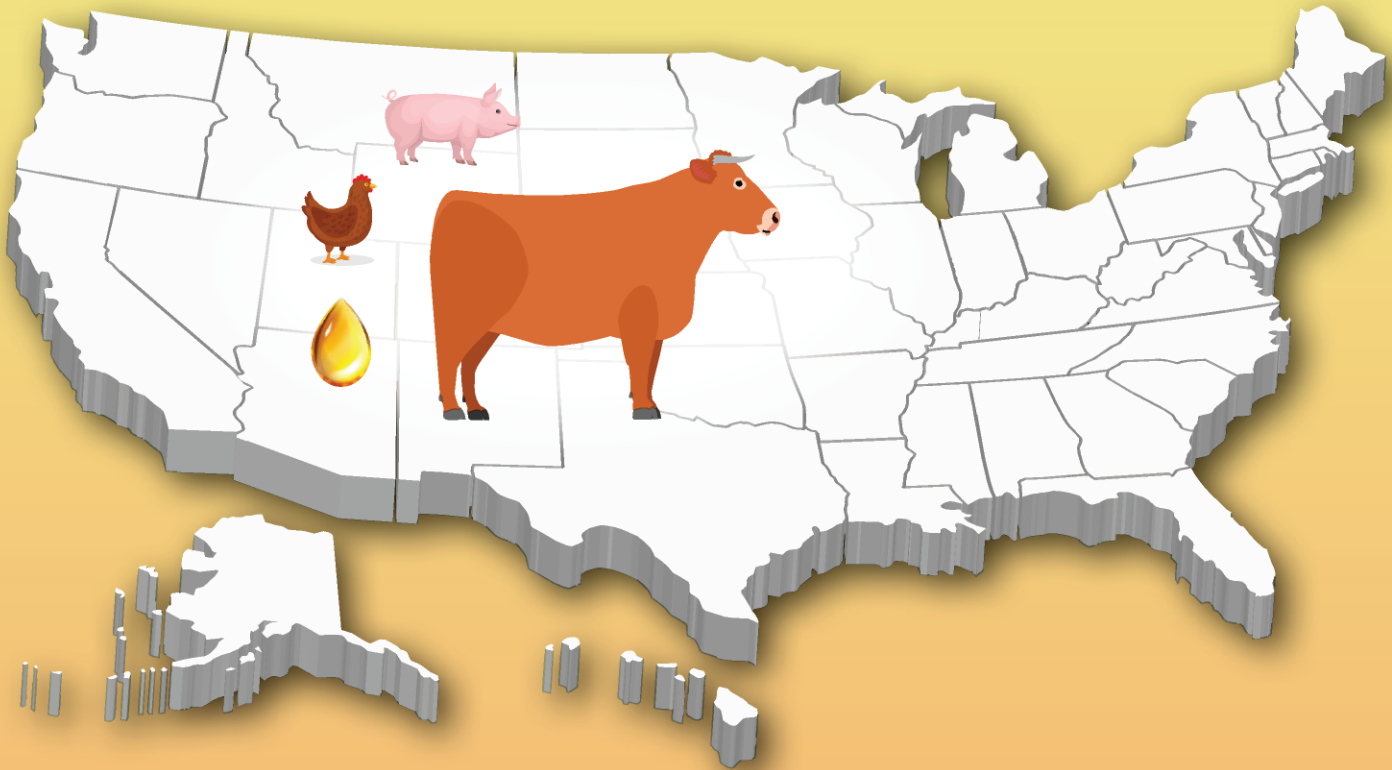


# US Market Report

*Demand for U.S. rendered products is strong, prices are high and key export markets are open even as supply chain disruptions, economic uncertainty and political tensions persist.*

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In 2021, the United States and the world experienced another turbulent year with political and economic fallout from events that unfolded in 2020, most notably the COVID-19 pandemic and the U.S. presidential election, in which former Vice President Joe Biden defeated incumbent President Donald Trump.

As last year began, COVID-19 was still very front-of-mind as public health officials began rolling out vaccines using a prioritization system based on age, occupation and other factors. Meanwhile, political division was reaching a boiling point fueled by claims of widespread voter fraud and a stolen election.

Political tensions were on the rise in other countries last year as well. The Taliban returned to power in Afghanistan as the U.S. withdrew its military presence after 20 years of fighting and peacekeeping efforts, China tightened its grip on Hong Kong, and Russia began a military build up along its border with Ukraine.

Here at home in the United States, plans for reopening the economy resulted in a nationwide patchwork of rules for businesses and residents and months of trial and error, as some sectors were reopened only to close and reopen again later as coronavirus infection rates rose and fell throughout the year. Meanwhile, essential businesses like packinghouses and rendering facilities had to remain open while dealing with the scarcity of workers, rising input costs, port congestion and a complex maze of regulatory requirements.

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**The increased demand for low-carbon feedstocks in 2021 was apparent as imports of tallow topped 333,300 mt, up more than 37% from 2020, marking the first year the United States was a net importer of tallow. To put this in perspective, since 2016, imports of tallow have shot up a whopping 322%.**

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The pandemic ignited a collective reassessment of job satisfaction, spawning a steep rise in retirements, a skills gap, and worker demands for greater flexibility, higher wages and fringe benefits such as childcare and educational benefits. While news headlines about workforce shortages in health care, transportation, food processing and the service industry became commonplace, white-collar jobs and the public sector were not immune to workforce turnover in 2021.

