

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



2015 REPORT

**TO:
THE ST. LOUIS AGRIBUSINESS CLUB**

**ON:
JULY 2015**

**BY:
AZIOTICS LLC**

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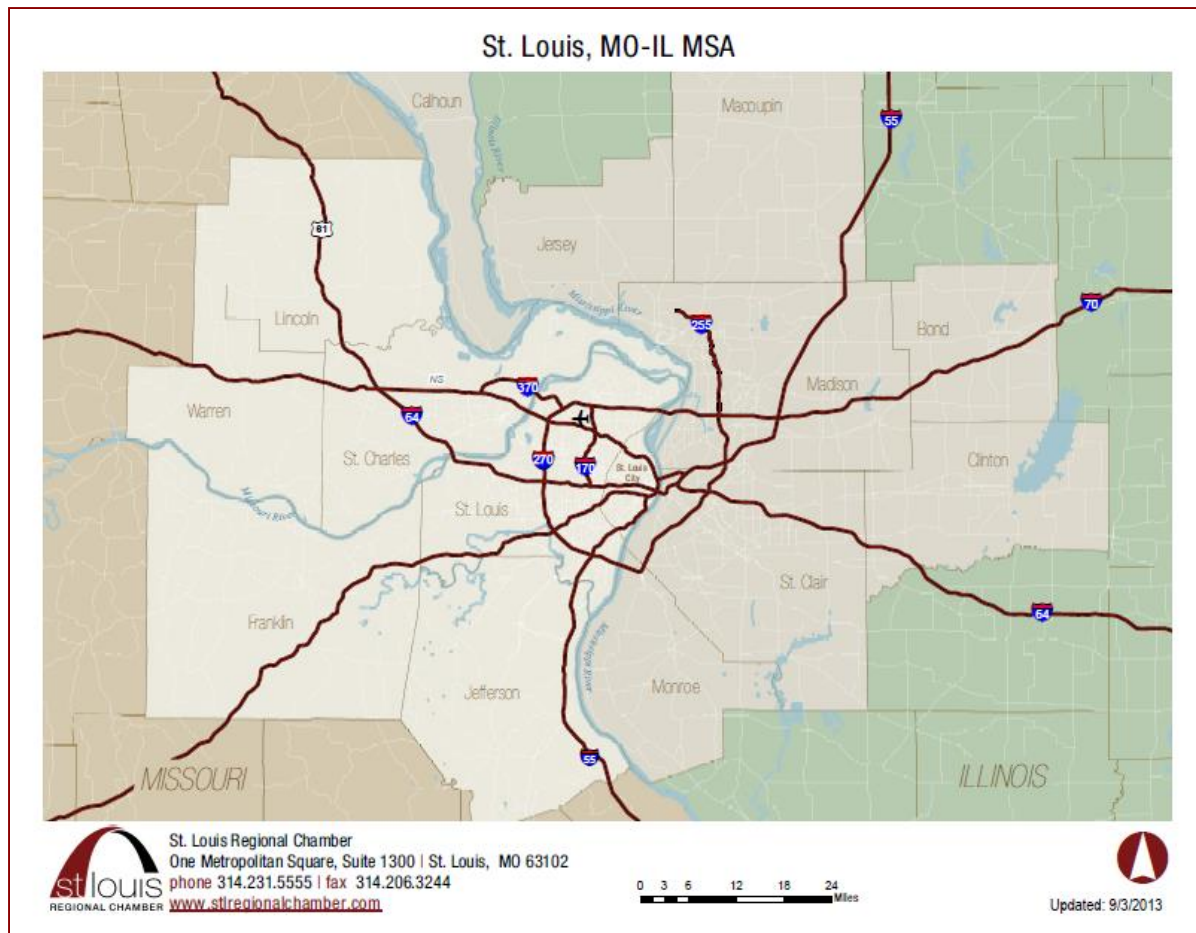
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THE ECONOMIC CONTRIBUTION OF AGRIBUSINESS IN MSA 41180



The Metropolitan
Statistical Area
(MSA) 41180

St. Louis City
plus 14 counties.

