

Louisiana Economic Analysis of Animal Agriculture: 2012-2022

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Prepared For:



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Louisiana Executive Summary

The use of SBM as a key feed ingredient is an important part of Louisiana animal agriculture. While the degree to which animal agriculture utilizes this versatile feed ingredient has fluctuated with time, it remains a key driver of animal agriculture's success in the State of Louisiana. The success of Louisiana animal agriculture in turn has a large impact on the rest of the state and regional economies. For example, in the State of Louisiana during 2022 animal agriculture contributed:

- \$1.5 billion in economic output
- 9,618 jobs
- \$326.6 million in earnings
- \$79.0 million in income taxes paid at local, state, and federal levels
- \$41.8 million in the form of property taxes

Louisiana's animal agriculture consumed almost 429.2 thousand tons of SBM in 2022. This SBM was fed primarily to:

- Broilers (368.7 thousand tons)
- Egg-Laying Hens (32.3 thousand tons)
- Beef Cows (15.8 thousand tons)

This report examines animal agriculture in Louisiana over the last decade. While this analysis is certainly instructive and allows improved understanding of animal agriculture's impact during that time, as the next decade unfolds in Louisiana, many opportunities and challenges will arise. And, if past is prologue, animal agriculture will continue to be a major contributor to the economic well-being of the people of Louisiana and beyond.

Louisiana Economic Impact of Animal Agriculture

Animal agriculture is an important part of Louisiana’s economy. In 2022, Louisiana’s animal agriculture contributed the following to the economy:

- About \$1.5 billion in economic output
- \$326.6 million in household earnings
- 9,618 jobs
- \$79.0 million in income taxes

And the animal agriculture sector has shown some change during challenging economic times. During the last decade Louisiana’s animal agriculture has:

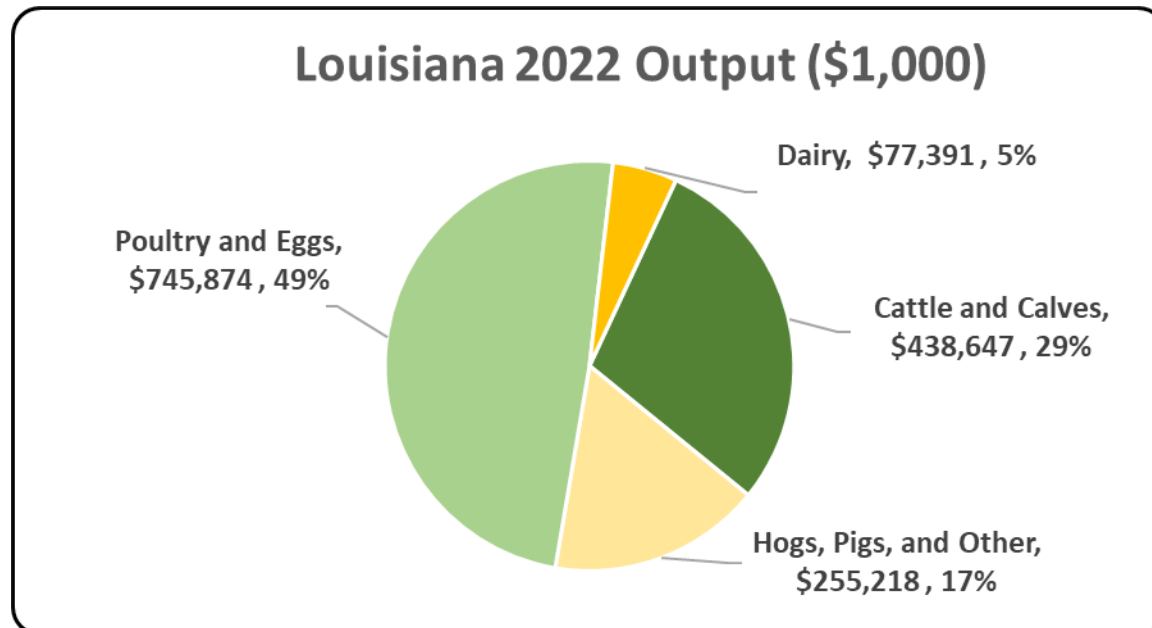
- Decreased economic output by \$92.7 million
- Reduced household earnings by \$21.2 million
- Lost 1,047 jobs
- Paid \$5.1 million less in income taxes

Below is a table which demonstrates this decade of change.

Measure	2022	Change 2012-2022	% Change 2012-2022
Output (\$1,000)	\$ 1,517,130	\$ (92,654)	-5.76%
Earnings (\$1,000)	\$ 326,560	\$ (21,224)	-6.10%
Employment (Jobs)	9,618	(1,047)	-9.82%
Income Taxes Paid (\$1,000)	\$ 79,027	\$ (5,136)	-6.10%
Property Taxes Paid in 2017 (\$1,000)	\$ 41,829		