Regulatory agencies like the U.S. Department of Agriculture's Animal and Plant Health Inspection Service saw a steep rise in retirements during the pandemic and had difficulty recruiting new professionals to backfill the vacant positions. On-site inspections at animal facilities

Table 1

		Average Annual Prices of Select Rendered Products (\$/MT), 2008-2021																
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	21-22		
FATS	BFT Packer - Chicago	\$753	\$553	\$737	\$1,095	\$963	\$887	\$801	\$581	\$638	\$682	\$556	\$600	\$678	\$1,254	85%		
	Choice White Grease - Mo. River	\$729	\$511	\$657	\$1,020	\$926	\$846	\$711	\$498	\$537	\$549	\$463	\$512	\$534	\$1,066	100%		
	Yellow Grease - Mo. River	\$604	\$448	\$577	\$932	\$788	\$727	\$612	\$462	\$505	\$524	\$408	\$466	\$461	\$893	94%		
	Poultry Fat - Mid South	\$709	\$510	\$628	\$992	\$864	\$793	\$660	\$502	\$546	\$605	\$566	\$564	\$558	\$1,038	86%		
	Edible Tallow - Chicago	\$840	\$608	\$775	\$1,176	\$1,068	\$946	\$865	\$638	\$714	\$762	\$690	\$748	\$828	\$1,444	74%		
	Lard - Chicago	\$445	\$631	\$849	\$1,093	\$1,279	\$1,081	\$959	\$670	\$708	\$729	\$718	\$683	\$820	\$1,413	72%		
PROTEIN	MBM - Ruminant Mo. Riv	\$398	\$406	\$364	\$413	\$473	\$464	\$502	\$359	\$294	\$273	\$263	\$215	\$239	\$338	41%		
	MBM - Porcine Mo. Riv	\$424	\$441	\$387	\$462	\$552	\$527	\$556	\$377	\$314	\$314	\$308	\$234	\$285	\$389	37%		
	Blood Meal Rum - Mo. Riv	\$898	\$829	\$818	\$949	\$1,122	\$1,232	\$1,580	\$1,070	\$857	\$931	\$790	\$714	\$853	\$1,035	21%		
	Blood Meal Porcine - Midwest	\$1,086	\$974	\$937	\$1,047	\$1,214	\$1,308	\$1,643	\$1,086	\$899	\$968	\$822	\$732	\$910	\$1,136	25%		
	PBM 57 pro - MidSouth	\$536	\$507	\$448	\$524	\$594	\$582	\$610	\$447	\$330	\$306	\$295	\$266	\$277	\$377	36%		
	PBM - 64 pro - MidSouth	\$747	\$761	\$742	\$795	\$919	\$821	\$871	\$602	\$614	\$688	\$721	\$577	\$698	\$828	19%		
	Feathermeal - Midsouth	\$532	\$594	\$540	\$565	\$715	\$701	\$772	\$521	\$391	\$437	\$497	\$390	\$347	\$533	53%		

Source: The Jacobsen, Ryan Standard & Chloe Krimmel



were suspended in 2020 to ensure worker safety, and although inspections eventually resumed, a backlog of facility inspections and related paperwork continued throughout 2021 and into 2022.

Even amid these supply chain disruptions, economic uncertainty and political tension, the U.S. rendering industry is well-situated as demand for rendered products is strong, prices are high and key export markets are open. The following is a review of the 2021 market for U.S. rendered products.

### Domestic Developments

According to the National Agricultural Statistics Service, total U.S. cattle slaughter in 2021 was 33.8 million head, up more than 3% from 2020, showing a return to the pre-pandemic upswing in the cattle cycle that began in 2016. Cattle slaughter has increased 5% in the last five years; however average annual liveweight dipped slightly from 1,373 pounds in 2020 to 1,371 in 2021. Even so, it shows a steady average 5% gain over the past 10 years.

Hog slaughter was 129 million head, down 2% from the prior year. Annual hog slaughter has risen 6% in the past five years and 14% in the past 10 years. Average hog liveweight was 288 pounds in 2021, down a pound from a year earlier.

At 9.32 billion head, chicken slaughter was down by just 0.2% from the 2020 record, with a 3% gain over the last five years and 9% over the last 10 years. The broiler and mature chicken liveweight increased from 6.41 to 6.46 pounds, continuing the upward trend of heavier birds. Turkey slaughter fell more than 3% from 223 million birds in 2020 to 215 million last year, while average annual liveweight showed a slight bump from 32.25 pounds in 2020 to 32.28 pounds in 2021. After falling to a 10-year low of 22.4 million birds slaughtered in 2020, duck production seems to be rebounding with an 8% increase to 24.3 million birds in 2021.

U.S. rendered product production statistics in Table 2 are compiled using the USDA/NASS Fats and Oils: Oilseed Crushings, Production, Consumption, and Stocks Annual Summary. However, the yellow grease and used cooking oil

figures are based on North American Renderers Association and industry estimates.

In 2021, the production of all rendered product was 10.5 million metric tons (mmt), down just 0.6% from the prior year. Total U.S. fat production last year was 6 mmt, up 1% from 2020. Of that, total tallow production increased to 2.8 mmt, an increase of nearly 10% in 2021. Production of inedible tallow was 1.7 mmt, a gain of more than 11%; technical tallow was 606,100 metric tons (mt), up nearly 6%; and edible tallow was 466,800 mt, an increase of nearly 10%.