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US PRODUCTION AGRICULTURE IN A 500-MILE RADIUS



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US PRODUCTION AGRICULTURE IN A 500-MILE RADIUS

<u>State</u>	<u>Counties Included</u>	<u>Counties Excluded</u>	<u>Total Counties</u>	
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

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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 STATISTICS - 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

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THE ECONOMIC CONTRIBUTION OF AGRIBUSINESS, MEASURING THE VALUE-ADDED IN MSA 41180, USING THE INPUT-OUT METHOD

Direct Effects The industry being studied:
How much value is added locally.

Indirect Effects The suppliers to the industry being studied:
How much value is added locally on the goods supplied to the industry.

Induced Effects The industry being studied:
How much household income is generated by the industry being studied
AND the suppliers to that industry, with goods supplied to the industry.

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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:	WHOLESALE TRANSPORTATION WAREHOUSING & STORAGE TRADING RESEARCH & DEVELOPMENT	42 (.44, .45, .48) 48 (.1, .2, .3, .4) 49 (.312 & .313) 52 (.313) 54 (.17 & .19)

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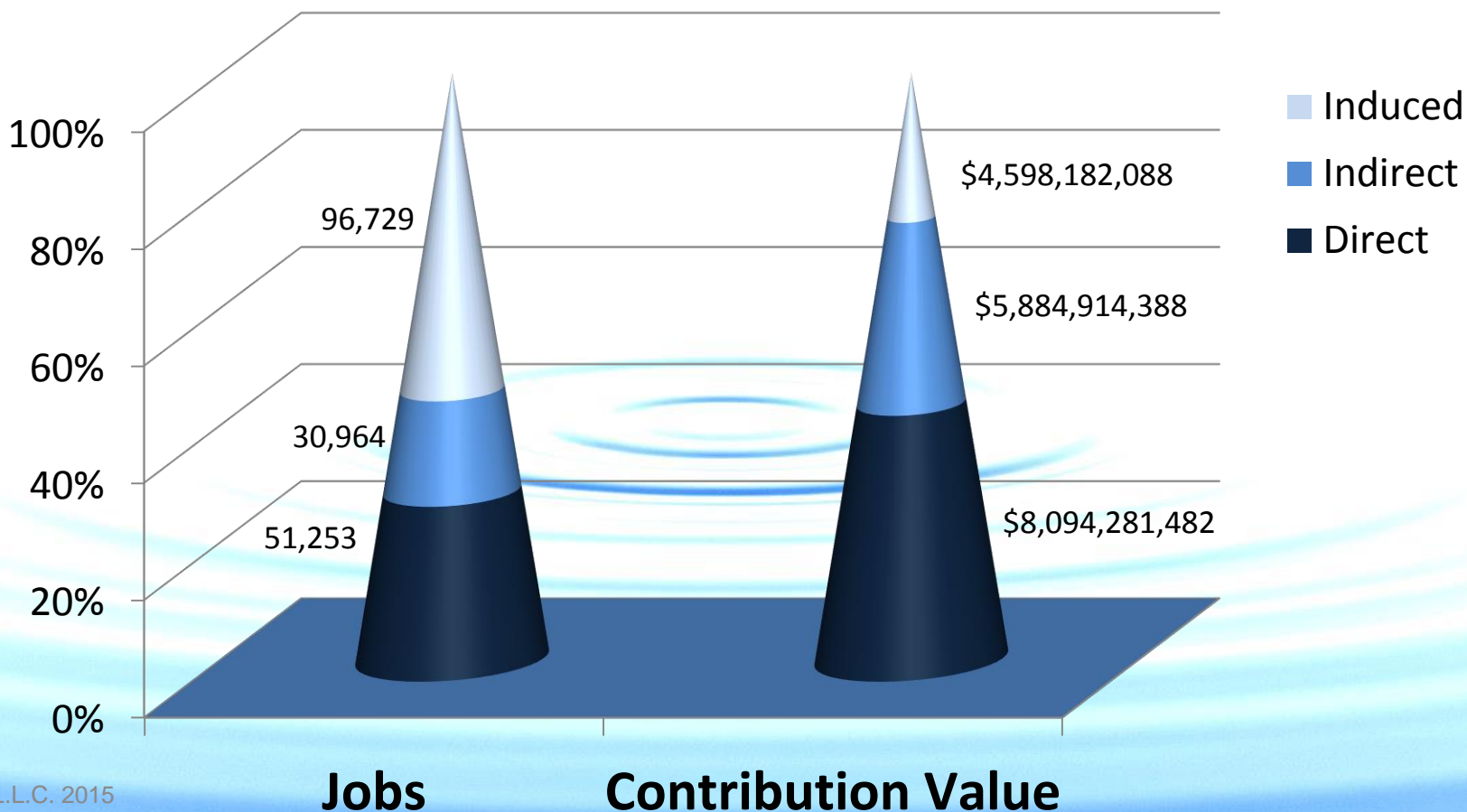
A KEY TO READING THE TABLES IN THIS REPORT