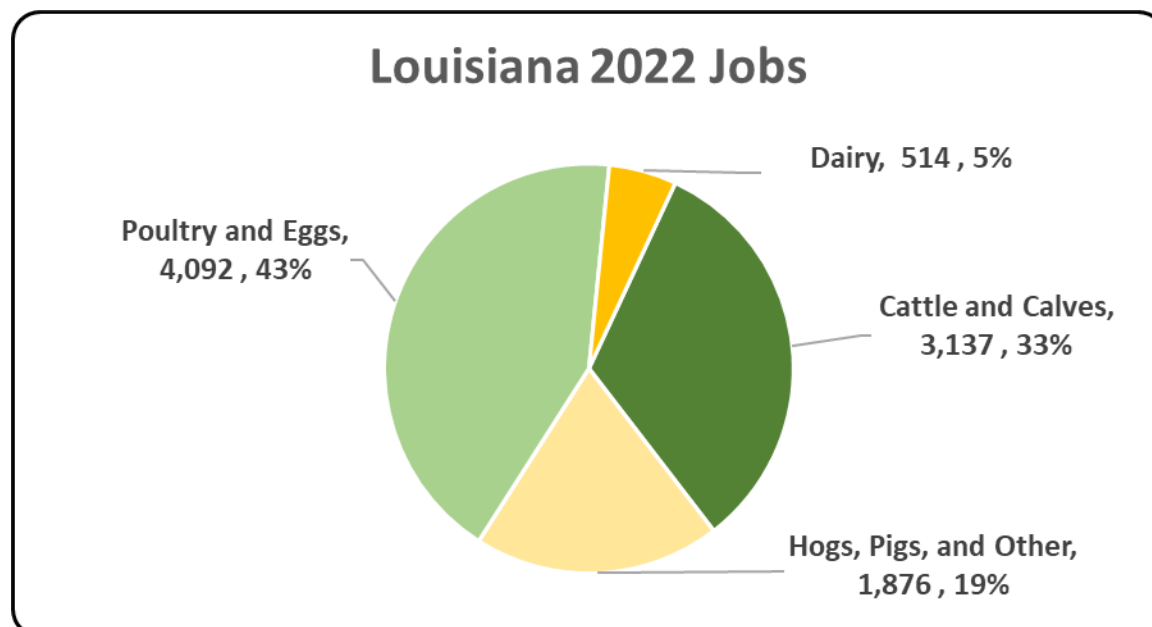
Louisiana Output

“Output” refers to the total value of all the output (production or sales) of a study area and/or industry within a study area and was calculated using RIMS II multipliers. This is a gross number that does not make any deductions for the cost or origination of inputs that were used in the production process. The figure illustrates the impact of animal agriculture to the Louisiana economy. Animal agriculture’s impact on Louisiana total economic output is about \$1.5 billion.



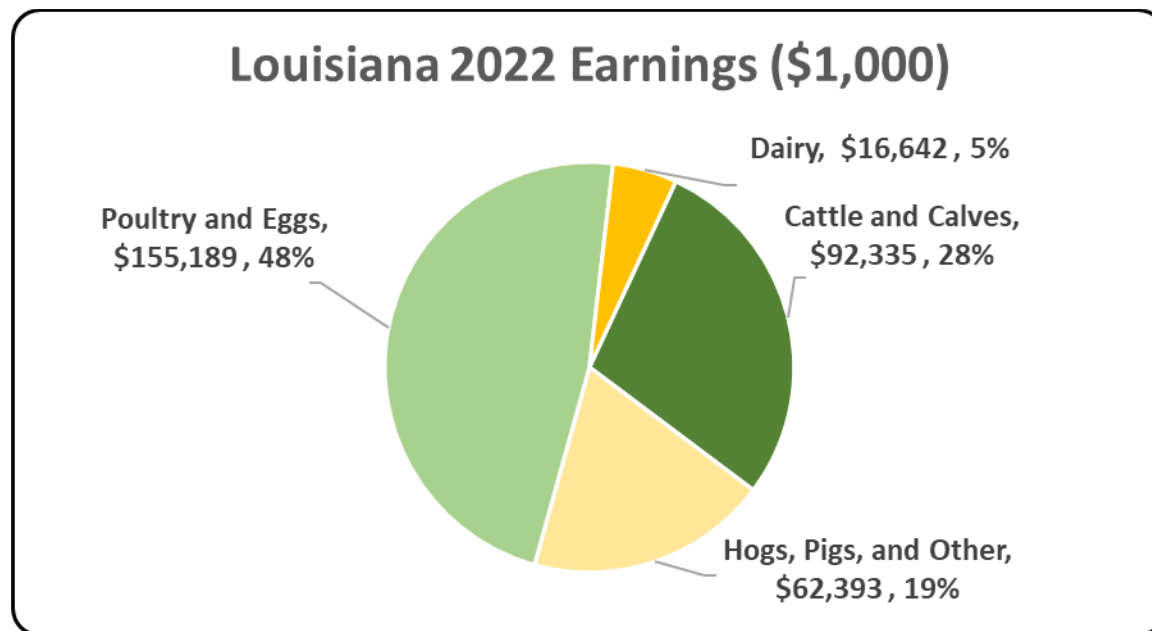
Louisiana Jobs

“Jobs” represents an estimate of the number of full or part-time positions (jobs) currently filled in an area and/or industry. The figure illustrates the contribution to Louisiana in terms of animal agriculture jobs. As shown, animal agriculture contributes significantly to Louisiana total jobs, contributing 9,618 jobs within and outside of animal agriculture.



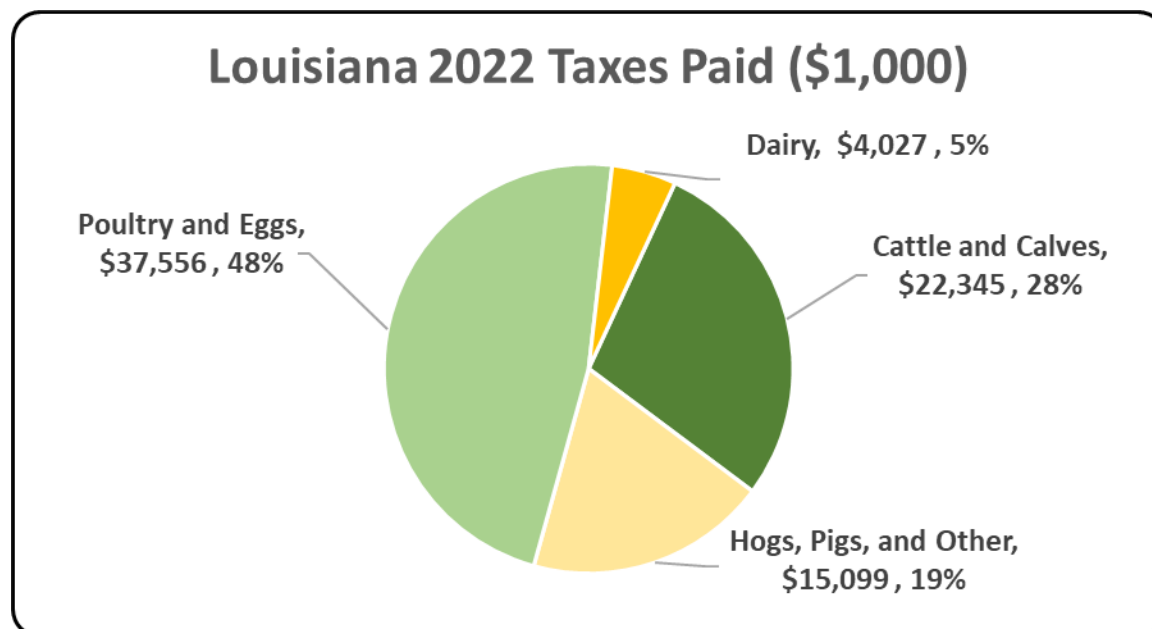
Louisiana Earnings

Earnings includes wages and salaries plus proprietors' income, which is the net earnings of sole-proprietors and partnerships. The figure illustrates the impact of animal agriculture to the Louisiana economy in terms of earnings. Louisiana's animal agriculture contributed about \$326.6 million to household earnings in 2022.