Last year saw record U.S. imports of rendered fats rise to 494,500 mt, a leap of more than 40% from 2020. This steep rise in imports can be attributed to continued growth in the renewable fuel sector, which includes renewable diesel, biodiesel and coprocessed diesel. Renewable diesel receives some of the most favorable greenhouse gas reduction scores among existing programs, such as the federal Renewable Fuel Standard, the California Low Carbon Fuel Standard, and a new program adopted by Oregon in 2020.

As a result, participants in these state and federal programs are increasingly using renewable diesel to meet rising renewable fuel targets. The increased demand for low-carbon feedstocks in 2021 was apparent as imports of tallow topped 333,300 mt, up more than 37% from 2020, marking the first year the United States was a net importer of tallow. To put this in perspective, since 2016, imports of tallow have shot up a whopping 322%. Similarly, imports of yellow grease/used cooking oil rose to 129,500 mt in 2022, an increase of more than 55% from 2020.

A year ago, a January 2021 article in *Biodiesel Magazine* titled "Renewable Diesel's Rising Tide" reported the production and proposed expansion of 14 renewable diesel plants in the U.S., including four that were already operational. By years end, a December 2021 article in the same magazine titled "Pillars of New Production" reported that the renewable diesel and sustainable aviation fuel plant list has now swelled to 26 (including those that are operational, expanding, under construction and proposed). When fully realized in the coming

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Table 2

US Production, Consumption and Export of Rendered Products for 2016-2021							
Category	2016	2017	2018	2019	2020	2021	% Change 2021/2020
<b>Production</b>	000 mt						
<b>Tallow</b>	2,559.5	2,594.9	2,770.8	2,767.4	2,601.9	2,860.8	9.9%
Inedible Tallow	1,587.4	1,663.8	1,757.7	1,745.9	1,603.0	1,787.9	11.5%
Technical Tallow	562.5	521.5	566.5	569.4	572.7	606.1	5.8%
Edible Tallow	409.6	409.6	446.5	452.1	426.2	466.8	9.5%
<b>White Grease</b>	787.6	750.5	736.8	768.9	734.2	697.6	-5.0%
Lard	167.3	158.2	149.4	158.0	137.6	131.7	-4.3%
Choice White Grease	620.3	592.3	587.4	610.9	596.6	565.9	-5.1%
Yellow Grease/Used Cooking Oil*	1,319.6	1,328.2	1,338.0	1,347.7	1,345.4	1,349.3	0.3%
Poultry Fat	1,113.3	1,095.3	1,025.6	1,133.9	1,146.5	957.1	-16.5%
Other Grease	336.0	369.2	285.9	209.4	207.2	229.2	10.6%
<b>Sub-total Fats and Greases</b>	6,116.1	6,138.2	6,157.0	6,227.3	6,035.2	6,094.0	1.0%
<b>Meat &amp; Bone Meal</b>	2,711.5	2,790.2	2,658.2	2,694.4	2,475.5	2,518.8	1.8%
<b>Poultry By-Product Meal</b>	1,382.1	1,438.8	1,368.7	1,548.6	1,580.3	1,515.1	-4.1%
<b>Feather Meal</b>	527.2	522.0	464.5	601.0	553.5	452.1	-18.3%
<b>Sub-total Protein Meals</b>	4,620.8	4,751.0	4,491.3	4,844.0	4,609.2	4,486.0	-2.7%
<b>TOTAL Rendered Products</b>	10,736.9	10,889.2	10,648.3	11,071.3	10,644.4	10,580.0	-0.6%
<b>Imports</b>							
<b>Tallow</b>	78.9	99.8	139.3	192.0	243.1	333.3	37.1%
<b>White Grease</b>	28.8	27.0	35.8	27.1	23.0	30.4	32.0%
Lard	4.7	5.8	6.9	6.2	5.2	7.7	47.3%
Choice White Grease	24.1	21.2	28.9	20.9	17.8	22.7	27.5%
Yellow Grease/Used Cooking Oil	23.0	38.7	62.8	87.7	83.1	129.5	55.8%
Poultry Fat	0.6	1.9	0.6	3.5	2.1	1.3	-39.3%
<b>Sub-total Fats and Greases</b>	131.2	167.4	238.6	310.3	351.4	494.5	40.7%
<b>Meat &amp; Bone/Poultry/Porcine Meal</b>	82.2	83.6	108.9	117.4	114.0	92.5	-18.9%
<b>Feather Meal</b>	0.6	0.7	0.4	0.3	0.8	2.1	162.5%
<b>Sub-total Protein Meals</b>	82.8	84.3	109.3	117.7	114.8	94.6	-17.6%
<b>TOTAL Rendered Products</b>	214.0	251.7	347.9	428.0	466.2	589.1	26.4%
<b>Consumption</b>							
<b>Biodiesel/Renewable Diesel/Coprocess</b>	NA	NA	NA	NA	NA	2,629.8	
<b>Animal Fat</b>	NA	NA	NA	NA	NA	1,094.6	
Tallow	NA	NA	NA	NA	NA	604.7	
Poultry Fat	NA	NA	NA	NA	NA	139.4	
White Grease	NA	NA	NA	NA	NA	314.8	
Other	NA	NA	NA	NA	NA	35.7	
<b>Recycled Oils</b>	NA	NA	NA	NA	NA	1,535.2	
Yellow Grease/Used Cooking Oil	NA	NA	NA	NA	NA	1,535.2	
<b>Sub-Total</b>						1,126.3	
<b>Meat &amp; Bone/Poultry/Porcine Meal</b>	3,471.0	3,505.7	3,238.0	3,313.7	3,063.3	3,028.0	-1.2%
<b>Feather Meal</b>	464.2	442.6	355.0	510.9	464.2	326.8	-29.6%
<b>Sub-Total</b>	3,935.2	3,948.3	3,593.0	3,824.5	3,527.5	3,354.7	-4.9%
<b>Exports</b>							
<b>Inedible Tallow/Technical Tallow</b>	283.3	324.6	326.9	301.5	299.8	187.9	-37.3%
<b>Yellow Grease</b>	286.2	300.2	360.7	439.0	766.7	762.7	-0.5%
<b>Edible Tallow</b>	120.1	77.7	117.9	121.6	103.0	113.6	10.4%
<b>Lard</b>	19.1	17.2	16.8	22.5	18.1	81.4	349.8%
<b>Choice White Grease</b>	0.4	0.8	0.4	0.7	5.9	0.1	-98.1%
<b>Poultry Fat</b>	14.7	16.1	14.8	12.9	19.0	17.0	-10.6%
<b>Sub-total</b>	723.8	736.5	837.6	898.2	1,212.5	1,162.7	-4.1%
<b>Meat &amp; Bone/Poultry/Porcine Meal</b>	704.8	806.8	897.7	1,046.8	1,106.4	1,098.4	-0.7%
<b>Feather Meal</b>	63.6	80.1	109.9	90.5	90.0	127.4	41.5%
<b>Sub-total</b>	768.4	887.0	1,007.6	891.8	1,196.5	1,225.9	2.5%
<b>TOTAL, All Rendered Products</b>	1,492.2	1,623.5	1,845.2	1,790.0	2,408.9	2,388.5	-0.8%
Sources: Trade Data Monitor. US Energy Information Agency for biodiesel inputs.							
USDA NASS - Fats and Oils: Oilseed Crashings, Production, Consumption and Stocks Summary							
NA = Not available							
*NARA Estimate							



