

The background of the entire page is a close-up photograph of sorghum grain clusters. The grains are a rich, warm brown color and are densely packed on the stems. The lighting is soft, highlighting the texture of the grains. The background is slightly blurred, focusing attention on the foreground clusters.

ECONOMIC

# Impact

of Arkansas  
Agriculture

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# \$15,276,000,000

Agriculture accounted for \$15.3 billion of the value added to the Arkansas economy in 2003.

That's 20 cents of every \$1 of Value Added.\*

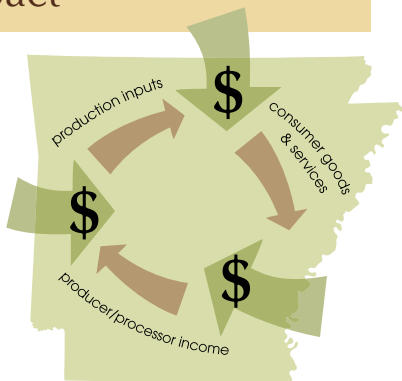
\*Value Added is the sum of employee compensation, proprietary income and indirect business taxes.

Source: "Impact of the Agricultural Sector on the Arkansas Economy in 2003," by J. Popp, N. Kemper and W. Miller. Research Report 981. Arkansas Agricultural Experiment Station, University of Arkansas Division of Agriculture, Fayetteville. December 2006.

Computed using 2003 Arkansas database from Minnesota Implan Group, Inc. (Latest year for which relevant data were available.)

# Total Impact

The total economic impact of the agricultural sector includes three areas of wealth and job generation.



- **Direct Impacts** are generated by farm production and processing of crops, poultry, livestock and forest products.
- **Indirect Impacts** result when agricultural firms purchase materials and services from other Arkansas businesses — a very important part of the economy in many communities.
- **Induced Impacts** result when employees of agricultural firms and their suppliers spend a portion of their income within Arkansas.

## Aggregate of value added by the agricultural sector in Arkansas, 2003

Impact Area	Million \$	% Total Impact	% State Total
Production	2,883	18.9	3.8
Processing	5,621	36.8	7.5
Ag-Related	238	1.6	0.3
<b>Total Direct</b>	<b>8,742</b>	<b>57.2</b>	<b>11.6</b>
<b>Indirect</b>	<b>3,575</b>	<b>23.4</b>	<b>4.8</b>
<b>Induced</b>	<b>2,959</b>	<b>19.4</b>	<b>3.9</b>
<b>TOTAL</b>	<b>15,276</b>	<b>100.0</b>	<b>20.3</b>

## Agriculture Provides

- 286,940 jobs, which is nearly one in every five in Arkansas.
- \$8.94 billion in labor income, or 19% of the state's total labor income.

# Arkansas Counts on Agriculture

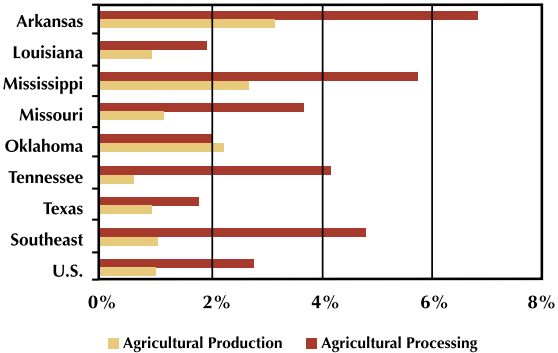
The contribution of the agricultural sector as a percentage of the Gross State Product (GSP) in Arkansas is greater than in any contiguous state as well as the averages for the Southeast region and the United States.

