

Market Report 2009

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Last year brought with it a plethora of memorable events, including a continued recession, bank and auto company failures (and their government bailouts), a struggling Wall Street, the credit and mortgage crises, the H1N1 flu pandemic, the removal from office of Illinois Governor Rod Blagojevich, the \$838 billion stimulus package, and a U.S. unemployment rate that reached over 10 percent. To top it off, Mine That Bird, a 50-to-1 shot, won the Kentucky Derby and the New Orleans Saints won the Super Bowl. I'd say 2009 was quite a year.

Although this report focuses on the rendering industry's situation during 2009, some of the above events played a role in the industry's market. However, the major event for the rendering industry in 2009 was implementation and enforcement of the Food and Drug Administration's (FDA's) enhanced feed rule. Also affecting the industry was the European Union's (EU's) enforcement of retaliatory duties on U.S. biodiesel exports that strained an already struggling biodiesel industry. The year also saw sporadic rendered product price fluctuations starting off the year at very low levels and strengthening toward the end of the year. In addition, livestock inventories were down due to high feed prices in 2008, resulting in reduced raw materials and reduced demand for finished rendered products. The economic crisis also led to decreased demand for products that would normally go for industrial uses, therefore, fat prices were down dramatically over 2008. Protein prices stayed strong overall because of the drought situation lowering the soybean harvest in South America and due to the pressure on fish meal resources.

Domestic Developments

Rendered product production is highly dependent upon the domestic livestock and poultry slaughter. In 2008, extremely high feed costs encouraged livestock producers to lower inventories leading to lower slaughter numbers in 2009. According to the U.S. Department of Agriculture (USDA) National Agricultural Statistics Service, 33.3 million head of cattle were slaughtered in 2009, down 3.4 percent from 2008. Commercial hog slaughter decreased in 2009 for its first decline in over six years, with slaughter totaling 113.6 million head, down 2.6 percent from 116.6 million head in 2008. Commercial poultry slaughter totaled almost 8.7 billion chickens, down 4.6 percent versus 2008, and 246 million turkeys, down 9.4 percent from the previous year.

The raw material from this slaughter contributed to the production of an estimated 8.17 million metric tons of rendered products, down about 5.7 percent from 2008. This decrease in production was not only due to the reduced slaughter in the United States but also to the loss of raw material as a result of the enhanced feed ban. The retraction in beef production will probably continue through 2010, whereas swine and poultry production, being shorter cycles, should rebound this year.

In 2009, the production of animal fats and greases decreased by seven percent compared to 2008, while lard production dropped over 35 percent in 2009. The production of yellow grease plummeted by a whopping 20 percent according to the U.S. Census Bureau due to several factors, including the decline in consumers eating out at restaurants because of



Amidst a domestic slump, the industry looks globally

the economy. The production of animal protein meals was 3.9 million metric tons, a drop of four percent in 2009 compared to 2008 levels. Meat and bone meal as shown in Table 2 includes all mammalian-based meat and bone meal as reported by the U.S. Census Bureau. This production decreased by nearly 3.8 percent in 2009 as opposed to 2008. The National Renderers Association (NRA) estimates of poultry meal production were down a little over five percent as was estimated production of feather meal.

The domestic consumption of all rendered products declined by 4.9 percent in 2009 compared to 2008. Animal protein meal consumption is not reported by the U.S. Census Bureau, so in Table 2, NRA derived this figure by subtracting exports from production to arrive at consumption. However, it must be noted that this simple method does not account for carryover stocks or imports. Domestic consumption of animal protein meals in 2009 was around 3.6 million metric tons, down 3.5 percent over 2008 numbers.

U.S. consumption of fats and greases was 2.1 million metric tons, down 7.1 percent in 2009 versus 2008. Inedible tallow and grease for fatty acid production was about 265,000 metric tons, down almost 17 percent from 2008. The decline of inedible tallow and grease to the feed industry continued in 2009 with a total consumption of around 803,000 metric tons, down 16 percent from 2008. Since 2007, consumption of inedible tallow and grease to the feed industry has dropped by 447,000 metric tons, or by about 36 percent. The drop in production of inedible tallow and grease as reported earlier

was one reason for the decline in consumption, but it would also appear the biofuel industry is looking to the market for inedible tallow and grease. This fairly new customer of the rendering industry as reported last year appears to be changing the consumption patterns of the fats and grease market.

Biodiesel production in the United States declined in 2009 for the first time since production statistics were recorded. According to the National Biodiesel Board, total biodiesel production in 2009 was 1.6 million metric tons, down 29 percent over 2008. The main reason for this reduced production was the duties applied by the EU to U.S. biodiesel imports. These duties remain in place in 2010 and will continue to halt exports of U.S. biodiesel to the EU.

