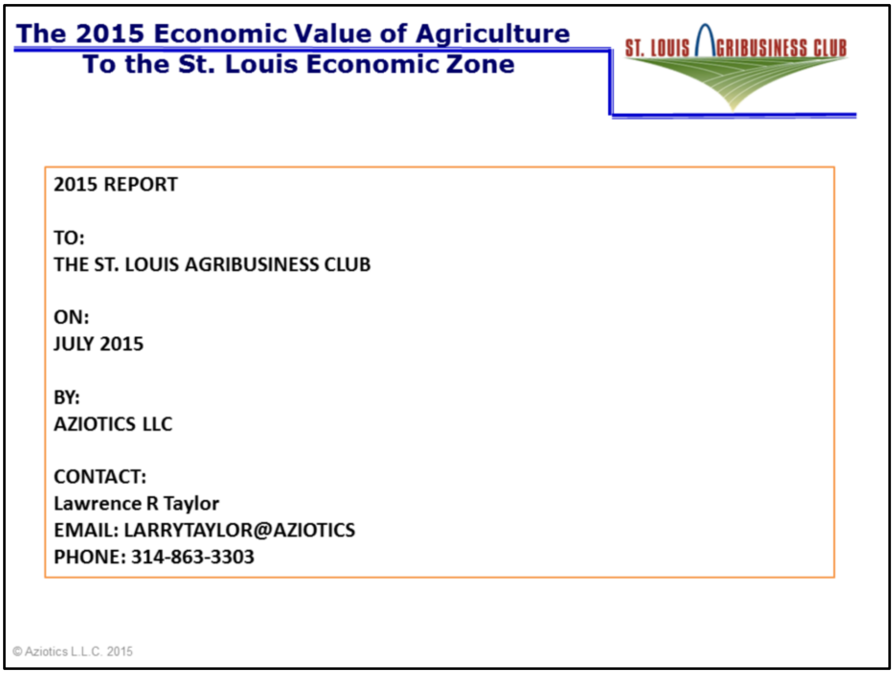

The St. Louis Agribusiness Club has now for the third time studied the economic value of agribusiness to the St. Louis region. The study has been done following the USDA's Census of Agriculture most recently conducted for 2012. The Census is conducted every 5 years.

The objectives of this periodic study by the Agribusiness Club are to:

- Provide the agricultural industry of the greater St. Louis area with a statically robust tool to demonstrate the significant economic value contributed by agribusiness and supporting industries.
- Provide regional leadership and the Industry with clear data about the vital state of agribusiness in the region for purposes of attracting talent, attracting investment and supporting community pride in this core strength of the St. Louis region.
- Provide the legislative community with clear facts to support policies locally and beyond.
- Provide communicators with economically sound facts by which to describe the agribusiness portion of the St. Louis economy.
- Demonstrate the ongoing leadership of the St. Louis Agribusiness Club.

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To the St. Louis Economic Zone

ST. LOUIS AGRIBUSINESS CLUB

2015 REPORT

TO:
THE ST. LOUIS AGRIBUSINESS CLUB

ON:
JULY 2015

BY:
AZIOTICS LLC

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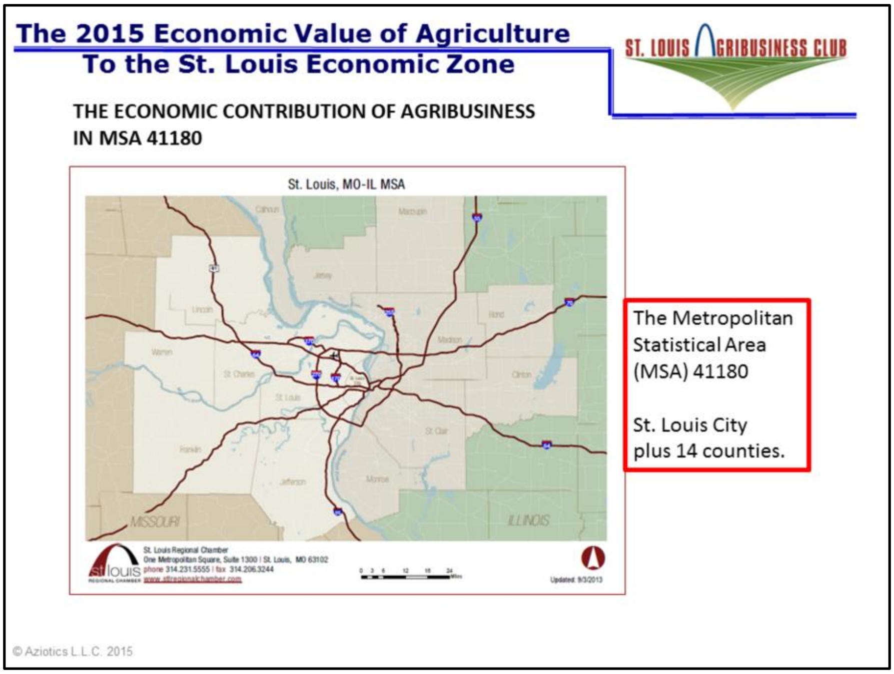
CONTENTS:

The content of this report is focused on the composition and the magnitude of the agribusiness Industries in the St. Louis region as defined by the Metropolitan Statistical Area.

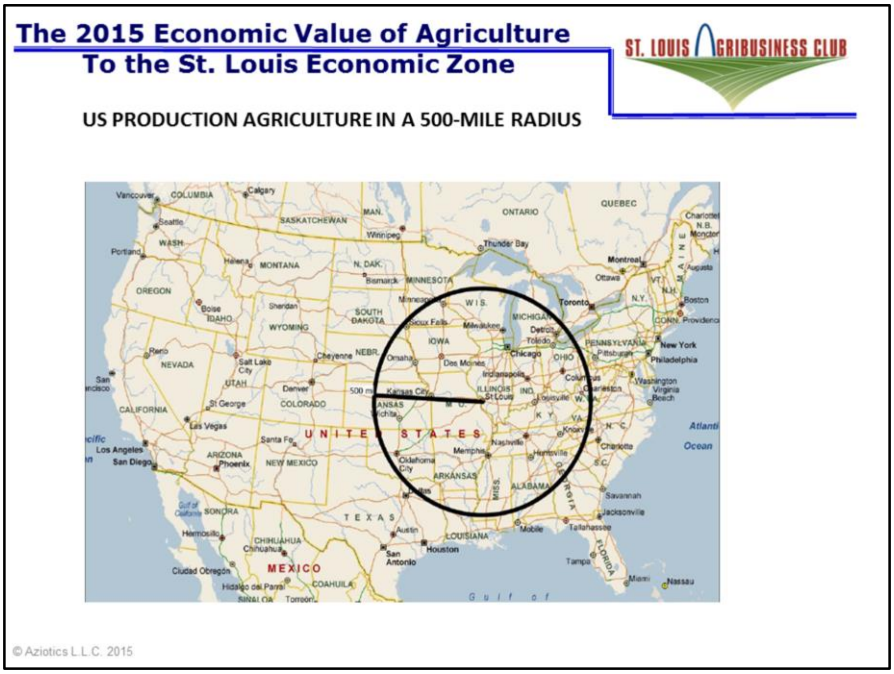
The report is designed to provide economic data from one consistent point in time, the year 2012. Each page of the report presents a portion of the data. Each page of the report has accompanying notes or narrative. The report is designed to be used in its entirety or in its parts.



The geography studied is the St. Louis Metropolitan Statistical Area (MSA) which carries the Federal code number MSA 41180.

The St. Louis MSA is the bi-state area surrounding the City of St. Louis and spanning the Mississippi River. It includes counties in both Illinois and Missouri for a total of 14 counties plus the City of St. Louis.