Louisiana Taxes Paid by Animal Agriculture

Louisiana's animal agriculture is also a significant source of tax revenue. In 2022, the state's animal agriculture industry paid about \$79.0 million in income taxes at local, state, and federal levels. The 2017 Census of Agriculture estimated \$41.8 million in property taxes paid by all of Louisiana agriculture during 2017. Estimates of income taxes paid by animal agriculture are shown in the following chart.



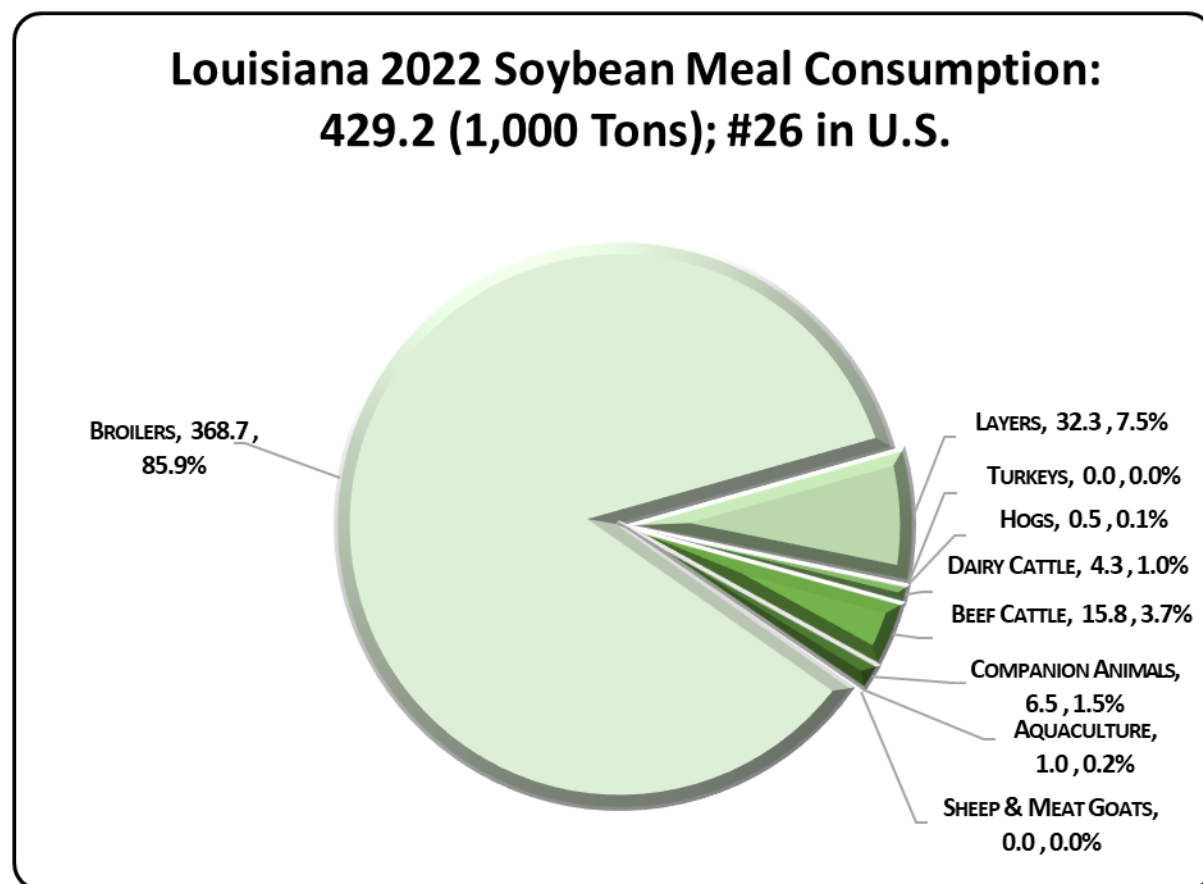
Louisiana Animal Agriculture Soybean Meal Consumption

The choice to use SBM in animal agriculture is highly dependent upon nutritional requirements of animals (which would encompass varying life stages within an animal species), accessibility to various feed ingredients capable of competing with SBM (from both a nutritional and price standpoint), and consumer preferences which have influence on production practices.

Through in-depth conversations with many of the nation’s top nutritionists and researchers from both private industry and public institutions, “bottom up” estimates of SBM usage by animal type were determined. Using the input from these conversations and additional analysis performed by Decision Innovation Solutions, the quantity of SBM used during the 2021-22 soybean marketing year by up to sixteen specific animal species has been estimated.

Louisiana’s animal agriculture consumed almost 429.2 thousand tons of SBM in 2022, placing the state as 26 in the nation in terms of SBM consumption (see figure below). Additionally, animal agriculture in Louisiana consumed 35.0 thousand tons of soy hulls. The three segments of animal agriculture that led the state in estimated SBM consumption are:

1. Broilers (368.7 thousand tons)
2. Egg-Laying Hens (32.3 thousand tons)
3. Beef Cows (15.8 thousand tons)

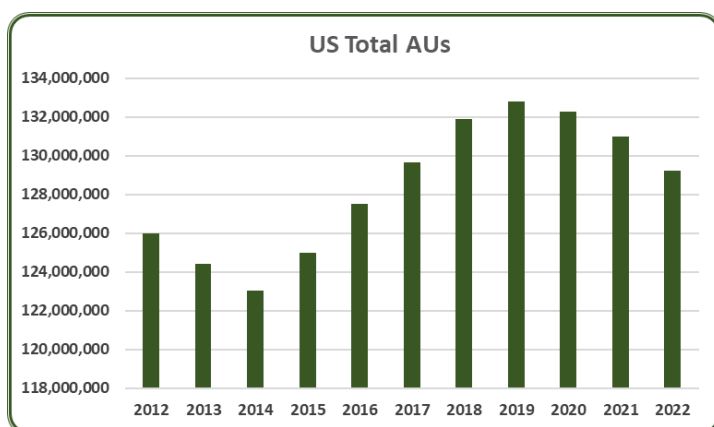


Louisiana Animal Unit (AU) Trends

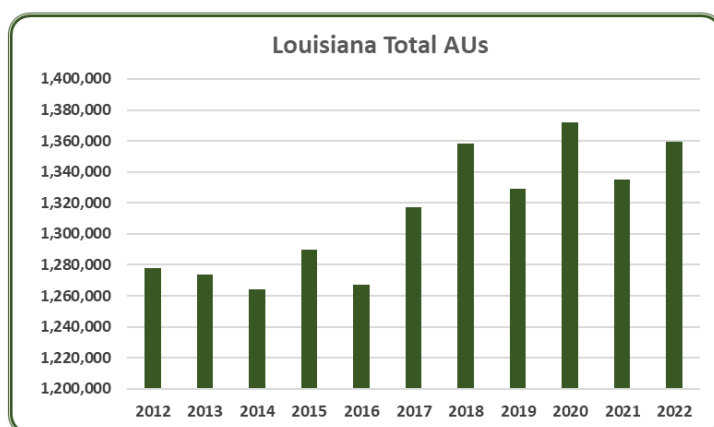
Over time, prices of feed, meat, eggs and milk, as well as levels of demand for these products in the U.S. and abroad have an impact on the size of animal agriculture in the state of Louisiana. Due to this reality, using a single year to measure a sector’s presence and strength can be misleading. The use of animal units allows for a more accurate comparison of differing sizes of livestock and poultry. This section is included to bring context to the question of what animal agriculture means to Louisiana and to give perspective on Louisiana’s contribution to the nation’s animal agriculture industry and beyond.

Like using a single year to measure the presence and strength of a sector, in some circumstances AUs can be misleading. This is because AUs do not reflect important considerations like increased weights, improved livability, increased laying potential, etc.

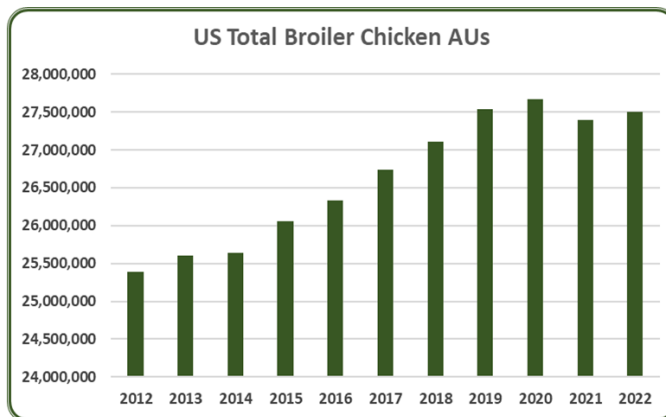
As shown in the accompanying charts and written commentary, certain components of animal agriculture are more present, and therefore more dominant than others. This is due primarily to geography (i.e., weather patterns and access to certain transportation hubs), proximity to high quality, relevant feed ingredients, and the local animal agriculture regulatory framework. In Louisiana, the largest three segments of animal agriculture in terms of AUs during 2022 were: Beef Cattle (721,085 AUs), Broilers (568,882 AUs), and Horses (34,668 AUs). Total AUs in Louisiana during 2022 were 1.36 million AUs.



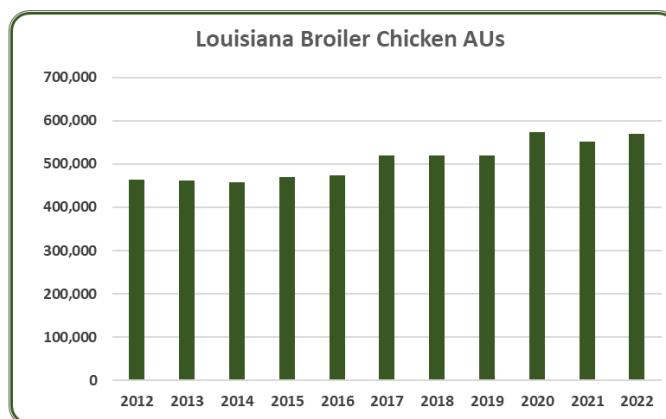
- In 2022, total AUs in the U.S. decreased by 1.4% to 129.2 million, continuing a downward trend that started in 2019. Nine out of the ten animal groups tracked saw a decrease, with the exception being broilers. Over 70% of the total decrease in AUs is due to lower beef cattle inventories.



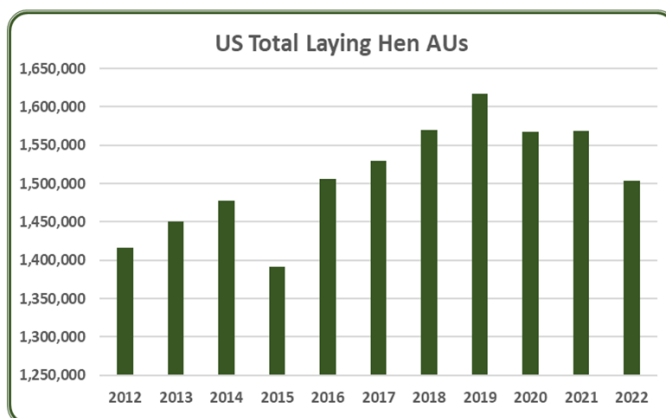
- In 2022, Louisiana had 1.36 million total AUs, a 1.8% increase from 2021. From 2012 to 2022, the average number of total AUs in Louisiana was 1.31 million AUs. Since 2012, total AUs in Louisiana have increased by 6.4%.



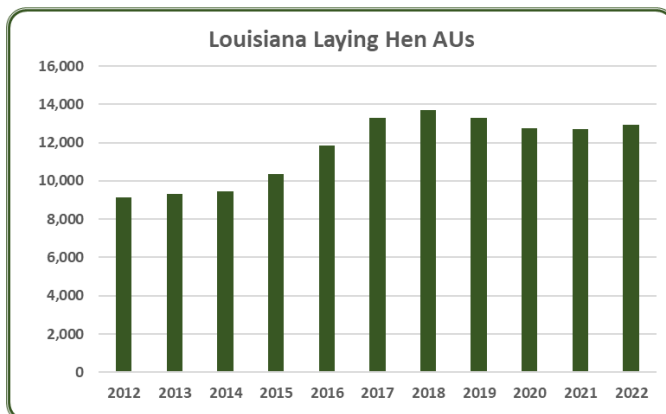
- From 2012 to 2022, broiler chicken AUs averaged 26.6 million across the U.S. Broiler AUs trended up and peaked in 2020 at 27.6 million. Broiler AUs are up 0.4% from 2021 and were the only animal group tracked here that increased compared to last year. Broilers make up about 21% of U.S. AUs.