## The agricultural sector as a percentage of Gross State Product, 2003

State/Region	Percent of GSP
<b>Arkansas</b>	<b>10.09</b>
Louisiana	2.91
Mississippi	8.52
Missouri	4.90
Oklahoma	4.30
Tennessee	4.86
Texas	2.78
Southeast	5.91
U.S.	3.86

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Accounts Data, 2003

## Production and processing as a percentage of Gross State Product, 2003



Source: USDC, BEA, 2006

For comparison among states, only the direct impacts of agricultural production and processing are used as a percentage of Gross State Product (GSP) and Gross Domestic Product for the United States.

GSP is similar to, but not the same as, value added in the analysis of aggregate impacts.

## Total Impact

# The Natural State

Agriculture and forestry are vital to the diverse, interactive economy of Arkansas as well as to our very identity as “The Natural State.”

## National Ranking

- **No. 11 in total farm receipts**, with 47,000 farms on 14,400,000 acres. (USDA: ERS, NASS, data for 2005)
- **No. 4 in timber production**, with about 18,000,000 acres of forest land representing approximately 56% of the total land base. (Arkansas Forest Resources Center, 2005)





## **Arkansas is in the top 20 states in the production of 17 agricultural commodities.**

- **No. 1 in Rice**
- **No. 2 in Cotton**
- **No. 2 in Cottonseed**
- **No. 2 in Broilers**
- **No. 3 in Catfish**
- **No. 3 in Turkeys**
- **No. 8 in Eggs**
- **No. 8 in Grain Sorghum**
- **No. 10 in Pecans**
- **No. 11 in Soybeans**
- **No. 11 in Tomatoes (fresh)**
- **No. 13 in Grapes**
- **No. 13 in Beef Cows**
- **No. 16 in Cattle and Calves**
- **No. 16 in Peaches**
- **No. 16 in Watermelons**
- **No. 20 in Hogs and Pigs**

National Agricultural Statistics Service, data for 2005

## Direct Impact

# Crops Sector

The crops sector includes all enterprises engaged in the production and processing of cotton, food and feed grains, oil bearing crops, fruits, nuts, vegetables, and hay and pasture.

### Direct impact of crops

Employment 58,456 jobs

Wages \$909 Million

Labor Income \$1.59 Billion

Value Added \$2.85 Billion





Crop sales had declined in 2001 to one of the lowest levels in recent years, but rebounded in 2003 to their highest level since 1996. In 2005, a growing U.S. economy and strong demand for crop exports fueled continued growth in crop sales, although high fuel, fertilizer and chemical costs cut into farm net income. Commodity stocks were high going into 2006, but continuing high export demand and domestic consumption and increased production and use of biofuels suggested good prospects for crop sales. (USDA Economic Research Service)

## Direct Impact

# Strength in Diversity

Soybeans, rice, wheat, corn, grain sorghum and cotton accounted for 40% of value added, 60% of jobs and 43% of labor income in the crops sector in 2003.

The other 60% of value added was from a variety of locally important crops. This diversity is a major asset in weathering downturns in a given commodity. Other crops are hay and forage, melons, fruits, vegetables, pecans, turfgrass and ornamental plants.



## 2005 Commodity Production

Commodity	Acres Harvested (thousands)	Production (thousands)	Value (thousand \$)
Rice	1,635	108,792 cwt.	810,500
Soybeans	3,000	102,000 bu.	591,600
Cotton	1,040	2,202 bales	494,064
Cottonseed		771 tons	72,720
Hay	1,310	2,239 tons	142,544
Corn (Grain)	230	30,130 bu.	63,273
Wheat	160	8,320 bu.	27,456
Grain Sorghum	62	4,960 bu.	9,027
Broilers		1,214,300 head	2,652,048
Eggs		3,416,000 eggs	352,645
Turkeys		29,000 head	260,130
Cattle and Calves		1,750 head	490,331
Catfish		70,600 lbs.	77,852
<b>TOTAL</b>	<b>7,437</b>		<b>6,044,190</b>

Source: National Agricultural Statistics Service, 2006



## Animal Agriculture Sector

The animal agriculture sector includes production and processing of poultry, eggs, beef and dairy products, hogs and pigs and other animals.