MISSOURI	ILLINOIS
Franklin	Bond
Jefferson	Calhoun
Lincoln	Clinton
St. Charles	Jersey
St. Louis City	Macoupin
St. Louis County	Madison
Warren	Monroe
	St. Clair



One metric typically measured by this study is the Market Value of Agricultural Products Sold in a 500-mile radius around the St. Louis region.

The St. Louis region is central to American agriculture. This 500-mile-radius area covers all or parts of 24 states in this agriculturally intensive portion of the United States.

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US PRODUCTION AGRICULTURE IN A 500-MILE RADIUS

State	Counties Included	Counties Excluded	Total Counties	
KY	120		120	100%
MO	115		115	100%
IL	102		102	100%
IA	99		99	100%
TN	95		95	100%
IN	92		92	100%
AR	75		75	100%
KS	74	31	105	70%
MS	67	15	82	82%
OH	67	9	76	88%
WI	63	9	72	88%
MI	55	28	83	66%
OK	55	22	77	71%
NE	54	39	93	58%
GA	51	108	159	32%
AL	50	17	67	75%
MN	39	48	87	45%
LA	22	42	64	34%
WV	22	33	55	40%
NC	18	82	100	18%
TX	18	236	254	7%
VA	12	122	134	9%
SD	6	60	66	9%
SC	3	43	46	7%
Total	1374	944	2318	59%

Market Value of Agriculture Products Sold as per the US Agricultural Census in 2012; and the change since the 2007 Census.

- US$ 171 Billion, up from US$ 131 Billion
- The regions represents 43.3% of the US total, changed from 44%
- US$ 40 Billion increase between 2007 and 2012 Agricultural Census

The 2012 Value within the radius amounts to $171 Billion, up $40 Billion from the $131 Billion value in 2007.

This calculation is made possible due to the detailed data available from the US Census of Agriculture conducted in 2012. Detailed data is available at the county level. To compute this value, all counties that are more than half within the 500 mile radius are included. The total value is consistent with the study conducted 5 years ago after the 2007 US Agricultural Census. The value within the radius in 2012 was equivalent to 43.3% of the total Market Value of Agricultural Products Sold in the US. At the time of the 2007 Census the radius was equivalent to 44% of the US total.

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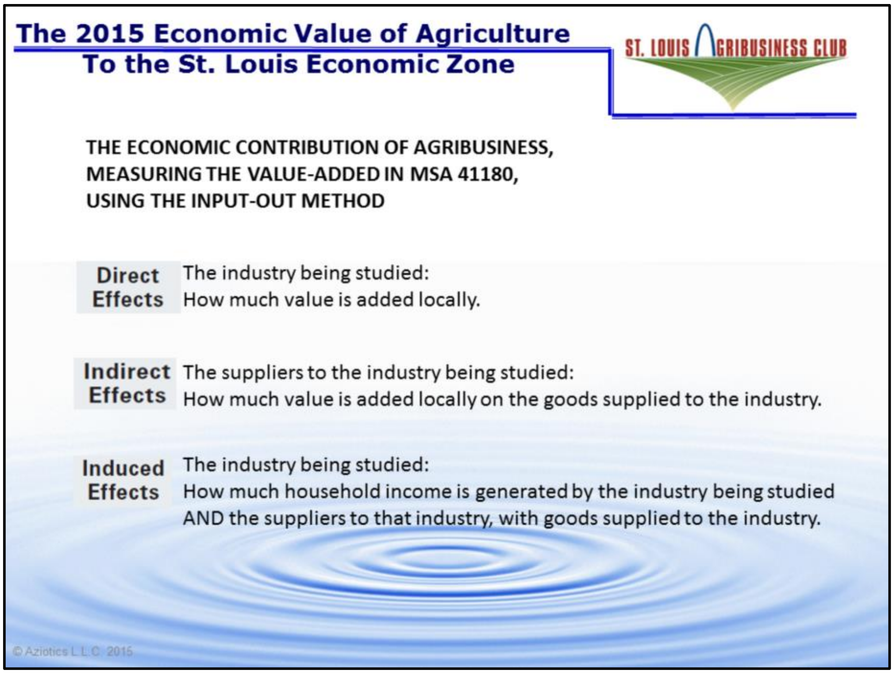
REGIONAL STATISTICS - US AGRICULTURAL CENSUS 2012		
Farms		11,270
Land in Farms – Acres		2,912,162
Estimated value of land and buildings ($1,000)		$ 15,316,718
Principal farm operators		11,270
Hired farm labor (workers)		8,946
Payroll for hired farm labor ($1,000) (estimated for Calhoun Co.)		$ 71,697
Contract labor ($1,000)		$ 3,828
Total market value of agricultural products sold ($1,000)		$ 1,235,601
Crops	$ 907,356	
Livestock, poultry and their products	$ 328,247	
Government Payments ($1,000)		$ 42,877
Income from farm-related sources, before taxes & expenses ($1,000)		$ 163,570
Total farm production expenses ($1,000)		$ 1,149,980
Net farm cash income from operations ($1,000)		$ 292,067
500 MILE RADIUS STATISCIS - US AGRICULTURAL CENSUS 2012		
Total Value of Ag Products sold within 500 mile radius of St. Louis:		$ 171 Billion
REGIONAL AGRIBUSINESS CONTRIBUTION SUMMARY		
Economic Contribution		$ 18.6 Billion
Total Jobs supported		178,946

The USDA's National Agricultural Statistics Service (NASS) provided the St. Louis Agribusiness Club with a detailed overview of production agriculture in the region.

The NASS Heartland Regional Field Office is located in St. Louis. NASS data reports that in 2012 there were nearly 3 million acres in farms within the MSA, this figure is down 5% from 5 years prior. The number of farms is down 11% from 5 years prior. Those farms yielded nearly $300 million in Net Farm Cash Income from Operations in 2012.



The methodology used to measure the Economic Value of Agribusiness to the St. Louis Metropolitan Area is a standard methodology. The methodology measures both Economic Contribution and jobs-supported in three categories:

- Direct Effects
- Indirect Effects
- Induced Effects

The methodology has several important characteristics, it:

- Measures the Value-Added that occurs within the region; that is the total increase in Dollar-Value of products and services that occurs in "Direct Effects" and in "Indirect Effects".
- Utilizes official National Economic data sources that are publicly available; this makes the results replicable.
- Incorporates the Input-Output methodology to measure the "Indirect Effects"; this allows the Economic Value to include local suppliers to agribusinesses yet avoids the potential for double-counting of value.
- Incorporates "Induced Effects"; this allows the Economic Value to include the wages of those employed locally by agribusiness and their suppliers, wages which are then spent in the community which supports both local consumption and local jobs.

The data used was the data available which was closest to the MSA geography: MSA level data, then Bi-State level, then National data. Further descriptions of the integration of data can be found near the end of this report.

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ST. LOUIS AGRIBUSINESS CLUB

INDUSTRIES MEASURED ACROSS AGRIBUSINESS

AGRIBUSINESS	SECTORS AND INDUSTRIES	NAICS CODES
Production Agriculture: Agriculture, Forestry, Fishing, & Hunting	FARMS -Crop -Animal FORESTRY, TIMBER, FISHERIES & RELATED SUPPORT ACTIVITIES FOR AG	11
Agribusiness Industry:	FOOD MANUFACTURE: Animal feed, Milling, Confections, Fruit/Veg, Dairy, Meat, Bakery BEVERAGES & TOBACCO TEXTILES & APPAREL WOOD & PAPER CHEMICAL & FERTILIZER METAL MANUFACTURE	31.1 (.11 ~ .18) 31.2 31 (.3 ~ .6) 32 (.1 & .2) 32 (.5193, .53, .54, .62) 33 (.24 & .31)
Agribusiness Service:	WHOLESALING TRANSPORTATION WAREHOUSING & STORAGE TRADING RESEARCH & DEVELOPMENT	42 (.44, .45, .48) 48 (.1, .2, .3, .4) 49 (.312 & .313) 52 (.313) 54 (.17 & .19)

The scope of the measurement of agribusiness is intended to be inclusive. Agribusinesses are found throughout the structure of the American economy. The economic data of the United States is organized by a four-tiered structure called the North American Industry Classification System, or “NAICS”. The agribusiness sectors studied are reported using the numerical sequence of the NAICS codes.