**Table 3. US Annual Livestock and Poultry Slaughter, 2012-2021**

Species/Unit	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change 21/20
Cattle - thousand head	32,951	32,462	30,266	28,843	30,578	32,189	33,005	33,555	32,786	33,837	3.2%
Hogs - thousand head	113,163	112,077	106,958	115,512	118,220	121,317	124,432	129,913	131,563	128,976	-2.0%
Broilers & Mature Chickens - thousand head	8,576,195	8,648,756	8,669,628	8,822,692	8,908,986	9,050,702	9,160,910	9,339,249	9,346,660	9,325,584	-0.2%
Turkeys - thousand head	250,192	239,404	236,617	232,389	243,255	241,680	236,860	227,660	223,003	215,663	-3.3%
Ducks - thousand head	24,183	24,575	26,368	27,749	27,268	26,628	27,647	27,544	22,484	24,301	8.1%
Source: USDA/National Agriculture Statistics Service											
Species/Unit	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change 21/20
Cattle - liveweight	1,302	1,314	1,330	1,360	1,363	1,349	1,350	1,344	1,373	1,371	-0.1%
Hogs - liveweight	275	276	285	283	282	282	283	285	289	288	-0.3%
Broilers & Mature Chickens - liveweight	5.85	5.92	6.00	6.12	6.16	6.20	6.26	6.32	6.41	6.46	0.8%
Turkeys - liveweight	29.83	30.32	30.39	30.19	30.68	30.90	31.07	32.01	32.25	32.28	0.1%
Ducks - liveweight	6.80	6.85	6.87	6.85	6.85	6.92	6.98	7.03	6.97	6.96	-0.1%

Source: USDA/National Agriculture Statistics Service  
Livestock Slaughter Monthly  
Livestock Slaughter Annual Summary  
Poultry Slaughter Annual Summary

years, the new production volume could amount to more than 6.6 billion gallons. EPA already forecasts 2022 production at 1.59 billion gallons.

U.S. rendered protein meal production was 4.4 mmt in 2021, down 2.7% from 2020. Production of meat and bone meal (such as porcine, ruminant, and mixed species meals) totaled more than 2.5 mmt last year, up nearly 2% from the previous year. Production of poultry-based meals was 1.5 mmt in 2021, a 4% decrease, and feather meal dropped to 452,100 mt, a decrease of more than 18% from the previous year.

Imports of rendered protein meals were 95,000 mt, down nearly 19% from 2020. The pet food sector remains an important customer for U.S. rendered protein. The domestic demand for rendered animal protein meal continues a downward slide in response to the plant-based diet trend promoted by poultry producers using an all-vegetarian brand promise to try to develop consumer preference for their finished product. Since last year, domestic consumption fell 5% while exports rose 2.5%.

### Domestic Outlook

Demand for U.S. red meat and poultry should remain strong at home and abroad, but skyrocketing retail prices, particularly for beef, are creating some strong headwinds that cannot be ignored. The Biden administration issued aggressive statements in 2021 accusing the meat industry of price gouging and pledged to enforce existing laws and invest in expanded meat and poultry processing capacity.