Even with the decline in biodiesel production, rendered products saw a record use as a raw material for biodiesel in 2009, totaling around 430,000 metric tons, up from 410,000 metric tons in 2008. This accounted for approximately 23 percent of all raw materials used for biodiesel production. However, these numbers are probably much higher than reported. For example, the large decreases in use of rendered products in Chart 1 for January and July 2009 was due to the lack of reporting of rendered products for those months. In addition, only one month of edible tallow use in biodiesel production was reported and NRA estimates that use to be around 10,000 metric tons per month. Therefore, the use of rendered fats and greases in biodiesel production could be about 100,000

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Table 1. Average Annual Prices of Selected Rendered Products, 2004-2009

Product/Location/Unit	2004	2005	2006	2007	2008	2009	% Change 09/08
Inedible Tallow and Greases							
Packer bleachable (CAF Chicago-\$/MT)	\$402	\$384	\$371	\$612	\$843	\$554	-52
Renderer bleachable (CAF Chicago-\$/MT)	\$425	\$388	\$371	\$605	\$796	\$541	-47
Choice white grease (FOB Central U.S.-\$/MT)	\$362	\$351	\$314	\$533	\$720	\$513	-40
Yellow grease (FOB Central U.S.-\$/MT)	\$329	\$316	\$282	\$488	\$629	\$450	-40
Edible Tallow and Lard							
Edible tallow (CAF Chicago-\$/MT)	\$434	\$427	\$417	\$662	\$866	\$609	-42
Lard (Chicago-\$/MT)	\$587	\$462	\$477	\$706	\$863	\$606	-42
Edible tallow (CAF Gulf-\$/MT)	\$401	\$405	\$414	\$580	\$733	\$584	-26
Protein Meals							
Meat and bone meal, 50% protein (Central U.S.-\$/MT)	\$196	\$181	\$165	\$249	\$351	\$368	5
Pork meat and bone meal, 50% protein \$/MT	\$250	\$217	\$206	\$266	\$383	\$405	6
Blood meal, 85% protein (Central U.S.-\$/MT)	\$414	\$427	\$497	\$620	\$785	\$728	-8
Pork blood meal, 85% protein (Central U.S.-\$/MT)	\$645	\$594	\$586	\$737	\$946	\$909	-4

Source: USDA/Agricultural Marketing Service, Market News Branch.

Fats and greases reported in cents/cwt, and meals in short tons – converted to metric tons (MT) by NRA.

Table 2. U.S. Production, Consumption, and Export of Rendered Products, 2004-2009 (000 metric tons)

Category	2004	2005	2006	2007	2008	2009	% Change 09/08
Production^A							
Inedible tallow and greases	2,889.5	2,814.1	2,963.8	3,006.5	2,880.8	2,666.3	-7.44
Inedible tallow	1,679.9	1,649.5	1,737.8	1,727.5	1,610.7	1,514.9	-5.94
Greases	1,209.6	1,164.6	1,226.0	1,279.0	1,270.1	1,151.4	-9.35
Yellow grease	690.9	605.7	671.4	700.0	769.1	614.8	-20.05
Other grease	518.7	558.9	554.6	579.0	501.1	536.6	7.09
Edible tallow	824.6	789.6	844.3	811.4	813.7	839.4	3.16
Lard	118.8	119.6	143.8	211.2	222.6	144.0	-35.32
Poultry fat	470.1	462.2	583.0	624.8	659.3	606.6	-7.99
<i>Subtotal</i>	4,302.9	4,185.5	4,534.9	4,653.9	4,576.4	4,256.3	-6.99
Meat and bone meal and tankage ¹	1,994.9	2,173.2	2,157.8	2,398.5	2,313.8	2,226.8	-3.76
Poultry by-products meal ²	1,082.8	1,114.3	1,133.1	1,155.3	1,176.5	1,116.9	-5.07
Feather meal ²	563.9	580.1	590.1	593.1	603.9	573.3	-5.06
<i>Subtotal⁶</i>	3,641.6	3,867.5	3,881.0	4,146.9	4,094.2	3,917.0	-4.33
Total	7,944.5	8,053.0	8,416.0	8,800.8	8,670.7	8,173.4	-5.74
Consumption							
Inedible tallow and greases	1,485.7	1,515.0	1,775.8	1,914.0	1,752.5	1,587.5	-9.42
Fatty acids	B	B	B	B	318.2	264.5	-16.88
Feed	1,195.9	1,114.1	1,182.5	1,249.9	955.6	802.8	-15.99
Inedible tallow	427.7	407.3	498.4	396.2	247.0	170.0	-31.18
Greases ³	768.2	706.7	684.2	853.7	708.6	633.0	-10.67
Yellow grease	444.5	394.0	384.0	507.2	435.4	397.9	-8.61
Other grease	323.7	312.7	300.2	346.5	273.2	235.1	-13.95
Methyl ester ⁴	B	B	B	76.7	290.8	355.2 ⁿ⁼¹¹	22.13
Edible tallow	182.0	198.1	100.5	233.3	340.7	437.8	28.48
for edible use	106.3	95.6	100.5	88.0	73.1	58.9	-19.46
for inedible use	75.7	102.5	B	145.3	267.4	378.9 ⁿ⁼⁹	41.70
Methyl ester	B	B	B	B	B	13.8 ⁿ⁼¹	
Lard	121.4	105.7	99.7	122.5	219.4	122.4	-44.21
for edible use	91.3	79.6	79.8	80.2	82.6	71.3	-13.67
for inedible use	30.1	26.2	19.9	42.3	136.8	51.1 ⁿ⁼⁹	-62.63
Methyl ester	B	B	B	B	118.9	63.4 ⁿ⁼¹¹	
<i>Subtotal</i>	1,789.0	1,818.8	1,976.0	2,269.8	2,312.6	2,147.7	-7.13
Animal protein meals ³	2,940.8	3,093.3	3,074.5	3,263.4	3,191.2	3,073.1	-3.70
Feather meal ³	521.8	537.5	563.2	547.3	530.6	519.3	-2.13
<i>Subtotal</i>	3,462.6	3,630.8	3,637.7	3,810.7	3,721.9	3,592.4	-3.48
Total	5,251.7	5,449.6	5,613.7	6,080.5	6,034.50	5,740.1	-4.88
Exports							
Inedible tallow	733.5	650.4	731.2	818.5	828.3	726.5	-12.29
Yellow grease	319.7	289.4	343.2	374.1	458.0	442.6	-3.37
Edible tallow	116.2	140.2	124.7	176.1	84.1	73.3	-12.75
Lard	132.8	42.6	32.7	33.1	37.1	38.2	2.87
<i>Subtotal</i>	1,302.1	1,122.7	1,231.8	1,401.7	1,407.5	1,280.6	-9.02
Animal protein meals ⁵	136.9	194.2	216.4	290.4	299.1	270.6	-9.53
Feather meal	42.1	42.6	26.9	45.8	73.3	54.0	-26.29
<i>Subtotal</i>	179.0	236.2	243.3	336.2	374.4	324.6	-12.82
Bone and bone products	30.4	16.8	12.4	12.3	20.0	21.4	6.94
Total, all rendered products	1,511.5	1,376.2	1,487.5	1,750.2	1,799.9	1,626.6	-9.63