The Agribusiness Council uses a broad definition which summarizes agribusiness as “All major elements essential to … Agro and Food enterprises”. This study incorporates those industries, and specific portions of industries, that are integral to agribusiness. These industries and their NAICS codes roughly follow a sequence starting with “Production Agriculture”, followed by “Manufacturing” and then by “Services”. Some agribusinesses are recognizable within the main description of an Industry, some agribusinesses are buried down in the classifications system; such details are discussed in the respective Industry Sector pages. Some agribusiness enterprises are active in multiple industries; those nuances are built into the data that is gathered and analyzed by the US Department of Commerce.

The NAICS Hierarchical Structure, with an example:			
Two Digit XX	Industry Sector	31 ~ 33	Manufacturing
Three Digit XXX	Industry Sub sector	325	Chemical Manufacturing
Four Digit XXXX	Industry Group	3251	Basic Chemical Manufacturing
Five Digit XXXXX	Industry	32519	Other Basic Chemical Manufacturing
Six Digit XXXXXX		325193	Ethyl Alcohol Manufacturing

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A KEY TO READING THE TABLES IN THIS REPORT

AGRIBUSINESS SECTORS OR INDUSTRIES			
Contribution	Direct	Indirect	Induced
JOBS	JOBS IN THE INDUSTRY PRODUCING AGRIBUSINESS PRODUCTS AND SERVICES	JOBS AT SUPPLIERS PRODUCING FOR THE AG INDUSTRY	JOBS SUPPORTED BY THE DIRECT AND INDIRECT EMPLOYEES' SALARIES
CONTRIBUTION VALUE , VALUE-ADDED THROUGH:	MANUFACTURING OR PROVIDING SERVICES	SUPPLING GOODS OR SERVICES	WAGES PAID
TOTAL CONTRIBUION:	THE SUM TOTAL OF THE ABOVE 3 VALUES		
NAICS CODE	INDUSTRY NAMES	TOP SUPPLIERS	TOP EMPLOYERS
NAICS: "NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM"; THE STANDARD USED BY THE FEDERAL STATISTICAL AGENCIES TO CLASSIFY ECONOMIC ACTIVITY BY: **INDUSTRY**, **SECTOR**, **SUB-SECTOR** AND **GROUP**. **INDUSTRY**: EACH PAGE WILL IDENTIFY THE CLUSTER OF AGRIBUSINESS ECONOMIC ACTIVITIES AS GROUPED BY THE NAICS CODES CLASSIFICATION.		RANK-ORDER LISTING OF THE SEGMENTS SUPPLYING THE LARGEST AMOUT OF VALUE TO THE AGRIBUSINESS INDUSTRY	EXAMPLES OF EMPLOYERS FROM THE VARIOUS SUB-SECTORS IN THESE NAICS CLASSIFICATIONS

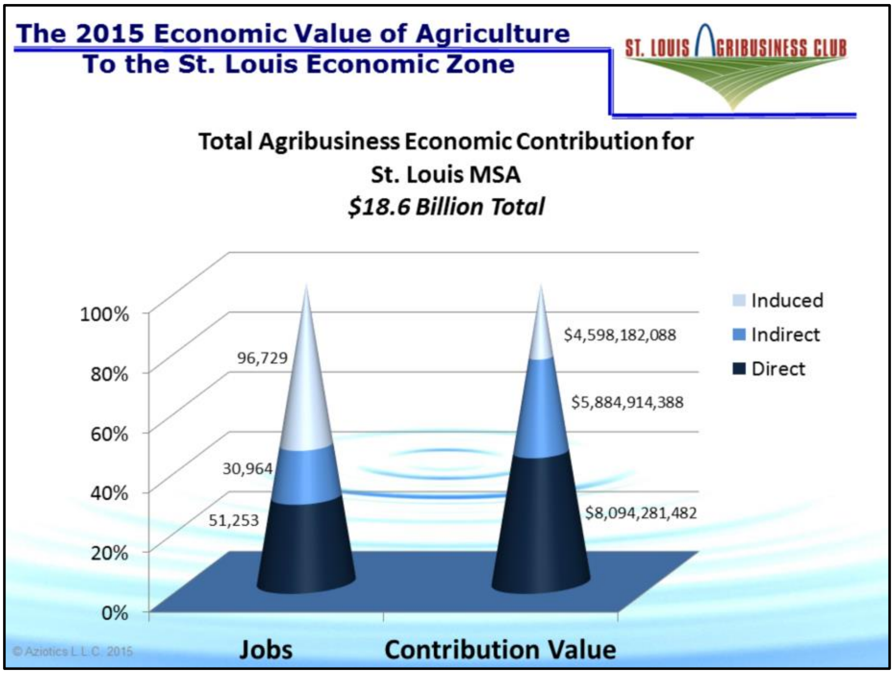
Each Industry Sector is reported on a one-page summary of the economic contribution. Each page follows a common format.

The format shows the Jobs supported **and** the economic contribution at each of three levels:

- Direct. The economic activity of the Industry Sector which produces the agribusiness products and/or services.
- Indirect. The economic activity of the numerous Industry Sectors which supply products and services to the above Industry Sector, yet only measuring the portion of products used by that Sector.
- Induced. The economic activity supported by the wages paid to employees of Direct and Indirect activity.

Also shown are:

- The specific sub-sectors, Industry groups and Individual industries that are measured within this agribusiness cluster. The corresponding NAICS codes are shown opposite its sector or Industry name.
- The sectors that are the top suppliers to the primary agribusiness sector, in rank-order of value of indirect contribution.
- Examples of Companies within the St. Louis MSA active in the sub-sectors are covered in this cluster.



The Total of the agribusiness contribution is the compilation of all the individual sectors, inclusive of all three levels of contribution: Direct, Indirect and Induced.

In aggregate, agribusiness in 2012 contributed $18.6 Billion dollars to the economy of the St. Louis region (the MSA) and supported 179,000 jobs.

To provide some perspective:

- The GDP of the MSA is .922% of the National GDP
- The GDP of the MSA is 14.95% of the Total Bi-State GDP
- The GDP of the MSA's Production Agriculture is 6% of the Bi-State Production Agriculture GDP
- The GDP of the MSA agribusiness (Direct plus Indirect) is $13.8 Billion
- The GDP of the MSA Total Private Industry is $130 Billion
- The GDP of the MSA agribusiness (Direct plus Indirect) is 11% of the MSA Total Private Industry GDP
- The Total Jobs supported is 16% of the Total Annual Average Employment in 2012

The methodology that is used generates a very specific number for each metric that is calculated. The authors chose to display the entire actual numbers that are derived from each series of calculations. In arriving at those numbers, there have been estimates, but always calculated based on data. There has been the need for interpolation, but always based on data. There has been no rounding. The numbers generated are not accounting based numbers. Nevertheless, readers should understand that these numbers are correct to an order of magnitude and are indicative of the circumstances in the St. Louis economy of 2012.