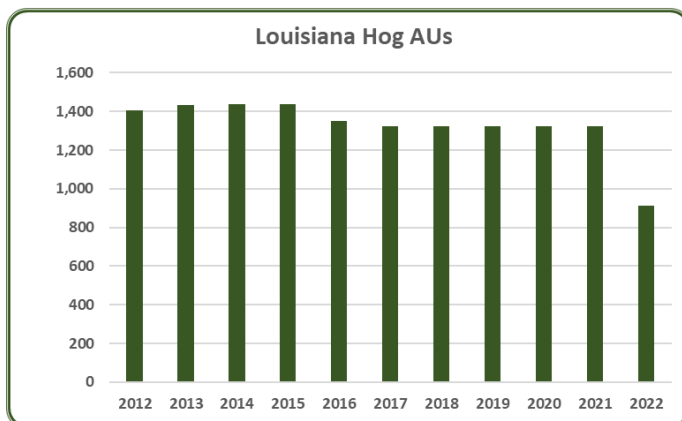
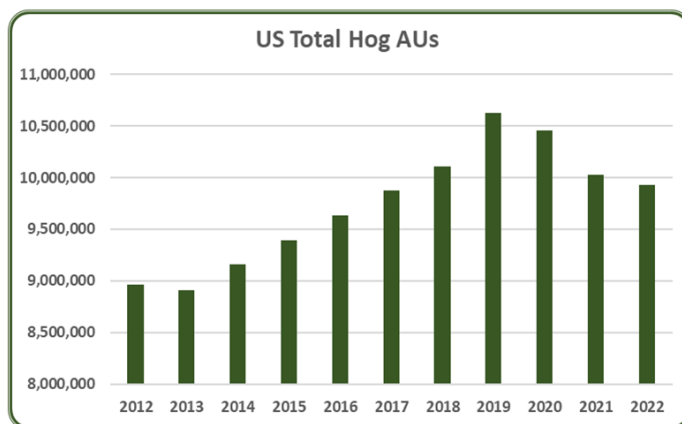
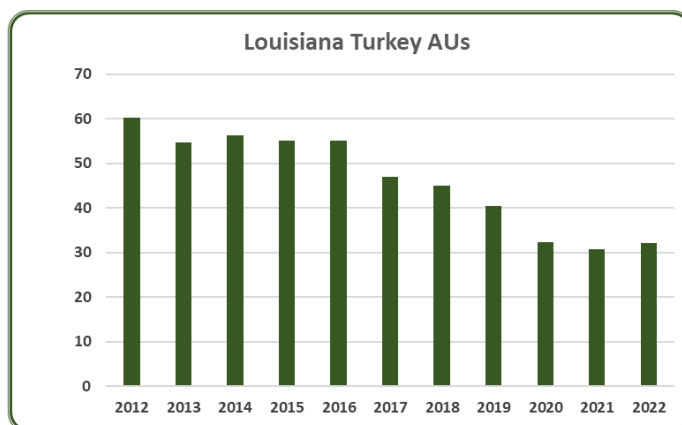
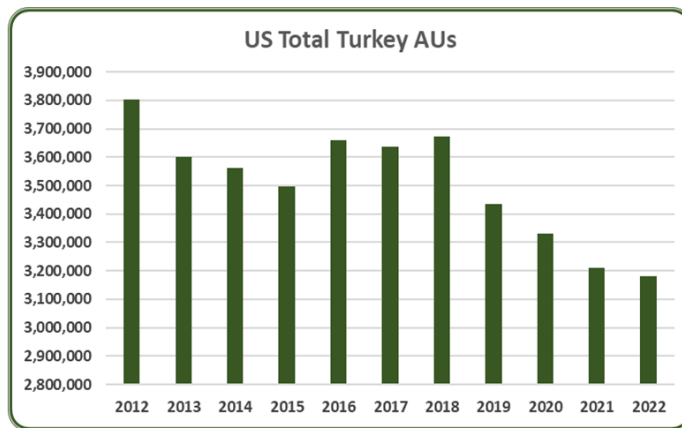
- In 2022, Louisiana had 568,882 broiler AUs, a 3.3% increase from 2021. Broilers accounted for 41.8% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of broiler AUs in Louisiana was 507,016 AUs. Since 2012, broiler AUs have increased by 22.9%.



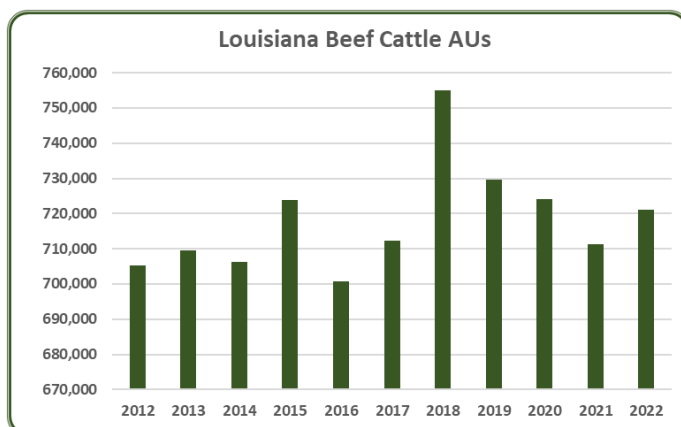
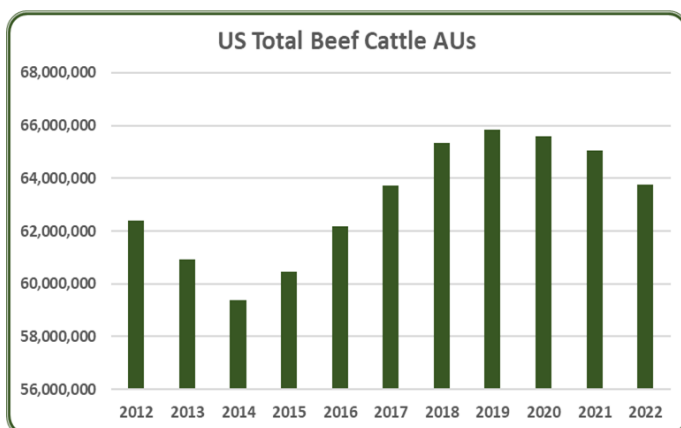
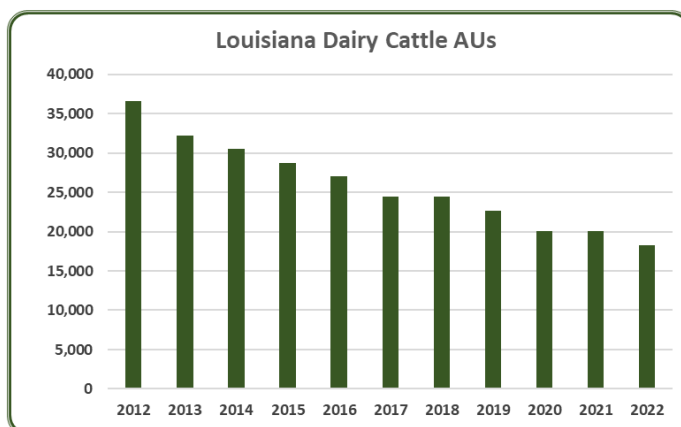
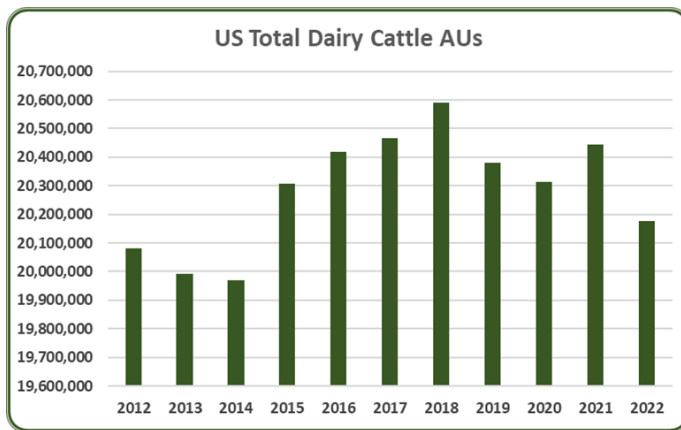
- From 2012 to 2022, U.S. layer AUs averaged 1.51 million. In 2022, layer AUs were 1.50 million, a 4.2% decrease from 2021. The 2022-23 Highly Pathogenic Avian Influenza (HPAI) outbreak contributed to this past year's decrease in layer AUs. Layers make up about 1% of U.S. AUs so large changes in layer AUs do not have a large impact on total AUs.