Sources: U.S. Census Bureau, M311K series for Fat and Oils: Production, Consumption, and Stocks. U.S. Census Bureau for exports. NRA estimates for poultry meals.

Footnotes:

A. Production does not include imports and carryover stock.

B. Not reported.

n = number of months less than 12 reported by the U.S. Census Bureau.

1. Mammalian origin. Includes porcine meal.

2. NRA estimates.

3. Feather meal and animal protein meal consumption are not reported by the U.S. Census Bureau. This data was derived by subtracting exports of these products from production of the same products.

4. Includes poultry fat.

5. Includes mammalian meat and bone meal and poultry by-product meal (HS23011).

6. Does not include raw materials for pet food or blood meal.

metric tons greater than what is reported for 2009, putting biodiesel consumption at around 10 percent of rendered fats and greases production. To put this into perspective, currently, exports account for 30 percent, feed 19 percent, fatty acids six percent, and edible products three percent of total rendered fats and greases production with the remaining consumption going into other unaccounted uses and carryover.

The price of rendered fats and greases dropped anywhere from 40 to 52 percent in 2009 compared to 2008. Packer and renderer bleachable tallow averaged \$554 and \$541 per metric ton respectively, down 52 and 47 percent from 2008. Yellow grease averaged \$450 per metric ton, down 40 percent over 2008. With this being said, on average, these prices are higher for the year than historical averages. However, in looking at monthly averages for 2009, what hurt the rendering industry most was the very low prices that were seen in the first several months of 2009, with tallow dropping to an average \$364 per metric ton in March and yellow grease dropping to \$313 per metric ton. In addition, there was much volatility in fats prices in 2009. The highly correlated tallow and crude oil price that was seen between January 2007 and December 2008 broke off in 2009. The correlation went from 93 percent in the former

period to 73 percent in 2009, making it difficult to base any pricing of fats on the crude oil market.

Animal protein meal prices fared much better in 2009. Mammalian meat and bone meal averaged \$368 per metric ton, up five percent from 2008. Much of this strength was due to a reduction in soybean harvest in South America because of a drought in 2008, but can also be attributed to a strong demand from the aquaculture sector.