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ST. LOUIS AGRIBUSINESS CLUB

THE SUMMARY OF AGRIBUSINESS ECONOMIC CONTRIBUTION TO THE MSA

AGRIBUSINESS IN THE METROPOLITAN STATISTICAL AREA: 41180 St. LOUIS			
Contribution	Direct	Indirect	Induced
Jobs	51,253	30,964	96,729
Contribution Value	$8,094,281,482	$5,884,914,388	$4,598,182,088
Total Contribution	$18,577,377,958		

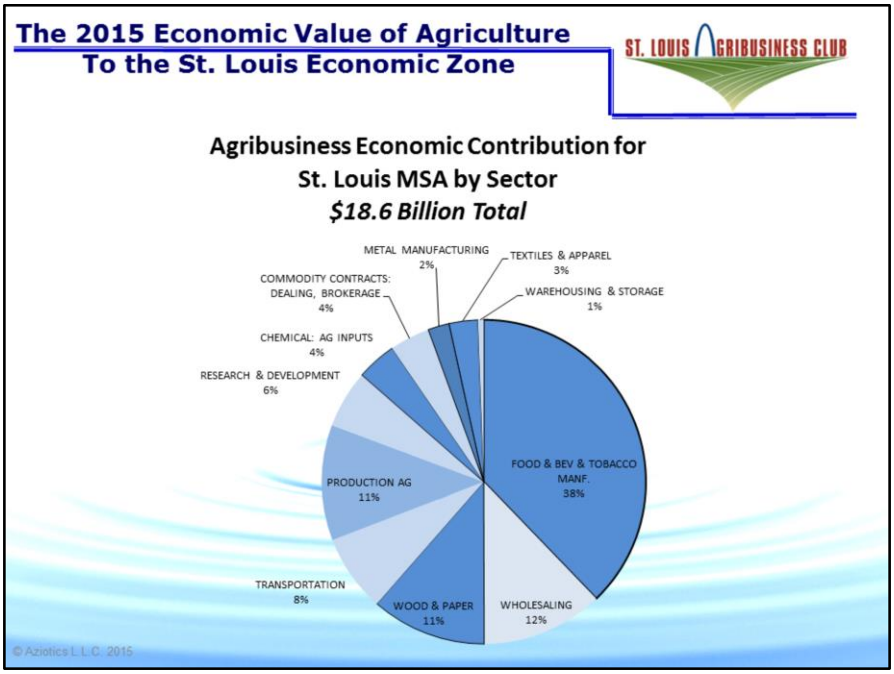
NAICS	SECTORS, RANKED BY TOTAL CONTRIBUTION VALUE:	TOP *INDIRECT* SUPPLY SECTORS	TOP *DIRECT-* EMPLOYER SECTORS
31 (.1 ~ .2)	FOOD & BEVERAGE	PRODUCTION AG	FOOD & BEV
42 (.44, .45, .48)	WHOLESALING	WHOLESALING	WHOLESALING
11	PRODUCTION AGRICULTURE	FOOD & BEV	WOOD & PAPER
32 (.1 & .2)	WOOD AND PAPER	FORESTRY	RESEARCH & DEV
48 (.1, .2, .3, .4)	TRANSPORTATION	CHEMICALS	TRANSPORTATION
54 (.17 & .19)	RESEARCH AND DEVELOPMENT	PROF& SCIENTIFIC	COMMODITY
52 (.313)	COMMODITY CONTRACTS	PAPER PRODUCTS	TEXTILES & APPAREL
32 (.5193, .53, .54, .62)	CHEMICAL MANUFACTURING	PETROL. & COAL	PRODUCTION AG
31 (.3 ~ .6)	TEXTILES AND APPAREL	TRUCK TRANSP.	METAL MANUFACT
33 (.24 & .31)	METAL MANUFACTURING	UTILITIES	CHEMICALS
49 (.312 & .313)	WAREHOUSING AND STORAGE		WAREHOUSING

The various agribusiness sectors studied and listed here were calculated individually and are reported on the pages that follow. Those pages follow the numerical order of the NAICS classification.

The top 3 **Contributing** sectors, measured in terms of value, are:
- Food & Beverage manufacturing
- Wholesaling
- Production Agriculture

The top 3 **Supplier** sectors are:
- Production Agriculture
- Wholesaling
- Food & Beverage Manufacturing

The top 3 **Direct Employer** sectors are:
- Food & Beverage Manufacturing
- Wholesaling
- Wood & Paper Manufacturing



The $13.8 Billion in Economic Contribution by Agribusiness (Direct + Indirect) within the MSA is diversified.

- Manufacturing (the dark sections of the chart) accounts for 58%
- Services (the light sections of the chart) account for 31%
- Production Agriculture (the medium blue) accounts for 11%

The rank-order of the sectors as indicated by the data may understate the impact of some industries. Warehousing & Storage is integral to Transportation of agricultural or food products. Metal Manufacturing is integral to Food & Beverage Manufacturing. R&D is integral to Chemical Inputs for agriculture.

Also, the diverse work of many agribusiness enterprises spreads their economic activities across more than one sector. Viewed from the economic perspective, the role of the leading branded companies blends into the eco-system that is St. Louis regional agribusiness.

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ST. LOUIS AGRIBUSINESS CLUB

AGRICULTURAL PRODUCTION AND SUPPORT BUSINESSES CONTRIBUTE 12% OF AGRIBUSINESS VALUE; #3 IN THE MSA

PRODUCTION AGRICULTURE

Contribution	Direct	Indirect	Induced
Jobs	2,560	5,350	7,724
Contribution Value	$ 621,698,361	$ 1,157,244,299	$ 367,154,145
Total Contribution	$ 2,146,096,805		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
11	FARMS	PRODUCTION AG	AGRITECH
11.1	Crop Production	SUPPORT FOR AG PRDN	BEAUCHAMP
11.2	Animal Production, Aquaculture	WHOLESALING	ECKERT
		FOOD & BEV	FARMERS NATN
11.3 & 11.4	FORESTRY, TIMBER, FISHERIES & RELATED	PETROLEUM	NATL NURSERY
		CHEMICAL	RAIFORT
		CREDIT	REINFSHNEIDER
11.5	SUPPORT ACTIVITIES FOR AG	INSURANCE	
		UTILITIES	
		TRUCK TRANSPORT	

North American Industry Classification System (NAICS) code # 11 includes all of “Agriculture, Forestry, Fishing and Hunting”. Within this sector, Crop Production and Animal Production sub-sectors together amount to 92% of the value produced in the St. Louis MSA.

- The sub-sectors of: Forestry, Logging, Fishing, Hunting and Trapping show only nominal economic activity within the MSA.
- The sub-sector of “Support Activities” includes Soil Preparation, Farm Management Services and Post-Harvest activities. While the Support Activities value is not broken out in the available data, this category of work accounts for 17% of the direct employment in all of Production Agriculture, and therefore is significant.
- Some of the visible economic activities that **are** included in this sector but that are not specifically listed in the sub-sector titles are: Horticulture, Greenhouse & Nursery, and Equine production.
- Some of the visible economic activities that are **not** included in this sector are Golf, Riding stables and Landscaping. These arguably agricultural activities are categorized in the NAICS sectors for Amusement Business and the Real Estate Business respectively. These activities are estimated to generate value on the order of $60 Million per year. The economic activity of these sub-sectors is captured within the “Induced Value” due to it being paid for from wages of employees.
- The geographical concentration of Production Agriculture is largely on the Illinois side of the MSA where 77% of the Market Value of Agricultural Products within the MSA are produced.
- Exports are a part of the economic activity of the MSA. Together, Illinois and Missouri export $12.6 Billion in value of Agricultural products. This Bi-State total consistently runs at about 9% of the US total exports of Agricultural products. Soybeans are the single largest export product amounting to 39% of Illinois Ag Exports and 35% of Missouri Ag Exports. Experienced officials estimate that 60% of the ag exports travel down the Mississippi River, the majority of which travel through the MSA. This calculates to roughly $7 Billion in exports passing through the St. Louis region.
- This entire sector paid $2.5 Million in Income Taxes for 2012.
- 100% of Production Agriculture is incorporated in the regional agribusiness value contribution.