USDA's Interagency Agricultural Projections Committee brings together analysts from different agencies throughout the department to compile its 10-year projections report – *USDA Agricultural Projections* to 2031. The report estimated both beef and pork production will contract slightly in 2022 and 2023 due to drought and pandemic-related factors but are expected to increase steadily in the following years and achieve 8% growth by 2030.

Meanwhile, poultry slaughter is expected to steadily increase between 2021 and 2031, driven by increasing domestic and foreign demand. This growth will translate to additional production of 728,600 mt of rendered protein meals, and 755,600 mt of rendered fats by 2030, a 16% and 13% increase, respectively.

### International Market Conditions

The global demand for rendered products remains strong, with exports of total rendered product in 2021 at nearly 2.4 mmt, falling only fractionally from 2020; but still up 60% over

the past five years. Traditionally, international market demand for rendered products is driven by inputs for pet food, poultry feed and aquaculture feed. Demand for fat is driven by the same pet food and feed producers, plus the growing biofuel and oleochemical industries. In 2021, Mexico became the largest importer of U.S. rendered product by volume with 541,900 mt, followed by Singapore with 501,000 mt, and Indonesia at 398,311 mt.

The global feed sector continues to grow, driving demand for raw materials such as animal protein meals and fats. According to Alltech's annual feed production publication *Alltech Agri-food Outlook 2022*, feed production grew 2.3% globally over the past year, with an estimated 1.23 mmt produced in 2021, versus 1.20 mmt in 2020. The survey includes data from more than 140 countries and more than 28,000 feed mills. The Asia-Pacific region is the largest regional market for feed production, producing 458,100 mt, a 5.7% increase from 2020; followed by Europe at 266,800 mt, down 1.2%; North America at 252,900 mt, up 1.9%; and Latin America at 178,400 mt, up 0.5% from 2020.

