.11	-1.19	-1.50	-1.40	-1.14
United States	(Billion liters)							
Production	59.73	52.72	57.60	58.83	60.98	61.87	61.81	61.81
Imports	0.74	0.54	0.21	0.77	0.95	1.07	1.13	1.15
Domestic use	55.08	47.81	52.39	54.04	54.90	54.96	54.97	54.96
Exports	5.55	5.08	5.36	5.50	6.96	7.90	7.90	7.94
Ending stocks	3.55	3.92	3.98	4.04	4.11	4.17	4.24	4.29
Rest of world								
Production	13.33	13.49	13.13	13.23	13.44	13.58	13.77	14.02
Imports	5.34	5.89	4.76	5.44	5.22	5.52	5.77	5.93
Domestic use	15.13	15.70	14.29	14.45	14.38	14.69	15.01	15.31
Exports	3.49	3.58	3.98	4.11	4.23	4.36	4.48	4.61
Ending stocks	1.73	1.82	1.44	1.55	1.60	1.66	1.70	1.74

Biodiesel quantities

Calendar year	2019	2020	2021	2022	2023	2024	2025	2026
Argentina								
	(Million tonnes)							
Production	2.15	1.16	1.15	1.50	1.78	2.03	1.95	1.88
Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic use	1.07	0.48	0.41	0.53	0.62	0.71	0.78	0.83
Exports	1.02	0.54	0.68	0.97	1.12	1.27	1.16	1.05
Ending stocks	0.32	0.46	0.52	0.51	0.55	0.60	0.61	0.61
Brazil								
Production	5.19	5.66	6.06	7.14	8.07	8.57	8.62	8.84
Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic use	5.22	5.09	6.15	6.92	7.80	8.35	8.55	8.77
Exports	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Ending stocks	0.50	1.07	0.97	1.19	1.46	1.68	1.75	1.81
European Union and United Kingdom								
	(Million tonnes)							
Production	16.24	14.22	14.64	16.84	17.61	18.55	18.41	18.26
Domestic use	17.53	17.70	18.54	19.22	19.60	19.94	20.23	20.48
Ending stocks	5.03	4.15	2.64	2.82	3.40	4.10	4.23	4.13
Net exports	-2.73	-2.60	-2.39	-2.57	-2.57	-2.09	-1.95	-2.12
Indonesia								
Production	7.39	7.56	7.85	8.71	9.94	10.16	10.77	11.16
Imports	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02
Domestic use	5.63	7.42	7.82	8.38	9.09	9.70	10.32	10.92
Exports	1.12	0.03	0.25	0.24	0.27	0.24	0.24	0.22
Ending stocks	2.54	2.65	2.42	2.53	3.14	3.38	3.60	3.63
Malaysia								
Production	1.40	1.23	1.55	1.86	2.32	2.52	2.50	2.61
Imports	0.21	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Domestic use	0.77	0.75	0.88	0.95	1.04	1.11	1.18	1.25
Exports	0.80	0.65	0.67	0.87	1.20	1.36	1.31	1.35
Ending stocks	0.11	0.11	0.11	0.15	0.23	0.29	0.29	0.30
United States								
Production	7.93	8.32	8.72	10.41	10.30	10.00	10.08	10.33
Imports	1.43	1.59	1.85	2.12	1.97	2.19	2.12	1.96
Domestic use	9.08	9.44	10.09	12.06	11.89	11.85	11.86	11.92
Exports	0.38	0.47	0.47	0.44	0.37	0.34	0.34	0.37
Ending stocks	0.55	0.54	0.54	0.56	0.56	0.56	0.56	0.57
Rest of world								
Production	5.73	6.28	6.91	7.28	7.37	7.42	7.59	7.83
Imports	3.49	2.48	1.79	1.82	2.44	3.00	3.11	3.09
Domestic use	5.54	4.73	4.83	5.08	5.63	6.20	6.51	6.71
Exports	3.32	3.83	3.93	3.98	4.03	4.08	4.13	4.18
Ending stocks	2.23	2.43	2.37	2.41	2.57	2.71	2.78	2.81