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ST. LOUIS AGRIBUSINESS CLUB

FOOD, BEVERAGE & TOBACCO BUSINESSES
CONTRIBUTE 38% OF AGRIBUSINESS VALUE; #1 IN THE MSA

FOOD MANUFACTURING

Contribution	Direct	Indirect	Induced
Jobs	14,026	12,137	34,656
Contribution Value	$2,859,786,116	$2,515,017,567	$1,647,456,460
Total Contribution	$7,022,260,143		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
31.1	Food Manufacturing	PRODUCTION AG	
31.11	Animal Food	FOOD & BEVERAGE	BUNGE
31.12	Milling	WHOLESALING	CARGILL
31.13	Confections	MANAGEMENT	CONAGRA
31.14	Fruit & Vegetable	PAPER PRODUCTS	DUPONT
31.15	Dairy	TRUCK TRANSPORT	INBEV
31.16	Slaughter	PLASTICS & RUBBER	MASCHOFF
31.18	Bakery	PROF & SCIENTIFIC	NOVUS
31.2	Beverages and Tobacco	FAB METALS	PILLSBURY
31.21	Beverages	UTILITIES	PRAIRIE FARMS
31.22	Tobacco		PURINA

The economic data specific to the St. Louis MSA groups together Food, Beverage and Tobacco manufacturing into one broad and large category representing 38% of the value contributed by agribusiness.

The lead Industry sub-sectors in the Manufacturing Sector are:

- Food Manufacturing, and
- Beverage and Tobacco Product Manufacturing

Employment data shows that Food Manufacturing supports two-thirds of the 14,000 people directly employed in these sub-sectors of the regional economy. 100% of this Manufacturing cluster is incorporated in the regional agribusiness value contribution.

Exports are a significant part of the economic activity. Grain and Oilseed Milling is the region’s #1 export Industry in terms of export value on the order of $900 Million. Animal Food Manufacture is the #8 export industry in terms of export value on the order of $250 Million. Beverage Manufacturing is a top-5 export item when measured in terms of value added.

The Food Manufacturing sub-sector paid $47.5 Million in income taxes for 2012.
The Beverage and Tobacco Manufacturing sub-sector paid $44.1 Million in income taxes for 2012.

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ST. LOUIS AGRIBUSINESS CLUB

FOUR SUB-SECTORS IN TEXTILES AND APPAREL PROVIDE 5% OF DIRECT AGRIBUSINESS JOBS IN THE MSA

TEXTILES AND APPAREL MANUFACTURING			
Contribution	Direct	Indirect	Induced
Jobs	**2,711**	**2,113**	**3,937**
Contribution Value	**$117,741,309**	**$226,743,886**	**$187,172,330**
Total Contribution	**$531,657,525**		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
31.3 & 31.4	Textiles and Textile Product Mills	TEXTILE MILLS ADMIN & SUPPORT WHOLESALING	BROWN SHOE KELLWOOD
31.5 & 31.6	Apparel Manufacturing and Leather Products Manufacturing	MANAGEMENT PROF. & SCIENTIFIC APPAREL & LEATHER INSURANCE RENTAL/LEASING FOOD & BEVERAGE CREDIT	RALCORP

The Textile, Apparel and Leather Manufacture sub-sectors transform fiber and leather into products, and on this basis are included in assessing the broad reach of agribusiness.

The cluster of businesses constitute 5% of the agribusiness direct employment across the MSA.

This cluster of businesses constitutes 3% of the value contribution by agribusiness and is a consistent employer of 5% of the agribusiness employment across the MSA.

The Textile and Apparel sub-sector cluster paid $5.1 Million in income taxes for 2012. 100% of Textile and Apparel is incorporated in the regional agribusiness value contribution.

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ST. LOUIS AGRIBUSINESS CLUB

WOOD-BASED INDUSTRY
PROVIDES 13% OF DIRECT AGRIBUSINESS JOBS; #3 IN THE MSA

WOOD, PAPER and FURNITURE MANUFACTURING			
Contribution	Direct	Indirect	Induced
Jobs	**6,725**	**5,523**	**12,311**
Contribution Value	**$762,765,258**	**$786,729,206**	**$585,227,106**
Total Contribution	**$2,134,721,570**		

NAICS	INDUSTRIES	TOP SUPPLLIERS	EXAMPLE EMPLOYERS
32.1	Wood Products Manufacturing	FORESTRY WOOD PRODUCTS	EAST PERRY
32.2	Paper Products Manufacturing	WHOLESALERS MANAGEMENT PROF & SCIENTIFIC FAB METAL CHEMICAL PRODUCTS UTILITIES TRUCK TRANSPORT ADMIN & SERVICES	HISTORIC TIMBER MILLMAN MO PACIFIC MUELLER BROS
33.7	Furniture and Related Products		

Wood based sub-sectors cover a full range of manufacturing from raw lumber through to finished paper products and finished furniture products. In aggregate this cluster of businesses accounts for 13% of agribusiness direct employment across the MSA.

The <u>Paper Products Manufacture</u> sub-sector includes both Pulp & Paper as well as Converted Paper Products, largely used for packaging. This Paper sub-sector constitutes 71% of the value and the direct jobs generated by the wood-based cluster.

The Wood and Paper sub-sectors together paid $9.3 Million in income taxes for 2012. 100% of Wood Manufacturing and Paper Manufacturing are incorporated in the regional agribusiness value contribution.

<u>Furniture & Related Products Manufacturing</u> includes both wood and metal product manufacturing; 50% of the value of Furniture Manufacturing is included in the agribusiness value.

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ST. LOUIS AGRIBUSINESS CLUB

FOUR INDUSTRY GROUPS WITHIN CHEMICAL MANUFACTURE CONTRIBUTE 4% OF AGRIBUSINESS VALUE TO THE MSA

CHEMICAL MANUFACTURING			
Contribution	Direct	Indirect	Induced
Jobs	**662**	**792**	**2,393**
Contribution Value	**$419,477,122**	**$203,445,480**	**$113,733,943**
Total Contribution	**$736,656,545**		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
32.53 32.5193 32.54 32.62	Pesticide, Fertilizer and other Ag Products Manufacture Ethanol Manufacture Pharmaceutical and Medicine Manufacture Rubber Products Manufacture	CHEMICAL MANAGEMENT WHOLESALING PETROLEUM UTILITIES OIL & GAS PRODUCTION AG PLASTIC & RUBBER PROF & SCIENTIFIC RENTAL & LEASING	ABENGOA AGROTAIN CENTER OIL ELANCO LANGE-STEG. MALLINCKRODT MONSANTO POET PURCELL TIRE SIGMA-ALDRICH SYNGENTA

Four specific industry-groups and industries of the Chemical Manufacturing Sector combine to equal 4% of the value of agribusiness.

Those four industries are:

- The Pesticides, Fertilizer and Other Industry Group; 100% agribusiness. This group accounts for 57% of the employment in the Chemical Sector.
- The Ethanol Industry; also 100% agribusiness.
- The Pharmaceutical and Medicine Manufacture Industry Group; 3% agribusiness.
- The Rubber Products Manufacture Group; estimated to include 10% agribusiness.

The agribusiness portions of the Chemical and Plastics sub-sectors together paid on the order of $11.6 Million in income taxes for 2012.

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ST. LOUIS AGRIBUSINESS CLUB

TWO INDUSTRY GROUPS WITHIN METAL MANUFACTURE CONTRIBUTE 2% OF AGRIBUSINESS VALUE TO THE MSA

METAL MANUFACTURING			
Contribution	Direct	Indirect	Induced
Jobs	**873**	**484**	**1,854**
Contribution Value	**$229,675,210**	**$76,294,733**	**$88,139,372**
Total Contribution	**$394,109,315**		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
33.24	Boiler, Tank & Shipping Container Manufacturing, includes cans and containers	PRIMARY METALS FAB METALS WHOLESALING PROF & SCIENTIFIC MANAGEMENT ADMIN & SERVICES CHEMICAL PRODUCTS COMPUTER PRODUCTS UTILITIES RENTAL & LEASING	EAGLE MARINE FABIC WM. NOBBE
33.31	Agriculture, Construction, and Mining Machinery Manufacture		

The agribusiness-specific industries within the Metal Manufacture Sector contribute 2% of the regional agribusiness economy and employ on the order of 1,400 people when considering both direct and indirect employment.