*Continued on page 16*





**Table 4. U.S. Export Customers by Product (in metric tons), 2011-2021**

Product/Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021/2020
<b>Inedible Tallow</b>												
Mexico	314,069	271,378	238,079	235,843	227,876	145,636	126,624	136,009	130,519	122,117	97,256	-20.36%
Canada	20,013	12,772	14,841	18,493	20,797	22,600	20,000	35,418	29,840	47,730	60,859	27.51%
Honduras	19,457	24,597	14,097	11,499	9,000	8,240	5,641	3,370	2,300	8,160	11,650	42.77%
Morocco	16,913	10,501	5,000	9,000	7,000	7,198	6,450	13,750	13,050	16,199	7,500	-53.70%
Guatemala	29,584	19,117	13,332	21,470	20,449	20,094	15,249	13,608	6,800	5,600	3,800	-32.14%
Brazil	0	0	0	0	0	0	0	0	0	31,000	3,000	-90.32%
Colombia	8,099	7,199	3,899	6,100	8,000	0	1,856	9,200	4,200	2,400	2,400	0.00%
Dominican Republic	0	2,000	2,499	3,000	3,500	4,550	2,750	3,750	1,450	1,250	836	-33.12%
Turkey	90,649	79,495	45,871	59,474	20,898	19,249	7,200	11,260	10,750	15,699	500	-96.82%
Trinidad and Tobago	997	122	179	264	205	78	159	73	34	0	61	
Nigeria	0	0	0	0	0	0	7,500	10,400	2,000	3,500	0	-100.00%
Singapore	0	5,000	0	5,000	14,275	46,312	119,240	88,421	100,600	46,000	0	-100.00%
<b>Total All Countries</b>	<b>598,355</b>	<b>486,735</b>	<b>382,263</b>	<b>402,548</b>	<b>343,115</b>	<b>283,280</b>	<b>324,586</b>	<b>326,945</b>	<b>301,543</b>	<b>299,769</b>	<b>187,861</b>	<b>-37.33%</b>
<b>Yellow Grease (includes UCO)</b>												
Singapore	706	1,656	2,593	2,675	1,755	1,541	8,110	71,747	169,584	515,957	501,047	-2.89%
United Kingdom	17,999	31,267	40,514	30,116	22,025	63,044	55,477	59,469	68,580	76,665	93,990	22.60%
Mexico	131,831	113,534	95,892	95,574	72,564	50,034	63,372	39,267	48,625	58,400	92,240	57.95%
EU27	204,634	120,762	106,595	123,590	106,041	121,793	120,358	109,091	92,164	77,345	36,942	-52.24%
Dominican Republic	30,460	17,629	18,082	15,518	9,585	10,639	9,652	7,943	7,215	9,908	11,309	14.14%
Canada	26,547	15,604	11,533	10,604	11,716	9,073	7,726	7,968	8,739	7,979	9,417	18.02%
Ecuador	44	25	99	373	48	301	554	1,388	1,410	2,060	3,495	69.66%
China	4,188	572	144	276	965	1,796	1,952	2,330	2,493	3,790	3,173	-16.28%
Jamaica	6630	4802	6991	7300	1310	1,568	1,211	3,511	3,464	2,980	2,094	-29.73%
Honduras	7,236	6,920	3,605	5,890	7,057	6,939	2,167	6,497	3,145	1,590	1,743	9.62%
Colombia	578	584	388	439	593	1,846	743	445	662	1,060	1,464	38.11%
India	2,488	26	35	141	278	49	81	112	196	64	1,075	1579.69%
<b>Total All Countries</b>	<b>566,246</b>	<b>452,067</b>	<b>361,031</b>	<b>333,133</b>	<b>252,959</b>	<b>286,226</b>	<b>300,198</b>	<b>360,682</b>	<b>439,045</b>	<b>766,727</b>	<b>762,667</b>	<b>-0.53%</b>
<b>Edible Tallow</b>												
Mexico	54,459	70,205	66,278	35,840	61,076	114,154	72,120	113,525	118,951	101,587	108,885	7.18%
Honduras	0	-	-	-	-	-	-	1	-	-	1,675	
Guatemala	0	-	-	128	-	-	-	1	-	-	1,500	
Canada	5,283	5,163	4,870	4,807	3,657	5,706	5,552	4,338	2,547	881	1,344	52.55%
<b>Total All Countries</b>	<b>60,043</b>	<b>75,399</b>	<b>71,148</b>	<b>40,783</b>	<b>64,762</b>	<b>120,146</b>	<b>77,678</b>	<b>117,903</b>	<b>121,605</b>	<b>102,963</b>	<b>113,625</b>	<b>10.36%</b>
<b>Lard</b>												
Mexico	32,878	23,487	28,299	18,848	17,691	16,924	15,876	16,173	22,097	17,515	80,631	360.35%
China	0	29	0	0	4	0	0	0	0	0	257	
Canada	1,016	598	596	612	393	988	605	264	259	191	205	7.33%
<b>Total All Countries</b>	<b>34,776</b>	<b>24,826</b>	<b>29,398</b>	<b>21,390</b>	<b>19,768</b>	<b>19,050</b>	<b>17,181</b>	<b>16,825</b>	<b>22,488</b>	<b>18,097</b>	<b>81,377</b>	<b>349.67%</b>
<b>Choice White Grease</b>												
Ghana	0	0	0	0	0	0	0	0	0	0	77	
Japan	57	7	0	10	0	0	0	0	0	0	15	
Mexico	910	92	33	208	27	67	659	295	573	22	12	-45.45%
Honduras	-	20	8	25	-	-	-	-	-	5,700	-	-100.00%
<b>Total All Countries</b>	<b>2,518</b>	<b>1,387</b>	<b>491</b>	<b>639</b>	<b>202</b>	<b>374</b>	<b>797</b>	<b>421</b>	<b>661</b>	<b>5,909</b>	<b>111</b>	<b>-98.12%</b>
<b>Poultry Fat</b>												
Canada	-	10,667	11,065	13,072	10,943	9,320	10,125	8,815	7,074	6,538	5,525	-15.49%
Peru	-	0	0	0	0	958	1,597	2,511	2,080	3,660	4,016	9.73%
Guatemala	-	287	370	458	446	516	567	561	1,003	2,659	3,773	41.90%
Mexico	-	806	854	1,731	2,418	2,139	2,545	1,955	1,780	2,153	1,718	-20.20%
Chile	-	-	-	9	-	-	-	4	-	1,987	587	-70.46%
<b>Total All Countries</b>	<b>-</b>	<b>14,536</b>	<b>14,895</b>	<b>18,173</b>	<b>16,376</b>	<b>14,728</b>	<b>16,065</b>	<b>14,835</b>	<b>12,862</b>	<b>18,992</b>	<b>16,987</b>	<b>-10.56%</b>
<b>Animal Protein Meals</b>												
Indonesia	247,103	155,813	168,479	156,059	199,067	277,859	303,588	321,452	385,010	333,233	335,464	0.67%
China	11,223	23,420	54,483	63,174	81,400	138,088	162,346	198,991	199,670	235,510	218,507	-7.22%
Mexico	92,168	99,043	83,474	74,874	103,789	99,618	129,371	112,375	112,106	116,548	161,223	38.33%
Vietnam	3,017	2,050	1,780	1,613	8,214	28,416	39,528	65,629	115,544	190,485	125,408	-34.16%
Philippines	4,466	33,035	29,729	12,462	10,734	9,267	6,605	23,592	38,915	64,090	72,460	13.06%
Canada	30,333	38,044	43,368	48,690	58,743	64,292	66,422	54,520	49,049	54,810	56,320	2.75%
Ecuador	1,919	2,568	9,785	10,298	8,563	11,549	15,795	22,087	33,845	29,432	39,634	34.66%
Honduras	167	900	3,406	1,100	3,704	10,693	4,102	8,694	7,520	12,654	31,207	146.62%
Thailand	11,512	12,884	14,951	5,740	5,163	3,480	17,119	18,263	32,179	18,721	15,326	-18.13%
Peru	337	680	1,156	994	1,019	2,410	5,564	5,809	3,762	9,151	11,072	20.99%
Guatemala	10	1,037	12,595	7,399	1,381	4,130	2,934	915	3,336	8,770	7,968	-9.14%
Chile	12,386	45,937	59,689	32,026	57,084	18,144	26,963	44,454	41,801	15,451	7,737	-49.93%
Sri Lanka	0	0	0	0	0	-	1,914	2,456	2,055	1,484	5,109	244.27%
Malaysia	0	2,060	4,053	3,916	1,374	1,800	7,348	7,846	11,990	7,872	3,297	-58.12%
Colombia	1,001	724	2,276	1,523	950	459	925	1,204	1,561	1,494	2,724	82.33%
Myanmar	-	-	-	-	-	120	1,905	4,872	5,163	2,656	1,125	-57.64%
Australia	1	0	0	0	0	0	73	6	77	145	1,021	604.14%
Costa Rica	1,948	349	781	749	1,176	2,603	1,564	167	108	363	869	139.39%
<b>Total All Countries</b>	<b>425,159</b>	<b>432,293</b>	<b>508,590</b>	<b>432,542</b>	<b>563,280</b>	<b>704,827</b>	<b>806,838</b>	<b>897,701</b>	<b>1,046,761</b>	<b>1,106,444</b>	<b>1,098,447</b>	<b>-0.72%</b>
<b>Feather Meal</b>												
Indonesia	36,011	46,929	110,087	98,990	41,750	27,373	29,177	28,058	28,047	41,603	62,847	51.06%
Vietnam	625	95	4,120	7	2,637	1,440	-	3,925	3,763	11,124	26,777	140.71%
Chile	13,697	25,667	52,972	48,135	24,403	10,046	11,744	30,289	43,443	23,049	23,496	1.94%
Canada	11,632	17,035	8,961	16,227	15,573	16,872	18,241	15,072	7,175	6,758	7,201	6.56%
Peru	0	0	-	-	578	-	427	761	1,325	1,346	3,813	183.28%
Honduras	0	0	0	0	-	-	-	-	1,525	1,945	966	-50.33%
Philippines	0	0	0	0	100	200	800	859	288	2,275	884	-61.14%
<b>Total All Countries</b>	<b>62,791</b>	<b>92,195</b>	<b>178,815</b>	<b>165,952</b>	<b>87,000</b>	<b>63,580</b>	<b>80,123</b>	<b>109,902</b>	<b>90,454</b>	<b>90,048</b>	<b>127,407</b>	<b>41.49%</b>