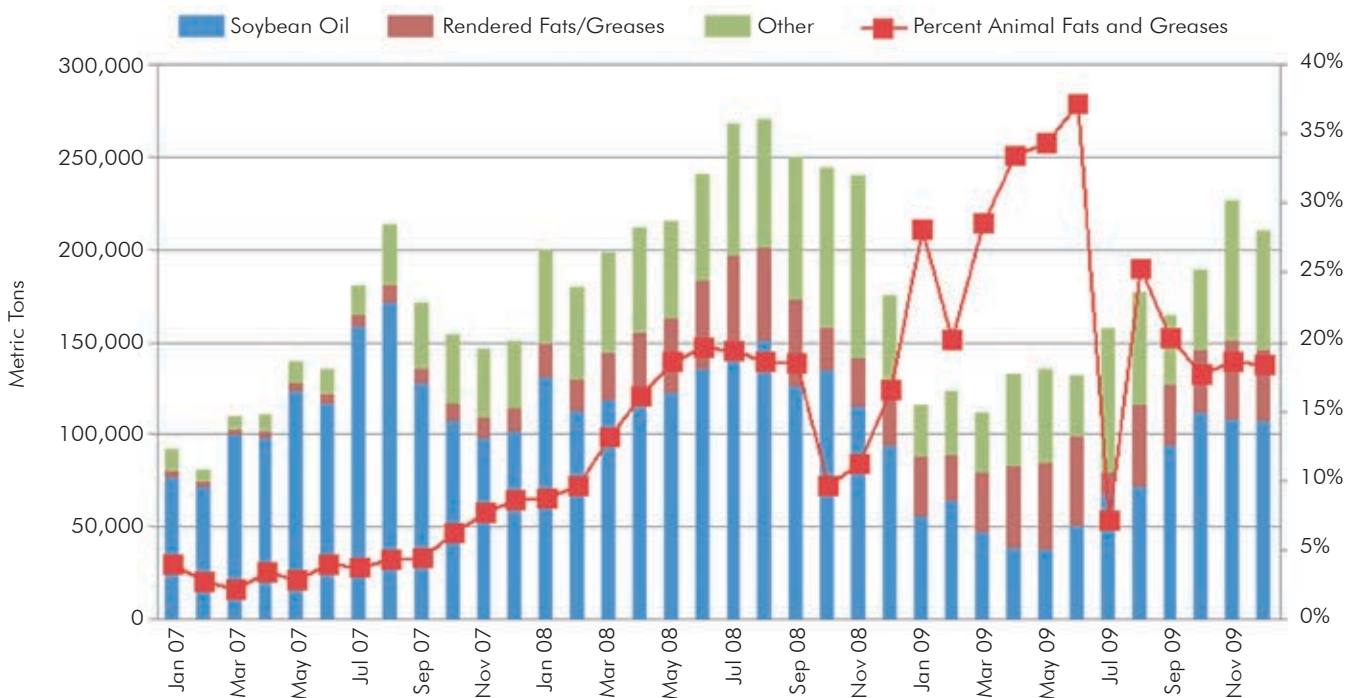
International Developments

The international market continues to be important for the North American rendering industry. Not only does it benefit those companies that choose to export, it also benefits those that market their products solely in the domestic market because it clears excess production off the local market. This is not only valuable to U.S. producers but also to end users in different countries who reside in areas that are energy and protein deficient and need to import these high quality ingredients.

The symbiotic relationship that the rendering industry has established with shrimp and fish producers around the world is one the industry should be proud of. Animal protein meals are shipped to aquaculture producers that then send their products

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Chart 1. U.S. Raw Material Usage for U.S. Biodiesel Production, 2007-2009



Source: U.S. Census Bureau. Other category derived by NRA.

Table 3. U.S. Annual Livestock and Poultry Slaughter, 2004-2009

Specie/Unit	2004	2005	2006	2007	2008	2009	% Change 09/08
Cattle - thousand head	32,880	32,539	33,849	34,414	34,514	33,333	-3.4
Hogs - thousand head	103,573	103,690	104,845	109,278	116,559	113,584	-2.6
Broilers and mature chickens - thousand head	8,895,748	9,000,473	8,968,666	9,035,620	9,075,112	8,658,860	-4.6
Turkeys - thousand head	254,308	248,094	254,716	264,926	271,265	245,768	-9.4

Source: USDA/National Agricultural Statistics Service.

Table 4. U.S. Export Customers by Product, 2004-2009 (metric tons)