Two Industry Groups within large Metal Manufacturing sub-sectors are important agribusiness contributors.

<u>The Boiler, Tank and Shipping Container Manufacturing</u> industry group represents just 5% of Fabricated Metal Products Manufacturing sub-sector however this group includes metals cans and is calculated to be 75% agribusiness.

<u>The Agriculture, Construction & Mining Machinery Manufacturing</u> industry group similarly represents roughly 5% of the Machine Manufacturing sub-sector however this group in this MSA is viewed to be 100% agribusiness. This machinery group accounts for 60% of the employment in this agribusiness cluster.

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ST. LOUIS AGRIBUSINESS CLUB

FIVE INDUSTRY GROUPS WITHIN WHOLESALING CONTRIBUTE 12% OF AGRIBUSINESS VALUE; #2 IN THE MSA

MERCHANT WHOLESALING , NON-DURABLE GOODS			
Contribution	Direct	Indirect	Induced
Jobs	9,263	1,363	11,927
Contribution Value	$1,459,845,596	$231,585,035	$566,989,389
Total Contribution	$2,258,420,021		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
42.44	Wholesale Grocery and Related Product Merchant Wholesalers	PROF & SCIENTIFIC	BAISCH & SKINN
42.45	Wholesale Trade of Farm Product Raw Materials Merchant Wholesalers	MANAGEMENT	GREY EAGLE
42.48	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	WHOLESALING	MAJOR BRANDS
42.491	Farm Supplies Merchant Wholesalers	ADMIN & SERVICES	NORTH BAY
42.493	Nursery & Florist Merchant Wholesalers	OTHER TRANSPORT	SUMMIT
		OTHER REAL ESTATE	YOURS MARKET
		CREDIT	
		OTHER SERVICES	
		WAREHOUSE & STORE	
		INSURANCE	

As a group, Wholesaling represents 18% of the direct employment of regional agribusiness. Also as a group, this category represents 12% of total value contribution to regional agribusiness; the 2nd largest.

Wholesaling is one of 5 service industries sectors included in the agribusiness value study.

Merchant Wholesaling of non-durable goods is a large and diverse Sub-Sector of the Wholesale Trade sector. Wholesale Trade accounts for 8% of the Bi-State GDP and is calculated to also be 8% of the MSA GDP.

Bi-State labor data provides wage information for various industry groups within Wholesale Trade.

Five industry groups within Merchant Wholesaling of non-durable goods are distinctly agribusinesses and counted as 100% Agriculture. Among these, the largest is Wholesale Grocery Product Merchant Wholesalers which accounts for 60% of the employment within this agribusiness group.

The agribusiness portion of Wholesaling paid on the order of $16.5 Million in income taxes for 2012.

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ST. LOUIS AGRIBUSINESS CLUB

FOUR SUB-SECTORS OF TRANSPORTATION CONTRIBUTE 8% OF AGRIBUSINESS VALUE TO THE MSA

TRANSPORTATION			
Contribution	Direct	Indirect	Induced
Jobs	4,548	1,520	6,699
Contribution Value	$738,498,485	$372,311,092	$318,430,037
Total Contribution	$1,429,239,614		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
48.1	Air Transportation	PETROLEUM PRODUCTS	AEP RIVER
		OTHER TRANSPORT	AGRI MARINE
48.2	Rail Transportation	WHOLESALING	AM. RAILCAR
		RENTAL & LEASING	AM. COMMERC.
48.3	Water Transportation	INSURANCE	CRH TRANSP.
		ADMIN & SERVICE	INGRAM
48.4	Truck Transportation	WAREHOUSE & STORE	MARQUETTE
		MANAGEMENT	R & L
		MOTOR VEHICLES	TERMINAL RR
		RAIL TRANSPORTATION	

Transportation is another service sector supporting agribusiness. Four sub-sectors, (Air, Rail, Water & Truck) had measurable contribution to agribusiness contributing 8% of the value of agribusiness in the region and 9% of the direct employment.

Air Transportation of agricultural goods is currently on non-scheduled chartered freight flights. [Air Courier companies service the region; however they carry limited agricultural goods and are categorized in a different NAICS code.] The portion of the regional Air Transportation economic activity is estimated to be 3% agribusiness.

Rail Transportation of agricultural goods is significant to the region. The St. Louis MSA is home to the 3rd largest rail hub in the nation. Rail freight is 36% agribusiness freight by value, based on a Brookings study of 2010 freight movements. Rail Transportation value contribution is calculated to be 30% of the direct value of agribusiness transportation in the region.

Water Transportation of agricultural goods is also significant to the nation and this MSA. The St. Louis MSA is home to the 2nd largest inland port in the nation. Water-borne freight, on the Mississippi River between the Missouri and the Ohio Rivers, is 48.7% agribusiness freight by tonnage, based on US Army Corps of Engineer's Navigation Data Center. Water Transportation value contribution is calculated to be 5% of the direct value of agribusiness transportation.

Truck Transportation is significant to agriculture. Trucks move 86% of agriculture products ($2.2 Billion in 2010, according to Brookings). Because trucks move 70% of all goods in the US, the average proportion of trucked freight that is agribusiness is 30% by value. Truck Transportation value contribution is calculated to be 60% of the direct value of agribusiness-transportation. The Bureau of Labor Statistics data indicates that in the region, Truck Transportation employs over 90% of the direct transportation employees attributed to agribusiness. The agribusiness portion of the transportation sub-sectors together paid on the order of $4.3 Million in income taxes for 2012.

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ST. LOUIS AGRIBUSINESS CLUB

TWO INDUSTRIES WITHIN WAREHOUSING AND STORAGE CONTRIBUTE 1% OF AGRIBUSINESS, AND SUPPORT THE #1 SECTOR IN THE MSA

WAREHOUSING AND STORAGE

Contribution	Direct	Indirect	Induced
Jobs	**606**	**83**	**634**
Contribution Value	**$61,942,921**	**$15,574,774**	**$30,161,628**
Total Contribution	**$107,679,322**		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
49.312	Refrigerated Warehousing	OTHER REAL ESTATE WAREHOUSE & STORE	AMERICOLD
49.313	Farm Product Warehousing and Storage	ADMINIS & SERVICE PROF & SCIENTIFIC UTILITIES OTHER SERVICES OTHER TRANSPORT WHOLESALING RENTAL & LEASING MACHINERY BROADCASTING	BUNGE CARGILL KOCH INDUST. LANGE-STEGG. LANTER LLITCHFIELD NORBERT TRI-COUNTY FS WITTE BROS.

Warehousing is a critical function of the domestic food supply chain and the #1 agribusiness in the region. It is also an integral function of the competitiveness of American Production Agriculture.

Warehousing economic data is often bundled together under the banner of Transportation and Warehousing. Perhaps this is because warehousing produces roughly 10% of the aggregate GDP of the combined Transportation and Warehousing. Nevertheless, Warehousing is an integral function of the supply chain and a critical function for food and agriculture products.
There are two agriculture-specific industry codes measured here: Refrigerated Warehousing and Farm Product Warehousing.

Refrigerated Warehousing in the St. Louis region has 1,050,000 Sq. Ft. of public refrigerated warehouse operations and contributes 90% of the value and direct employment within this cluster. A significant parallel amount of economic activity is invisible to economic study due to the facilities being owned and operated by food manufacturers, food wholesalers and food retailers. Refrigerated Warehousing is, according to a Jones Lang Lasalle report, 88% agribusiness.