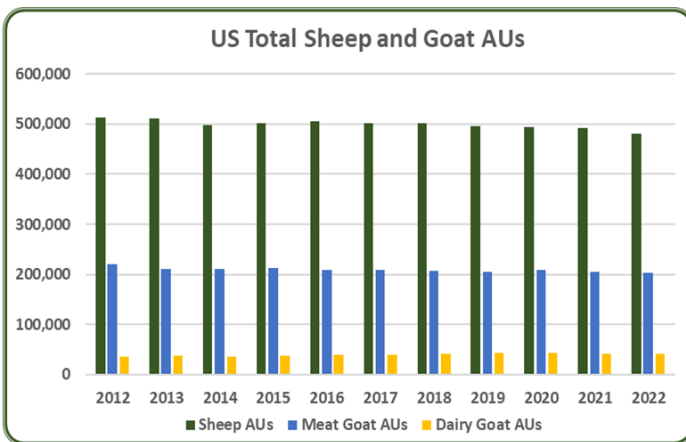
- In 2022, Louisiana had 12,946 layer AUs, a 1.9% increase from 2021. Layers accounted for 1% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of layer AUs in Louisiana was 11,708 AUs. Since 2012, layer AUs have increased by 41.5%.



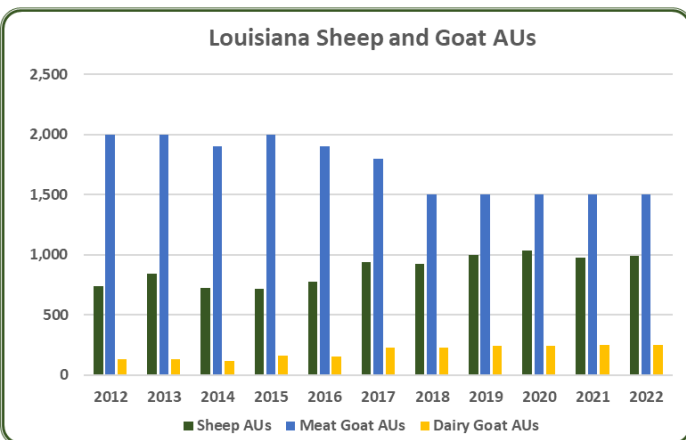
- In 2022, turkey AUs were at 3.18 million, a 0.9% drop from the previous year. This drop is surprisingly low considering the industry battled HPAI for most of 2022. Turkey AUs have been trending down since 2018. Turkey AUs represent about 2% of U.S. AUs, so like layers, large changes in turkey AUs do not cause large changes in total AUs.
- In 2022, Louisiana had 32 turkey AUs, a 4.3% increase from 2021. Turkeys accounted for less than 0.05% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of turkey AUs in Louisiana was 46 AUs. Since 2012, turkey AUs have decreased by 46.7%.
- In 2022, hog AUs totaled 9.93 million, a 1.0% drop from the previous year. From 2012 to 2022, hog AUs averaged 9.73 million. Hog AUs have been trending down since 2019 when they peaked at 10.62 million AUs. Hogs make up 7.70% of all AUs within the U.S.
- In 2022, Louisiana had 912 hog AUs, a 31.1% decrease from 2021. Hogs accounted for 0.1% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of hog AUs in Louisiana was 1,327 AUs. Since 2012, hog AUs have decreased by 35%.



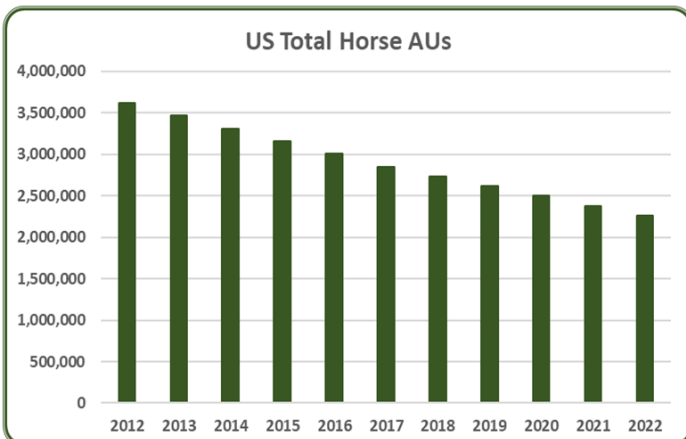
- From 2012 to 2022, dairy cattle AUs averaged 20.29 million. The herd was also relatively steady, fluctuating between 19.9-20.6 million AUs during that time. In 2022, dairy cattle AUs totaled 20.18 million, down 1.3% from 2021. Dairy cattle represented about 16% of all U.S. AUs.
- In 2022, Louisiana had 18,294 dairy cattle AUs, a 8.8% decrease from 2021. Dairy cattle accounted for 1.3% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of dairy cattle AUs in Louisiana was 25,913 AUs. Since 2012, dairy cattle AUs have decreased by 50%.
- From 2012 to 2022, beef cattle AUs averaged 63.9 million. In 2022 beef cattle AUs totaled 63.93 million, down 2% from last year, as beef cattle continued through a contraction phase in the cattle cycle which started in 2019. Beef AUs represent almost 50% of U.S. AUs, so changes in beef cattle AUs have large effects on total AUs.
- In 2022, Louisiana had 721,085 beef cattle AUs, a 1.4% increase from 2021. Beef cattle accounted for 53% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of beef cattle AUs in Louisiana was 718,094 AUs. Since 2012, beef cattle AUs have increased by 2.2%.