Product/Country	2004	2005	2006	2007	2008	2009	% Change 09/08
Inedible Tallow							
Mexico	300,423	304,337	306,665	323,043	331,314	343,315	3.6
Turkey	130,938	125,850	150,539	141,371	112,521	112,569	0.0
Korea, South	10,560	7,000	22,618	52,535	53,067	45,150	-14.9
Nigeria	29,523	39,578	14,999	44,143	83,996	37,997	-54.8
Guatemala	38,635	27,735	36,164	40,979	34,143	26,142	-23.4
Canada	9,863	12,791	14,639	20,536	23,598	23,397	-0.9
Honduras	30,195	17,311	27,267	34,709	22,575	23,088	2.3
Venezuela	20,130	15,998	23,798	17,331	24,159	18,847	-22.0
Peru	12,801	10,671	15,600	19,798	19,920	16,951	-14.9
Morocco	4,901	0	11,081	18,849	9,454	13,841	46.4
Pakistan	15,499	0	10,184	8,199	21,984	11,882	-46.0
Colombia	25,825	16,938	17,480	16,298	19,787	10,998	-44.4
Nicaragua	16,624	3,000	10,658	10,284	8,398	7,599	-9.5
El Salvador	8,578	5,444	18,329	14,597	13,239	6,563	-50.4
Japan	16,097	15,849	19,352	15,848	12,347	5,999	-51.4
South Africa	11,986	8,539	2,526	7,048	10,894	3,980	-63.5
Dominican Republic	14,033	10,506	13,701	5,544	9,448	3,649	-61.4
Dominica	5,399	5,999	4,799	4,200	6,798	3,199	-52.9
Haiti	6,180	3,273	2,697	9,239	7,493	3,199	-57.3
Montenegro	0	0	0	0	0	3,000	
Cuba	0	2,020	2,000	2,397	0	2,999	
Trinidad and Tobago	930	1,625	677	1,735	742	1,500	102.2
Panama	876	400	800	787	400	400	0.0
Total all countries	733,461	650,434	731,234	818,463	828,317	726,484	-12.3
Yellow Grease							
Mexico	109,167	84,283	90,575	86,612	109,903	137,603	25.2
Venezuela	58,967	61,358	97,829	82,034	109,464	102,879	-6.0
EU-27	2,862	2,091	24,485	34,633	68,298	43,179	-36.8
Dominican Republic	21,664	34,854	29,152	46,755	35,650	37,651	5.6
Asia, other	61,626	35,926	29,731	29,930	31,476	33,937	7.8
Canada	14,558	17,979	13,400	13,439	38,536	22,282	-42.2
Guatemala	4,336	5,068	10,207	14,305	6,840	12,985	89.8
El Salvador	3,797	7,117	8,915	13,044	10,210	9,973	-2.3
Haiti	1,498	3,754	8,228	7,405	6,271	9,873	57.4
Korea, South	1,714	3,615	8,773	12,073	18,187	8,049	-55.7
Total all countries	319,676	289,421	343,185	374,148	458,010	442,577	-3.4
Edible Tallow							
Mexico	80,722	96,818	87,957	135,553	72,832	67,879	-6.8
Canada	17,287	14,081	18,408	25,516	7,772	3,385	-56.4
Turkey	0	1,960	0	0	0	1,649	
Trinidad and Tobago	15	0	120	124	118	196	66.1
Chile	0	0	0	0	0	89	
Guatemala	0	1,470	0	0	0	75	
France	0	0	0	326	34	49	44.1
Panama	0	0	0	0	0	10	
Barbados	0	0	0	4	9	7	-22.2
Korea, South	9,014	17,098	17,422	9,415	2,266	0	-100.0
Total all countries	116,155	140,220	124,694	176,080	84,053	73,340	-12.7
Lard							
Mexico	117,657	32,606	22,693	22,762	31,938	36,394	14.0
Canada	6,015	6,046	5,565	5,958	2,727	715	-73.8
Trinidad and Tobago	37	354	336	342	569	363	-36.2
Aruba	4	28	0	13	92	253	175.0
Antigua and Barbuda	13	144	206	102	131	115	-12.2
United Kingdom	0	0	0	0	0	77	
Total all countries	132,811	42,576	32,712	33,053	37,149	38,215	2.9

Table 4. U.S. Export Customers by Product, 2004-2009 (metric tons), continued

Product/Country	2004	2005	2006	2007	2008	2009	% Change 09/08
Animal Protein Meals							
Mexico	59,750	113,388	125,668	112,132	107,164	115,795	8.1
Indonesia	30,505	46,825	40,194	103,524	117,009	93,770	-19.9
Canada	14,886	9,540	18,771	27,032	30,693	38,328	24.9
Ecuador	5	0	166	1,741	5,861	5,270	-10.1
Philippines	4,084	3,909	6,861	10,190	5,736	4,456	-22.3
China	1,961	0	4,128	9,797	5,249	3,945	-24.8
Thailand	2,734	4,572	4,574	3,502	6,080	3,646	-40.0
Vietnam	329	3,153	4,539	8,254	16,793	2,921	-82.6
Netherlands	830	1,025	701	848	787	833	5.8
Costa Rica	98	480	1,011	1,391	78	515	85.0
Honduras	2,454	1,565	595	552	197	315	59.9
Colombia	379	283	317	209	168	253	50.6
Total all countries	136,932	194,161	216,435	290,385	299,121	270,627	-9.5
Feather Meal							
Indonesia	22,690	23,259	19,225	34,963	56,813	43,865	-22.8
Canada	3,436	3,115	2,619	3,195	5,383	6,311	17.2
Honduras	366	1,779	2,010	2,095	1,449	1,183	-18.4
Taiwan	1,589	1,112	1,354	732	1,154	947	-17.9
Egypt	10,984	9,133	712	0	0	859	
Ecuador	0	0	0	0	1,544	557	-63.9
Mexico	285	78	0	0	101	107	5.9
Total all countries	42,059	42,561	26,904	45,804	73,255	53,998	-26.3

Source: Global Trade Atlas.