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.		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
INDUSTRY: EACH PAGE WILL IDENTIFY THE CLUSTER OF AGRIBUSINESS ECONOMIC ACTIVITIES AS GROUPED BY THE NAICS CODES CLASSIFICATION.			

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Total Agribusiness Economic Contribution for St. Louis MSA *\$18.6 Billion Total*



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



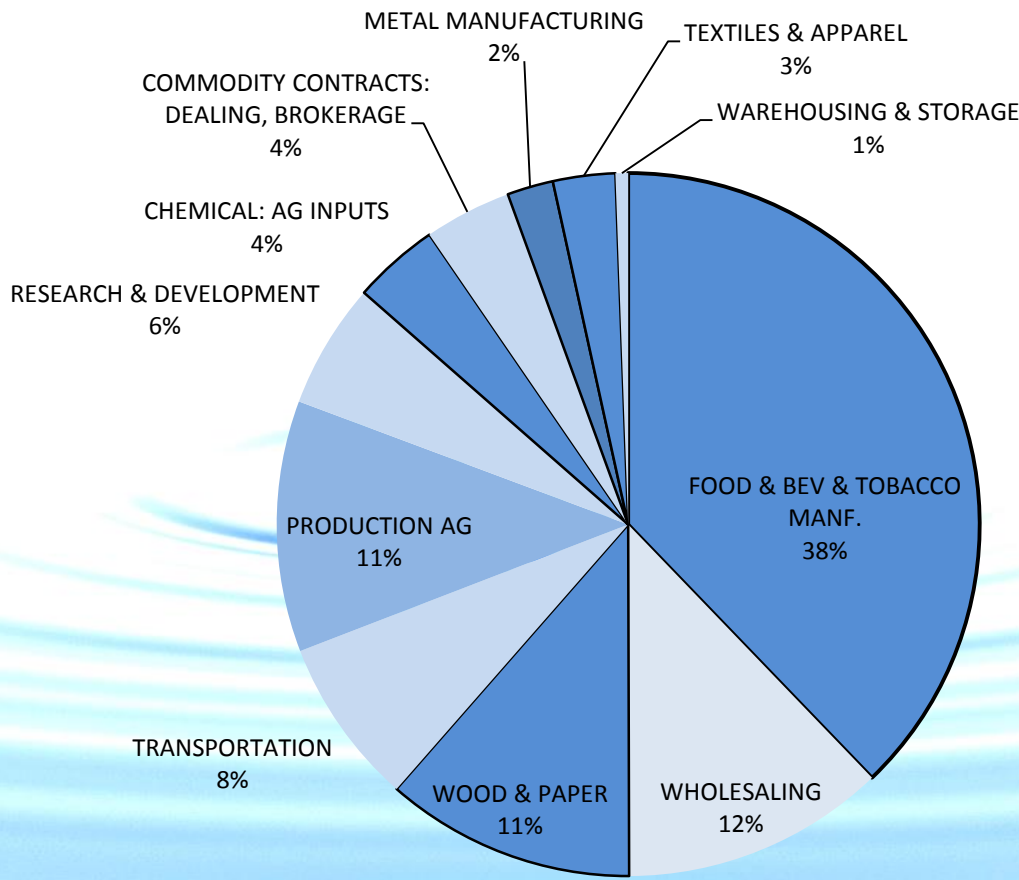
THE SUMMARY OF AGRIBUSINESS ECONOMIC CONTRIBUTION TO THE MSA

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		
	SECTORS, RANKED BY TOTAL CONTRIBUTION VALUE:	TOP INDIRECT SUPPLY SECTORS	TOP DIRECT- EMPLOYER SECTORS
<u>NAICS</u>			
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