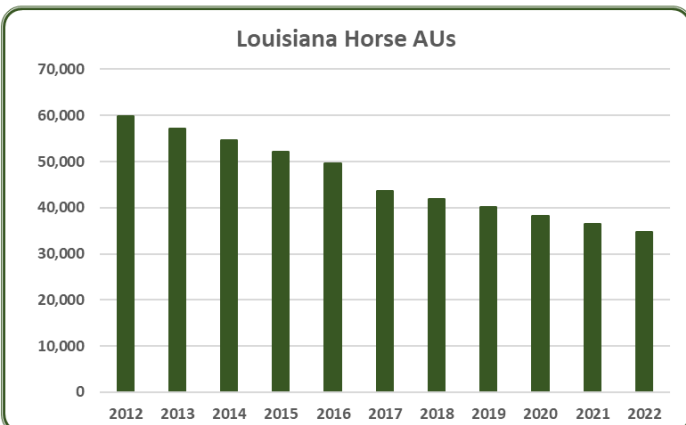
- Sheep, meat goats, and dairy goats account for less than 0.6% of U.S. total AUs. Over the past decade, sheep AUs averaged 500,000, meat goat AUs averaged 209,000 and dairy goat AUs averaged 40,000. Sheep and meat goat AUs have trended down while dairy goats trended up until 2019, then leveled off.



- In 2022, Louisiana had a combined 2,745 sheep, meat goat, and dairy goat AUs, a 0.8% increase from 2021. These accounted for 0.2% of the total AUs (1.36 million) in Louisiana. Individually, sheep AUs increased 1.9%, meat goat AUs decreased 0% and dairy goat AUs increased 1.5%. Combined there was a 4.3% decrease in sheep and goat AUs since 2012.



- Horses account for about 2% of U.S. total AUs. From 2012 to 2022, horse AUs averaged 2.90 million. However, a steady downtrend is present and 2022 horse AUs only totaled 2.26 million. U.S. horse AUs have decreased every year from 2012 to 2022, decreasing 37.6% over the entire period.



- In 2022, Louisiana had 34,668 horse AUs, a 5% decrease from 2021. Horses accounted for 2.5% of the total AUs (1.36 million) in Louisiana. From 2012 to 2022, the average number of horse AUs in Louisiana was 46,232 AUs. Since 2012, horse AUs have decreased by 42%.

Louisiana Additional Information and Methodology

Animal agriculture is an important part of Louisiana's current and future economic health. To quantify the connection between animal agriculture and local economies, the United Soybean Board commissioned [Decision Innovation Solutions](#), an economic research firm in Urbandale, Iowa, to conduct an in-depth analysis of several aspects of animal agriculture. This analysis includes the following components:

1. Economic impact of animal agriculture to local (state) economies during the 2012-2022 time period
2. SBM usage by animal species during the 2021/22 soybean marketing year
3. Animal Unit (AU) trends from 2012-2022

Given the long-term presence of animal agriculture in Louisiana, of interest is the degree to which the industry impacts the Louisiana economy. Estimates of output, jobs, earnings, taxes paid, and multipliers for Louisiana animal agriculture are presented in this report. Methodology for this section of the report closely mirrors that followed in years' past. Also presented are estimates of the change in how animal agriculture has impacted Louisiana's economy over the last decade. Differences, to the extent they are present, are noted within the larger national report which accompanies this state report.

As with any industry across the economic spectrum, there are ebbs and flows in activity that have implications for other parts of the economy. Again, using the same 2012-2022 time period as with the economic impact section of this state report, the "Animal Unit Trends" seeks to quantify production changes in animal agriculture in Louisiana which have occurred. As shown in this state report, Louisiana has seen changes within its animal agriculture industry. Expectations are that animal agriculture will continue to evolve over the next decade.

Animal agriculture is the single largest user of SBM in Louisiana. Through in-depth conversations with many of the nation's top nutritionists and researchers, "bottom up" estimates of SBM usage by animal type were determined. Using the input from these conversations and additional analysis performed by Decision Innovation Solutions, the quantity of SBM used during the 2021-22 soybean marketing year for up to sixteen specific animal species has been estimated.

Should readers have comments or questions regarding methodology, results and interpretation, please contact the authors at info@decision-innovation.com or 515.639.2900.

Appendix

Economic multipliers give a sense for how economic activity in a given industry is related to other industries in the same study area. To estimate the impact of animal agriculture on Louisiana's economy, we applied RIMS II multipliers from the Department of Commerce, Bureau of Economic Analysis for cattle ranching and farming, dairy cattle and milk production, poultry and egg production, and other animal production (primarily hogs and pigs), where applicable.

Multipliers are generally stated in the form of "per million dollars" of output. As it relates to this analysis, multipliers are stated as the activity related to every million dollars of economic output in animal agriculture. Referring to the multipliers below, for every million dollars in output generated by the various segments of animal agriculture in Louisiana, \$1.74 to \$3.12 million in total economic activity, \$0.43 to \$0.65 in household wages and 13 to 17 additional jobs are generated in the economy at large.