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back to the United States for consumption. In addition, rendered protein meals help to reduce the dependence on fish meal. One only needs to look at the fish meal price trend in Chart 3 to see the dilemma that an aquaculture producer is in when it comes to finding feed ingredients. The fish meal price at the end of 2009 was well over \$1,600 per metric ton and rising. However, animal proteins continue to remain a strong and viable cost-effective alternative that can reduce the fish meal need without the negative attributes that vegetable protein delivers.

Fats and Greases

Exports of rendered fats and greases in 2009 were about 1.28 million metric tons, down nine percent from 2008. This accounted for 30 percent of domestic production, making the export market very significant to the producers of animal fats and greases. Mexico is undoubtedly the most important and largest importer of animal fats and greases. In 2009, the United States exported 343,000 metric tons of inedible tallow and 137,000 metric tons of yellow grease to Mexico, a four percent increase in inedible tallow and a 25 percent increase in yellow grease over 2008. Turkey continues to be the second largest importer of U.S. tallow, importing about 112,000 metric tons of tallow in 2009. Exports of yellow grease to Venezuela were down six percent in 2009 compared to 2008, totaling 103,000 metric tons.

In 2006, negotiations were completed to allow entry of U.S. yellow grease for biodiesel production into the EU and exports grew quickly. By 2008, U.S. exports of yellow grease reached 68,000 metric tons. However, in 2009 that number dropped 37 percent to 43,000 metric tons.

It must be noted that the global biodiesel industry is becoming a substantial consumer of both plant oils and rendered fats and greases. Whereas rendered product usage in biodiesel remains relatively low overall, the demand created for other fats and oils on the global complex strengthens demand and prices overall. The global production of biodiesel among select producers in 2009 is estimated at 14.3 million metric tons, up eight percent from 2008 estimates (Table 5). The majority of feedstock is soy oil, rapeseed oil, and palm oil, but animal fats and greases use is starting to become more accepted. For example, animal fats and greases accounted for over 23 percent of the total raw materials used for biodiesel production in the United States in 2009. It also accounted for approximately 15 percent in Brazil, 83 percent in Paraguay, 77 percent in Canada, and six percent in the EU. As biodiesel producers are finding rendered fats more competitively priced than vegetable oils, their use will continue to climb in countries that have access to animal fats and used cooking oils.

Change in the biodiesel market in Brazil is a good example of how biodiesel can affect the rendering industry. In 2008, Brazil established a mandatory blend of three percent in an effort to offset excess production capacity. This mandate dramatically increased demand for biodiesel and, hence, raw materials. How did this affect the rendering industry? In 2005, Brazil exported nearly 45,000 metric tons of tallow, whereas in 2008, Brazil's tallow exports decreased to 600 metric tons. In addition, Brazil imported over 21,000 metric tons of tallow in 2008 and over 12,000 metric tons of tallow in 2009. Overnight Brazil went from a net exporter of tallow to a net importer.

The bright picture for the biodiesel industry might be

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dimming as biodiesel companies in North America and Europe continue to struggle to be profitable. The U.S. biodiesel industry is facing additional pressure from duties applied to biodiesel exports to the EU. The European's reprieve from biodiesel imports from the United States appears to be short lived as the Argentine industry has filled the void. Already there is saber rattling within the EU to also impose duties against the imports of Argentine biodiesel.

Animal Proteins

Total exports of animal protein meals in 2009 was close to 325,000 metric tons, down nearly 13 percent from 2008. Mammalian protein meal exports were almost 271,000 metric tons and feather meal exports were 54,000 metric tons, down nearly 10 percent and 26 percent respectively. Again the importance of the Mexican market cannot be overlooked as exports of mammalian meat and bone meal to Mexico increased eight percent in 2009 to reach a total of 116,000 metric tons. On the flip side, exports of mammalian meat and bone meal to Indonesia dropped by 20 percent to 94,000 metric tons.

Forecast and Outlook

The extremely high commodity prices in 2008 put tremendous stress on livestock industries. Production and slaughter numbers decreased throughout 2009 leading to reduced raw materials for rendering and reduced production. According to the Food and Agricultural Policy Research Institute's (FAPRI) *2010 World Agricultural Briefing Book*, livestock production will continue to decline in the next few years. FAPRI projects that beef production will continue to contract in 2010 by two percent and will not begin to expand until 2015. Pork production will decline by one percent in 2010 and not begin to expand again until 2012. Broiler production is forecasted to increase by one percent in 2010 with turkey production remaining even with 2009 figures. These declines in livestock production, in addition to the elimination of certain materials prohibited by FDA's enhanced feed rule, will likely reduce production of rendered products in 2010.