Source: Trade Data Monitor



There is not enough available data to estimate the global oleochemical demand for fats.

### Fat Exports Mixed

The United States exported 187,800 mt of inedible tallow in 2021, a 37% decrease from the year before. The largest importer last year was Mexico at 97,200 mt, a decline of 20%; followed by Canada at 60,800 mt, an increase of 27%; and Honduras at 11,600 mt, an increase of 42%. Singapore, which had been the third largest export market in 2020 at 46,000 mt, stopped importing inedible tallow from the U.S. altogether in 2021, according to U.S. Customs data.

Yellow grease exports totaled 762,600 mt in 2021, down just 0.5% from 2020, with the largest importers being Singapore at 501,000 mt, down 2.89% from 2020; the U.K. at 93,900 mt, up 22.60%; Mexico at 92,200, up nearly 58%, and the 27 countries in the EU at 36,942 mt, down 52.24%. Yellow grease (includes UCO) exports to Singapore, the U.K. and EU combined account for more than 54% of all U.S.-rendered fat exports, demonstrating the dramatic shift in consumption of rendered fats and oils toward renewable fuel.

### Record Protein Meal Exports

Exports of U.S. rendered animal protein meals totaled 1.2 mmt in 2021, up 2.5% from 2020 and 56% over the last five years. Indonesia remains the largest market, importing 335,400 mt in 2021, an increase of 0.67%; followed by China at 218,500 mt, a decrease of 7%; and Mexico, which surpassed Vietnam to become the third largest export market at 161,200 mt, an increase of 38%. U.S. feather meal exports totaled 127,400 mt in 2021, a 41% increase over 2020. The largest importer of feather

meal was Indonesia at 62,800 mt, up 51% from 2020; followed by Vietnam at 26,700 mt, increasing 140%; and Chile at 23,400, up 1.94%.

The growth in animal protein meal exports to Mexico can be attributed to the success of the United States-Mexico-Canada Trade Agreement, which was instrumental in getting Mexican market access for U.S. bovine MBM. While the agreement went into force July 1, 2020, increased exports of MBM to Mexico were not fully realized until 2021 due to regulatory hurdles, such as plant registrations that involve onsite inspections by APHIS and a rigorous approval process that must be accepted by SENASECA (Mexico's national service of health, food safety, and quality) before export certificates can be issued.

Once U.S. companies were approved for export, Mexican poultry, swine and petfood producers enthusiastically

welcomed the new sources of protein to help manage feed costs amid pandemic-related supply chain issues and the rising cost of inputs. NARA spent several years laying the groundwork for this agreement by collaborating with the Mexican feed producer's association (CONAFAB) to press SENAIECA for access to this product. The 38% jump in MBM exports to Mexico in 2021 is a testament to the new market access achieved under USMCA and should be a model for future agricultural trade negotiations.

### Post-Pandemic Growth and Market Shifts

As the world adjusts to post-pandemic life and finds its new normal, demand should increase for both fuel and foodstuffs – thereby increasing demand for rendered products. Renewable fuel standards and the expansion of the biofuel sector globally will increase demand and prices for rendered fats. Demand for protein meals will continue to be driven by the burgeoning aquaculture and pet food sectors.