Farm Product Warehousing in the St. Louis region is under-represented by the economic data available. The warehouses in the MSA are managed for high-throughput and support the Transportation Sector which in turn supports the export business of Production Agriculture.

The agribusiness portion of the Warehousing industry groups together paid on the order of $200,000 in income taxes for 2012.

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ST. LOUIS AGRIBUSINESS CLUB

TWO INDUSTRIES WITHIN COMMODITY CONTRACTS CONTRIBUTE 8% OF DIRECT AGRIBUSINESS EMPLOYMENT IN THE MSA

COMMODITY CONTRACTS: DEALING, BROKERAGE			
Contribution	Direct	Indirect	Induced
Jobs	4,149	693	5,527
Contribution Value	$343,524,490	$138,225,589	$262,744,138
Total Contribution	$744,494,217		

NAICS	INDUSTRIES	TOP SUPPLIERS	EXAMPLE EMPLOYERS
52.313	Commodity Contracts Dealing	SECURITIES & COMMOD PROF & SCIENTIFIC	BUNGE
52.314	Commodity Brokerage	CREDIT MANAGEMENT OTHER REAL ESTATE ADMIN & SERVICE DATA PROCESSING INSURANCE LEGAL COMPUTER SYSTEMS BROADCASTING	

The St. Louis region has significant activity in buying and selling agricultural commodities, therefore the study included the two specific industry codes that cover that economic activity. Dealing in agricultural product buying and selling contributed on the order of 4% of the direct agribusiness value and 8% of the direct agribusiness jobs.

Finance and Insurance is a very large sector of the US economy, yet it is a sector for which it is particularly difficult to attribute specific economic activity to specific locations. The St. Louis region has significant activity in buying and selling agricultural commodities, therefore the study included the two specific industry codes covering that economic activity. National and Bi-State economic data for those codes were utilized to estimate the jobs and the value added in the region. Those calculations indicate that dealing in agricultural product buying and selling contributed on the order of 4% of the total agribusiness value and 8% of the total agribusiness jobs.

The 2015 Economic Value of Agriculture To the St. Louis Economic Zone

ST. LOUIS AGRIBUSINESS CLUB

PROFESSIONAL, SCIENTIFIC AND TECHNICAL EMPLOYMENT CONTRIBUTE 10% OF DIRECT AGRIBUSINESS EMPLOYMENT IN THE MSA

RESEARCH & DEVELOPMENT			
Contribution	Direct	Indirect	Induced
Jobs	**5,131**	**906**	**9,066**
Contribution Value	**$479,326,614**	**$161,742,728**	**$430,973,539**
Total Contribution	**$1,072,042,881**		
NAICS	**INDUSTRIES**	**TOP SUPPLIERS**	**EXAMPLE EMPLOYERS**
54.17 54.19	Scientific Research and Development Services Other Professional, Scientific, and Technical Services (Includes veterinary)	SECURITIES&COMM PROFES & SCIENTIFIC CREDIT MANAGEMENT OTHER REAL ESTATE ADMIN & SERVICES DATA PROCESSING INSURANCE LEGAL COMPUTER SYSTEMS BROADCASTING	ARCH GRANTS BIOGENERATOR BIO-STL CIC CORTEX DANFORTH/BRDG MOBOT NCERC UMSL ITE YIELD LAB

The Professional, Scientific & Technical Services sector includes two industry groups that have specific agribusiness activity. Together these two groups represent 10% of the direct employment of agribusiness.

The St. Louis region has a vibrant and rapidly growing Research & Development economy.

Scientific Research & Development represents the larger of the two industries. National, Bi-State and Missouri-only data are used to inform an estimate that indicates half of the R&D professionals in the region in 2012 were employed in the agribusiness arena.
The Professional, Scientific & Technical Services industry includes veterinarians. The estimate was informed by a study of the Economic Impact of Veterinary Medicine on the State of Missouri. A quarter of the regional economic activity is agribusiness.
Business & Professional Associations (NAICS 8139) have been incorporated within this cluster; the region is headquarters to a number of Associations representing agribusinesses.

The agribusiness portion of the Research & Development industry groups together paid on the order of $4.8 Million in income taxes for 2012.

The 2015 Economic Value of Agriculture To the St. Louis Economic Zone

ST. LOUIS AGRIBUSINESS CLUB

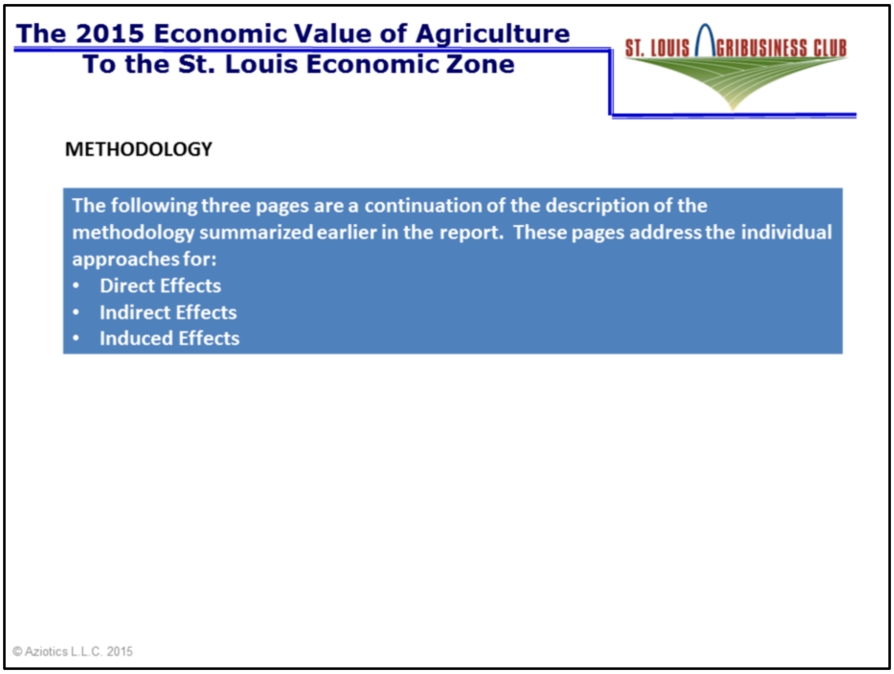
ACKNOWLEDGMENTS

The research team for the 2015 Economic Value of Agriculture wishes to acknowledge the following organizations. Without valuable input from these entities and individual, this report would not have been possible.

- American Farm Bureau
- American Soybean Association
- Danforth Plant Science Center
- Food and Agriculture Policy Research Institute, University of Missouri
- Food Distribution Research Society, Inc.
- Illinois Fertilizer and Chemical Association
- Illinois State Departments of Agriculture
- Illinois State Departments of Commerce and Economic Opportunity
- Internal Revenue Service (IRS)
- Missouri AgriBusiness Association (MO-AG)
- Missouri Crop Improvement Association
- Missouri Dairy Association
- Missouri Dairy Association
- Missouri Department of Economic Development
- Missouri Department of Transportation
- Missouri Economic Research & Information Center
- Missouri Pork Association
- Missouri State Department of Economic Development
- Missouri State Departments of Agriculture
- MO-BIO
- National Associations of Corn Growers
- National Institute for Food and Agriculture
- Port Authority of St. Louis
- St. Louis Agribusiness Club board members
- St. Louis Business Journal
- St. Louis Regional Chamber
- The Agribusiness Council
- The Federal Reserve & Officers of The St. Louis Fed.
- The US Department of Commerce, Bureau of Economic Analysis (BEA)
- United Soybean Board
- University of Illinois
- US Army Corps of Engineers
- US CENSUS. 2010 Statistics
- US Department of Labor. Bureau of Labor Statistics (BLS)
- US Department of Transportation, Maritime Administration
- USDA, The National Agricultural Statistics Service, Heartland Regional Office
- USDA, The Economic Research Service
- Waterway Journal
- World Trade Center of St. Louis