Macroeconomic indicators and other prices

Macroeconomic assumptions

	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth	(Percentage change year-over-year)							
United States	1.8	1.2	3.4	2.3	2.1	2.3	2.3	2.3
China	1.3	0.6	4.7	3.2	2.2	2.4	1.3	1.2
European Union and United Kingdom	1.9	1.9	2.4	1.8	1.7	1.7	1.7	1.6
Japan	0.6	0.9	0.0	0.5	0.8	1.2	1.5	1.5
Brazil	4.3	5.1	4.3	2.9	3.8	3.7	4.2	4.0
World	2.3	1.8	4.5	2.9	2.6	2.7	2.4	2.4
GDP deflator	(Index, 2020 = 1.00)							
United States	0.99	1.00	1.03	1.06	1.08	1.10	1.13	1.16
China	0.99	1.00	1.05	1.08	1.10	1.13	1.14	1.16
European Union and United Kingdom	0.98	1.00	0.98	0.96	0.94	0.93	0.91	0.90
Japan	0.99	1.00	1.00	1.00	1.01	1.02	1.04	1.06
Brazil	0.95	1.00	1.04	1.07	1.11	1.16	1.20	1.25
World	0.98	1.00	1.04	1.08	1.10	1.13	1.16	1.19
Exchange rates	(National currency unit per U.S. dollar)							
United States	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
China	6.91	6.90	6.47	6.40	6.35	6.30	6.27	6.28
Eurozone	0.89	0.88	0.83	0.83	0.82	0.81	0.81	0.80
Japan	109.04	106.78	108.92	108.84	104.97	102.70	101.51	100.97
Brazil	3.94	5.16	5.30	5.29	4.95	4.89	4.97	5.05
Population	(Millions)							
United States	330	332	332	333	335	336	338	340
China	1,434	1,439	1,444	1,448	1,452	1,455	1,458	1,460
European Union and United Kingdom	445	445	445	445	445	444	444	444
Japan	127	126	126	126	125	125	124	123
Brazil	211	213	214	215	217	218	219	220
World	7,665	7,745	7,822	7,899	7,976	8,051	8,125	8,199

Source: IHS Markit, July 2021

Other baseline prices

	2019	2020	2021	2022	2023	2024	2025	2026
U.S. meat prices¹								
					(U.S. dollars per 100kg)			
Beef	491.32	521.08	596.25	584.52	595.17	611.47	625.55	635.48
Pork	170.06	170.44	217.47	201.55	198.02	200.40	203.91	206.24
Chicken	195.29	161.40	211.12	205.43	203.82	206.12	209.23	212.14
World product prices								
					(Euros per tonne)			
Soybean meal, Rotterdam ²	338.00	445.06	422.10	376.26	371.76	362.65	357.62	352.12
					(U.S. dollars per tonne)			
Soybean oil, Decatur ³	653.67	1,267.66	1,351.19	1,270.70	1,236.15	1,204.34	1,183.70	1,184.56
Rapeseed oil, Rotterdam ²	879.00	1,260.00	1,375.69	1,300.01	1,262.07	1,244.46	1,220.95	1,226.60
U.S. crop prices³								
					(U.S. dollars per tonne)			
Wheat, SRW, U.S. Gulf	221.00	216.99	267.34	241.89	246.64	240.42	239.41	237.00
Corn, No. 2 yellow, U.S. Gulf	157.95	237.28	248.82	212.05	207.58	203.47	198.51	194.96
Barley	215.41	212.99	261.79	238.00	232.31	226.73	222.20	218.97
EU crop producer prices²								
					(Euros per tonne)			
Wheat	168.40	169.52	212.53	189.51	192.06	185.19	182.90	179.81
Corn	159.05	207.08	217.70	185.78	180.65	175.89	170.84	167.27
Barley	166.27	157.13	153.12	202.74	180.83	183.25	176.71	174.54

Sources: 1 - MU Agricultural Markets and Policy

2 - Center for Economic Development at the University of Nevada

3 - FAPRI-MU