Regarding biodiesel production, FAPRI forecasts show a renewed growth in biodiesel production in the United States, increasing by about 29 percent in the next 10 years.

The FAPRI 2010 long-term projections show soybean meal prices declining by seven percent in 2010 and recovering

Table 5. Global Biodiesel Production, 2008-2009 (metric tons)

Country	2008	2009*	% Change 09/08	Raw Material, Percent Total 2009*
EU-27	7,755,000	8,250,000	6	94% vegetable oil, 6% rendered fat
United States	2,302,016	1,632,399	-29	45% soy oil, 23% rendered fat
Brazil	968,797	1,352,559	40	80% soy oil, 15% animal fat
Argentina	897,405	1,086,045	21	100% soy oil
Malaysia	420,000	540,000	29	100% palm oil
Thailand	396,680	490,304	24	100% palm oil
Colombia	78,320	290,401	271	100% palm oil
Korea, South	158,400	264,001	67	80% palm oil, 20% used cooking oil
Canada	115,826	164,297	42	77% rendered fat, 23% rapeseed oil
Philippines	75,200	141,000	88	100% coconut oil
Indonesia	90,000	79,954	-11	100% palm oil
Paraguay	12,000	10,560	-12	83% rendered fat, 17% soy oil
Uruguay	2,640	4,400	67	100% soy oil
Total	13,272,284	14,305,920	8	

Source: USDA/Foreign Agricultural Service, FAPRI.
*Forecasts and estimates.

NRA efforts to expand the market for animal proteins to Ecuador has paid off. Exports to Ecuador were negligible just a few years ago but grew to over 5,000 metric tons in 2008 and again in 2009. Total feather meal exports in 2009 dropped 26 percent to almost 54,000 metric tons, mainly due to a 22 percent drop in feather meal exports to Indonesia.

One bright spot regarding the international mammalian meat and bone meal market was the opening of the Philippines to ruminant meat and bone meal from the United States. Efforts started early in 2009, as NRA worked in coordination with the USDA Foreign Agricultural Service and the Animal and Plant Health Inspection Service. After various negotiations and an audit of the U.S. system by Philippine government officials, the market was open late in 2009 with U.S. exports commencing immediately.

slightly over a 10 year period to around \$320 per metric ton by 2019. Using the correlation between soybean meal prices and mammalian meat and bone meal prices would forecast these animal protein prices to around \$308 per metric ton by 2019. The FAPRI 2010 long-term projections for soybean oil forecast a two percent drop in price in 2010 and a price of \$995 per metric ton for soybean oil by 2019. Using the historic correlation between tallow, yellow grease, and soybean oil, the price of tallow and yellow grease is forecast to grow to \$731 per metric ton and \$579 per metric ton, respectively, by 2019.

Even though the domestic outlook looks stagnant, the international environment looks to be more conducive for the rendering industry. The rendering industry is well positioned to supply high quality animal proteins to those customers who want to reduce their dependence on fish meal. Fish meal

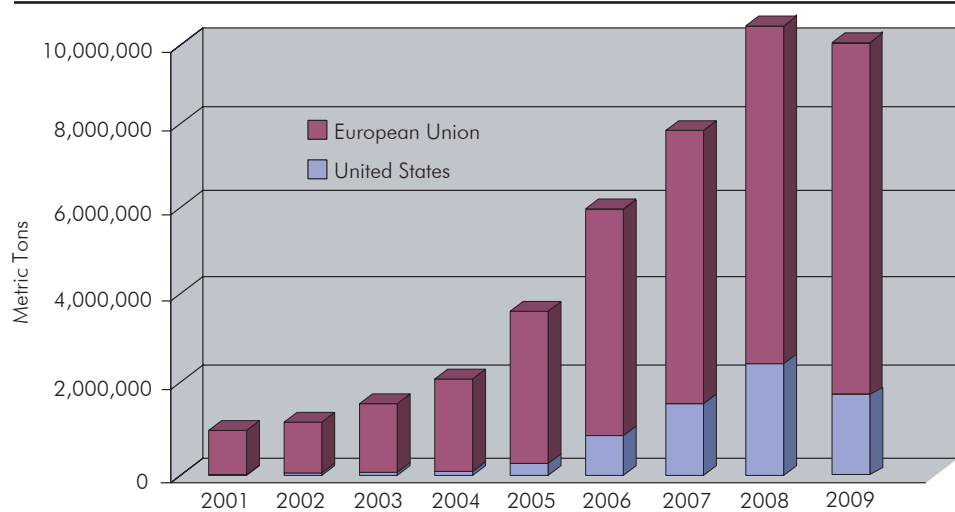
production over the last 20 years has been relatively flat, averaging around six million metric tons. However, during the same period, aquaculture production has grown five-fold. Prices for fish meal have shown dramatic increases in the last few years and producers are searching for replacements. The El Niño affect has put added pressure on fish meal production as has the destruction caused by the recent earthquake in Chile. Prices have reached over \$1,800 per metric ton and animal proteins have been proven to make a good partial replacement to fish meal and can dramatically decrease the cost of certain aquatic and terrestrial animal feed rations.