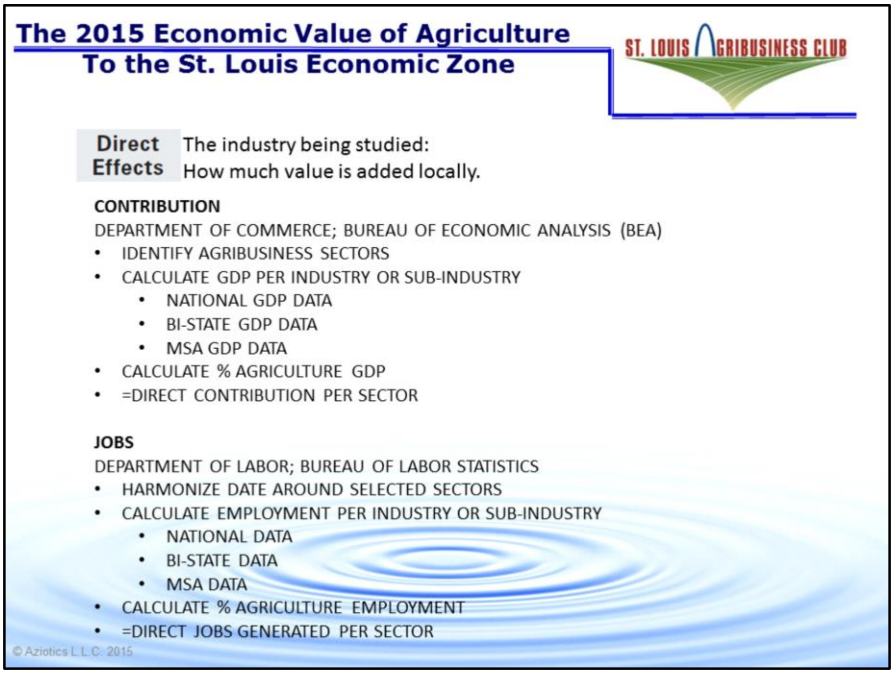
And the many Individual representatives of agribusiness companies in the region who shared their expertise

Thank you to all the professionals who contributed their insights to make this study possible.

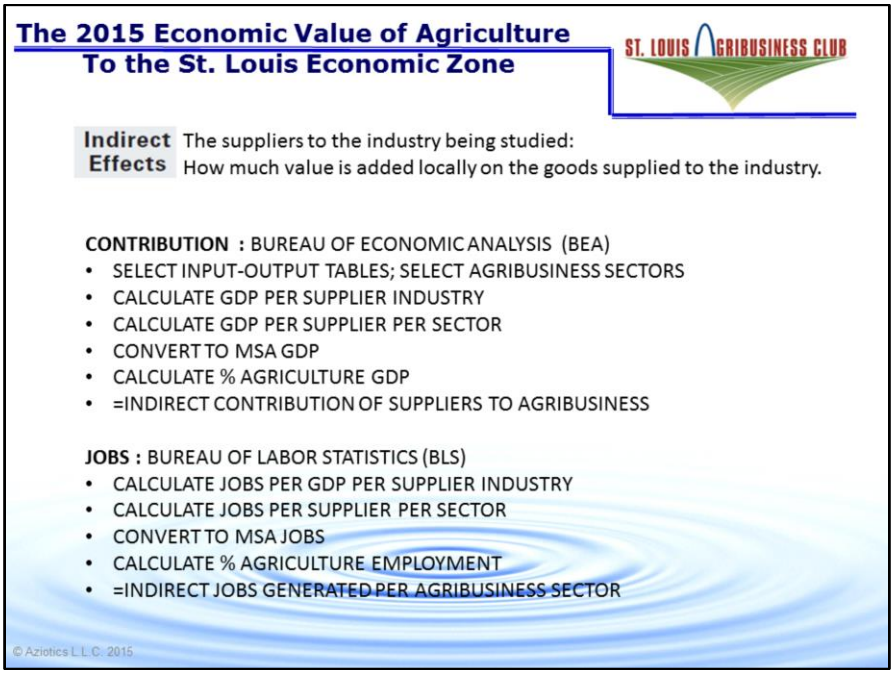


The following three pages are a continuation of the description of the methodology summarized earlier in the report. These pages address the individual approaches for:

- Direct Effects
- Indirect Effects
- Induced Effects

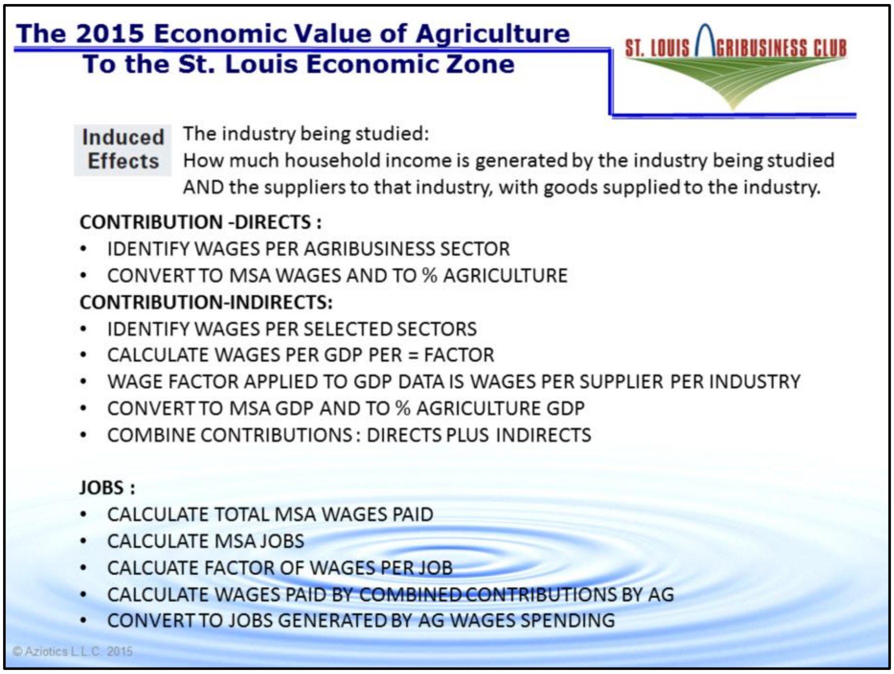


The Bureau of Economic Analysis and the Bureau of Labor Statistics provide the finalized raw data for the year 2012. From that data the GDP for the MSA was interpolated for the industrial sectors and sub-sectors that are considered to be agribusiness economic activity.



Again, the Bureau of Economic Analysis and the Bureau of Labor Statistics provide the raw data for the year 2012. The National-level Input-Output table content was used to calculate the value-added from each supplier industry to each agribusiness Industry. And then, those values were down-scaled to the St. Louis MSA. This approach allows the estimation of the economic value-added by local suppliers to the agribusiness industries in this region, using nationally valid data as indicators.

As for jobs, the National-level industry-specific economic data and the Bureau of Labor Statistics industry-specific data was manipulated to calculate the number of jobs generated by each supplier's sales to each agribusiness. And then, those values were down-scaled to the St. Louis MSA. The Input-Output approach avoids double counting value-added and jobs generated.



The Induced economic contribution is the sum of: the wages paid to the agribusiness employees (Direct) plus the wages paid to the supplier's employees, for the portion of work that went into agribusiness (Indirect).

The Induced jobs is the total of the above contribution divided by the average wage in the MSA. This straight-forward approach is based on the assumption that the wages paid to the agribusiness employees of the region are primarily spent within the region and spread across a basket of goods and services that represent the region's employment.