Appendix

Animal Units (AUs)		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Beef Cattle AUs		705,305	709,429	706,323	723,753	700,699	712,326	755,023	729,717	724,108	711,261	721,085
Hog and Pig AUs		1,404	1,434	1,438	1,437	1,352	1,322	1,322	1,323	1,325	1,324	912
Broiler AUs		462,912	461,317	458,715	470,551	474,076	518,969	519,331	519,150	572,687	550,584	568,882
Turkey AUs		60	55	56	55	55	47	45	40	32	31	32
Egg Layer AUs		9,148	9,304	9,439	10,377	11,824	13,288	13,695	13,290	12,770	12,706	12,946
Dairy AUs		36,588	32,234	30,493	28,763	27,042	24,438	24,438	22,669	20,033	20,053	18,294
Total Animal Units		1,278,078	1,273,983	1,263,891	1,289,942	1,267,447	1,317,038	1,358,424	1,329,038	1,372,027	1,335,162	1,359,563
Value of Production (\$1,000)	Cattle and Calves (\$1,000)	\$ 262,296	\$ 254,357	\$ 347,037	\$ 349,444	\$ 222,828	\$ 240,590	\$ 228,053	\$ 203,499	\$ 194,988	\$ 205,623	\$ 215,636
	Hogs and Pigs (\$1,000)	\$ 862	\$ 1,015	\$ 1,239	\$ 876	\$ 694	\$ 874	\$ 741	\$ 851	\$ 770	\$ 1,816	\$ 2,045
	Broilers (\$1,000)	\$ 57,076	\$ 69,546	\$ 72,959	\$ 63,650	\$ 56,593	\$ 66,454	\$ 81,369	\$ 70,992	\$ 58,012	\$ 81,596	\$ 130,420
	Turkeys (\$1,000)	\$ 7,634	\$ 6,045	\$ 4,218	\$ 4,533	\$ 4,546	\$ 2,933	\$ 2,197	\$ 2,741	\$ 3,084	\$ 4,166	\$ 8,489
	Eggs (\$1,000)	\$ 58,699	\$ 62,927	\$ 72,229	\$ 89,081	\$ 53,193	\$ 53,102	\$ 63,196	\$ 55,217	\$ 60,111	\$ 58,810	\$ 100,322
	Milk (\$1,000)	\$ 43,512	\$ 45,114	\$ 53,448	\$ 35,910	\$ 28,390	\$ 30,107	\$ 26,144	\$ 25,785	\$ 25,058	\$ 23,562	\$ 30,464
	Other	\$ 123,238	\$ 125,416	\$ 127,530	\$ 129,685	\$ 131,800	\$ 133,974	\$ 136,090	\$ 138,231	\$ 140,349	\$ 142,465	\$ 144,624
	Sheep and Lambs (\$1,000)	\$ 249	\$ 308	\$ 304	\$ 339	\$ 335	\$ 391	\$ 389	\$ 411	\$ 410	\$ 406	\$ 447
	Aquaculture (\$1,000)	\$ 122,989	\$ 125,108	\$ 127,227	\$ 129,345	\$ 131,464	\$ 133,583	\$ 135,702	\$ 137,821	\$ 139,939	\$ 142,058	\$ 144,177
	Total (\$1,000)	\$ 553,317	\$ 564,419	\$ 678,661	\$ 673,180	\$ 498,044	\$ 528,034	\$ 537,790	\$ 497,317	\$ 482,372	\$ 518,037	\$ 632,000

Ag Census Data Category	Animal Type	2002	2007	2012	2017
Number of Farms by NAICS	Beef cattle ranching and farming (112111)	12,715	11,775	11,218	11,593
	Cattle feedlots (112112)	12	-	28	1
	Dairy cattle and milk production (11212)	143	282	111	93
	Hog and pig farming (1122)	237	232	202	190
	Poultry and egg production (1123)	815	808	717	653
	Sheep and goat farming (1124)	256	627	607	797
	Animal aquaculture and other animal production (1125,1129)	3,334	4,699	4,116	3,940
Value of Sales (\$1,000)	Cattle and Calves	170,569	223,922	249,963	256,959
	Hogs and Pigs	withheld	1,235	-	withheld
	Poultry and Eggs	417,755	575,989	574,239	648,163
	Milk*			42,628	32,776
	Aquaculture	41,285	109,138	122,989	133,583
	Other (calculated)	37,717	31,030	-	40,546
	Total	750,192	1,013,334	989,819	1,112,027
Input Purchases	Livestock and poultry purchased (Farms)	6,664	5,909	6,651	7,242
	\$1,000	89,122	120,621	134,875	169,839
	Breeding livestock purchased (Farms)	4,440	3,899	4,314	4,850
	\$1,000	13,593	27,852	42,909	57,577
	Other livestock and poultry purchased (Farms)	3,140	2,804	3,282	3,595
	\$1,000	75,529	92,769	91,965	112,261
	Feed purchased (Farms)	17,496	16,578	18,356	18,669
	\$1,000	260,900	369,975	452,403	270,870
* Measurement of milk sales in 2002-2007 are not comparable to 2012-2017.					

2022 Animal Agriculture	Animal Type	Output (\$1,000)	Earnings (\$1,000)	Employment (Jobs)	Income Taxes Paid (\$1,000)
	Cattle and Calves	\$ 438,647	\$ 92,335	3,137	\$ 22,345
	Hogs, Pigs, and Other	\$ 255,218	\$ 62,393	1,876	\$ 15,099
	Poultry and Eggs	\$ 745,874	\$ 155,189	4,092	\$ 37,556
	Dairy	\$ 77,391	\$ 16,642	514	\$ 4,027
	Total	\$ 1,517,130	\$ 326,560	9,618	\$ 79,027
Change from 2012 to 2022	Cattle and Calves	\$ (251,353)	\$ (52,910)	(1,797)	\$ (12,804)
	Hogs, Pigs, and Other	\$ (24,043)	\$ (5,878)	(177)	\$ (1,422)
	Poultry and Eggs	\$ 248,299	\$ 51,662	1,362	\$ 12,502
	Dairy	\$ (65,556)	\$ (14,098)	(435)	\$ (3,412)
	Total	\$ (92,654)	\$ (21,224)	(1,047)	\$ (5,136)
RIMS II Multipliers	Animal Type	Output(\$)	Earnings (\$)	Employment (Jobs)	
	Cattle and Calves	\$ 2.03	\$ 0.43	14.5	
	Hogs, Pigs, and Other	\$ 1.74	\$ 0.43	12.8	
	Poultry and Eggs	\$ 3.12	\$ 0.65	17.1	
	Dairy	\$ 2.54	\$ 0.55	16.9	
Tax Rates	Federal effective income tax rate			14.0%	
	Federal Social Security tax rate			6.2%	
	State Effective Rate			4.0%	
	Total			24.2%	

Sources: 2002, 2007, 2012 and 2017 Census of Agriculture, USDA/NASS Survey Data, RIMS II Multipliers (U.S. Bureau of Economic Analysis), Tax-Rates.org & The Motley Fool.