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Agribusiness Economic Contribution for St. Louis MSA by Sector *\$18.6 Billion Total*



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

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

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

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

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

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

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**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		

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

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

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

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

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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	Scientific Research and Development Services	SECURITIES&COMM PROFES & SCIENTIFIC CREDIT MANAGEMENT	ARCH GRANTS BIOGENERATOR BIO-STL
54.19	Other Professional, Scientific, and Technical Services (Includes veterinary)	OTHER REAL ESTATE ADMIN & SERVICES DATA PROCESSING INSURANCE LEGAL COMPUTER SYSTEMS BROADCASTING	CIC CORTEX DANFORTH/BRDG MOBOT NCERC UMSL ITE YIELD LAB

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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.

<p>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)</p>	<p>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</p>	<p>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</p>	<p>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</p>
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METHODOLOGY

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

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Direct Effects The industry being studied:
How much value is added locally.

CONTRIBUTION

DEPARTMENT OF COMMERCE; BUREAU OF ECONOMIC ANALYSIS (BEA)

- IDENTIFY AGRIBUSINESS SECTORS
- CALCULATE GDP PER INDUSTRY OR SUB-INDUSTRY
 - NATIONAL GDP DATA
 - BI-STATE GDP DATA
 - MSA GDP DATA
- CALCULATE % AGRICULTURE GDP
- =DIRECT CONTRIBUTION PER SECTOR

JOBS

DEPARTMENT OF LABOR; BUREAU OF LABOR STATISTICS

- HARMONIZE DATE AROUND SELECTED SECTORS
- CALCULATE EMPLOYMENT PER INDUSTRY OR SUB-INDUSTRY
 - NATIONAL DATA
 - BI-STATE DATA
 - MSA DATA
- CALCULATE % AGRICULTURE EMPLOYMENT
- =DIRECT JOBS GENERATED PER SECTOR

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Indirect Effects

The suppliers to the industry being studied:

How much value is added locally on the goods supplied to the industry.

CONTRIBUTION : BUREAU OF ECONOMIC ANALYSIS (BEA)

- SELECT INPUT-OUTPUT TABLES; SELECT AGRIBUSINESS SECTORS
- CALCULATE GDP PER SUPPLIER INDUSTRY
- CALCULATE GDP PER SUPPLIER PER SECTOR
- CONVERT TO MSA GDP
- CALCULATE % AGRICULTURE GDP
- =INDIRECT CONTRIBUTION OF SUPPLIERS TO AGRIBUSINESS

JOBS : BUREAU OF LABOR STATISTICS (BLS)

- CALCULATE JOBS PER GDP PER SUPPLIER INDUSTRY
- CALCULATE JOBS PER SUPPLIER PER SECTOR
- CONVERT TO MSA JOBS
- CALCULATE % AGRICULTURE EMPLOYMENT
- =INDIRECT JOBS GENERATED PER AGRIBUSINESS SECTOR

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Induced Effects

The industry being studied:

How much household income is generated by the industry being studied
AND the suppliers to that industry, with goods supplied to the industry.

CONTRIBUTION -DIRECTS :

- IDENTIFY WAGES PER AGRIBUSINESS SECTOR
- CONVERT TO MSA WAGES AND TO % AGRICULTURE

CONTRIBUTION-INDIRECTS:

- IDENTIFY WAGES PER SELECTED SECTORS
- CALCULATE WAGES PER GDP PER = FACTOR
- WAGE FACTOR APPLIED TO GDP DATA IS WAGES PER SUPPLIER PER INDUSTRY
- CONVERT TO MSA GDP AND TO % AGRICULTURE GDP
- COMBINE CONTRIBUTIONS : DIRECTS PLUS INDIRECTS

JOBS :

- CALCULATE TOTAL MSA WAGES PAID
- CALCULATE MSA JOBS
- CALCULATE FACTOR OF WAGES PER JOB
- CALCULATE WAGES PAID BY COMBINED CONTRIBUTIONS BY AG
- CONVERT TO JOBS GENERATED BY AG WAGES SPENDING