The juxtaposition of the rising demand for fats and oils for renewable fuel consumption and declining domestic demand for rendered animal protein due to changing consumer preferences punctuates the need to find new markets for U.S. rendered protein products in 2022 and beyond. **R**



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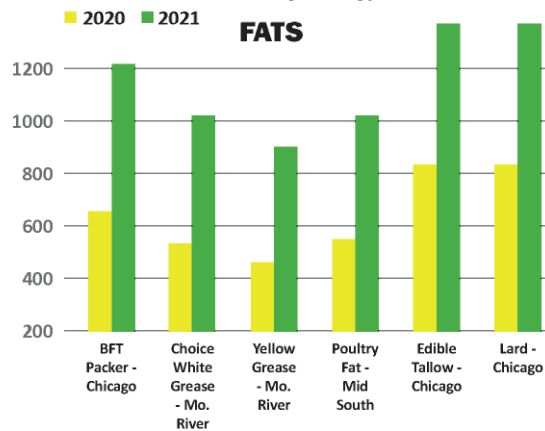
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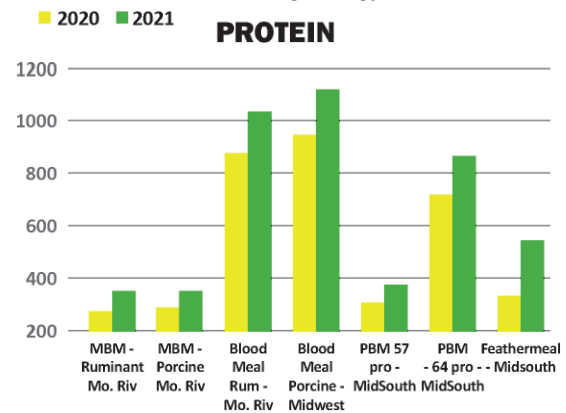


# Market Report Highlights

**Average Annual Prices of Select Rendered Products (\$/MT), 2020-2021**



**Average Annual Prices of Select Rendered Products (\$/MT), 2020-2021**



**US Export Customers by Product (in metric tons), 2021**



**Tallow**

1. Mexico	97,256
2. Canada	60,859
3. Honduras	11,650
4. Morocco	7,500
5. Guatemala	2,800



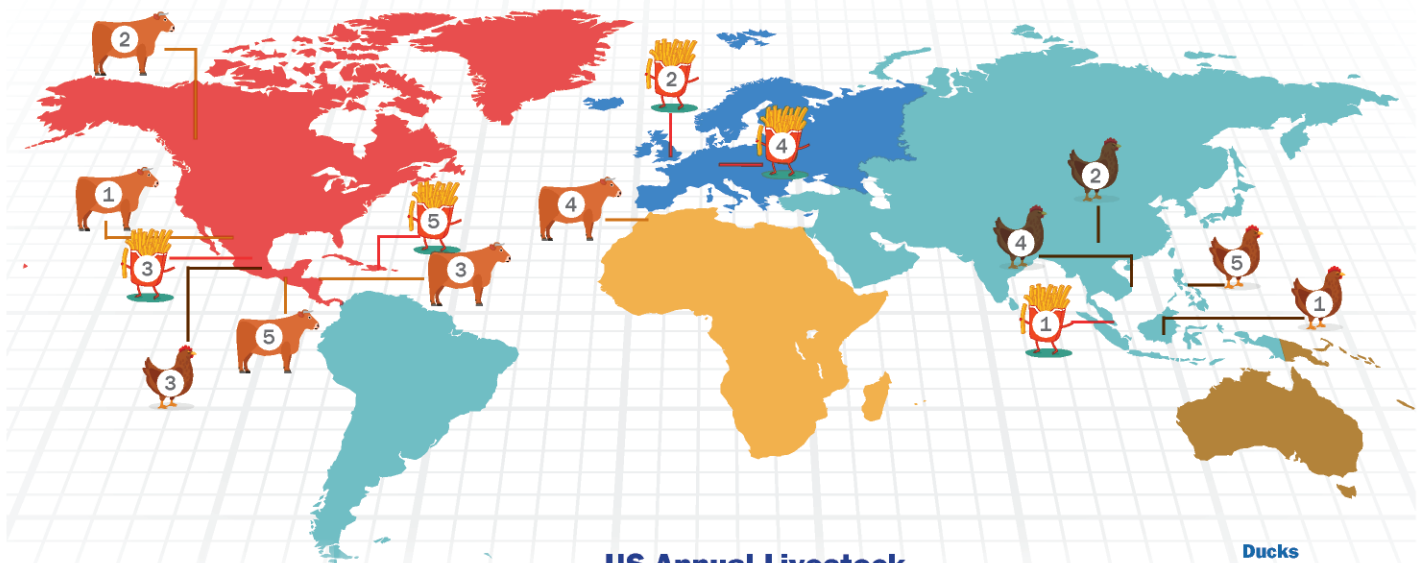
**Yellow Grease**

1. Singapore	501,047
2. UK	93,990
3. Mexico	92,240
4. EU27	36,942
5. Dominican Republic	11,309

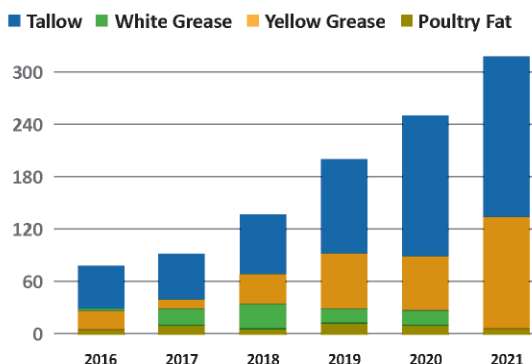


**Animal Protein Meals**

1. Indonesia	335,464
2. China	218,507
3. Mexico	161,223
4. Vietnam	125,408
5. Philippines	72,460



**US Imports of Rendered Products for 2016-2021**



**US Annual Livestock and Poultry Slaughter, 2020-2021**  
Percentage of Change (thousand-head)