In addition, although North America and Europe continue to struggle through the current economic crisis, many developing economies continue to grow. Even with the economic downturn, gross domestic product growth in China for 2009 is estimated at around 8.2 percent and is projected to rebound in 2010 with all developing nations averaging a 4.5 percent growth. In addition, the World Bank estimates that the global middle class will grow from 400 million in 2005 to 1.2 billion in 2030 with the largest growth being in Asia. As incomes rise, people increase their consumption of meat and fish. The World Bank estimates that as incomes rise by 10 percent, meat consumption increases by 15 percent. Therefore, the demand for food and feed ingredients should remain strong.

If we look at the basic fundamentals, demand for rendered products remains strong globally. The stocks-to-use ratios for seven major vegetable and protein meals have shown a declining trend over the last 20 years, falling from about six percent in 1987 to around 3.4 percent in 2008. The stocks-to-use ratios of the seven major vegetable oils have shown a similar downward trend from approximately 13 percent in 1987 to about 7.5 percent in 2008.

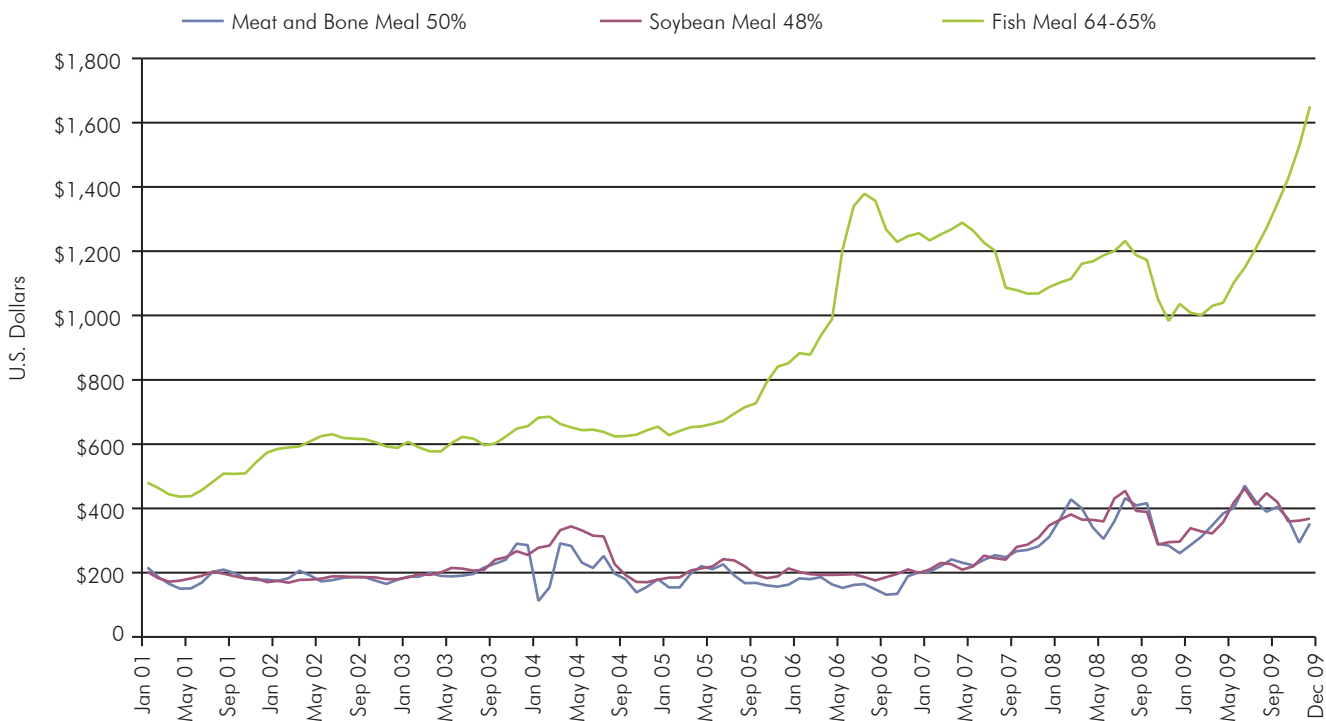
At the moment, the current economic crisis makes it hard to see a positive future. However, if one continues to look at the basic global market fundamentals, the future looks promising for the rendering industry, not just to export products from the United States, but to expand into other markets as well. **R**

Chart 2. U.S. and EU Biodiesel Production, 2001-2009



Source: National Biodiesel Board, European Biodiesel Board; USDA/Foreign Agricultural Service estimates for 2009 EU production.

Chart 3. Protein Meal Prices, 2001-2009



Source: USDA/Foreign Agricultural Service.