Beef cattle and poultry are companion enterprises on many farms, with poultry providing cash flow and fertilizer for pastures.

Aquaculture is a major enterprise and is often a companion to row crop farming in the Delta region.



## Direct impact of animal agriculture

Employment 62,233 jobs

Wages \$1.38 Billion

Labor Income \$1.72 Billion

Value Added \$3.05 Billion



## Direct Impact

# Protein Power

Arkansas is a leading producer, processor and marketer of protein products.

Cattle are raised in every county, with a 2006 inventory of about 1,800,000 head. The swine inventory is about 300,000 hogs and pigs. Arkansas foodsize catfish numbered over 49,000,000 in July 2006. (National Agricultural Statistics Service, 2006)

**Poultry and egg production and processing** is the leading industry, with direct impacts of:

- 1 in 6 agricultural jobs; and
- \$1 in every \$6 of agricultural wages, income and value added.







## Direct impact of poultry

Employment	44,960 jobs
Wages	\$1.14 Billion
Labor Income	\$1.48 Billion
Value Added	\$2.67 Billion

## Direct Impact

# Forestry Sector

The forestry sector includes forest products, furniture and wood and paper processing.

Forest species include about 27% pine, 17% mixed hardwood and pine, 39% upland oak-hickory forests and 16% bottomland species including oak, cypress, cottonwood and elm. (Arkansas Forest Resources Center)





## Direct impact of forestry

Employment	37,291 jobs
Wages	\$1.51 Billion
Labor Income	\$1.62 Billion
Value Added	\$2.63 Billion

## Economic Engine

Forestry is the leading employer in South Arkansas — one of the nation's leading timber-producing regions.

Sawmills, logging and paperboard mills contribute:

- 44% of forestry jobs;
- approximately 48% of wages and income; and
- 54% of value added.

### **A Multifaceted Resource**

Forest-based tourism, recreation, watershed protection, wildlife habitat and aesthetic values are vital to the economy, environmental health, culture and identity of Arkansas.





## Direct impact of sawmills, logging and paperboard mills

Employment 16,270 jobs

Wages \$705 Million

Labor Income \$802 Million

Value Added \$1.42 Billion

## Total Impact

# Across the Board

Arkansas agriculture generates jobs in all 20 industries in the North American Industry Classification System (NAICS) used for economic analysis.

### Employment generated by agriculture in top five NAICS industries

Manufacturing	95,772 jobs
Agriculture, Forestry, Fishing and Hunting	79,698 jobs
Retail Trade	15,738 jobs
Health and Social Services	14,390 jobs
Wholesale Trade	12,663 jobs
<b>Top Five Total</b>	<b>218,260 jobs</b>
(76% of all jobs generated by agriculture)	

Based on 2-Digit NAICS Aggregation (U.S. Census Bureau, 2006)

The far-reaching impacts of agriculture are seen in the distribution of value added throughout the economy.

### Value added generated by agriculture in top five NAICS industries

Manufacturing	\$5.95 Billion
Agriculture, Forestry, Fishing and Hunting	\$3.11 Billion
Wholesale Trade	\$1.07 Billion
Transportation and Warehousing	\$660.48 Million
Government and Non NAICS	\$633.11 Million
<b>Top Five Total</b>	<b>\$11.42 Billion</b>
(75% of all value added generated by agriculture)	

Based on 2-Digit NAICS Aggregation (U.S. Census Bureau, 2006)

## Energy Crops

Arkansas is poised to become an important producer of bioenergy.

### **Biodiesel Capacity in Arkansas**

- 27 million gallons in 2006
- 1st plant online in fall 2005
- 2nd plant online in spring 2006
- 3rd plant opening and expansions planned in 2007





## Biofuels Working Group

The Division of Agriculture's Biofuels Working Group is supporting this emerging industry through research and education targeting:

- the provision of biofuel feedstocks to refineries now in production;
- plans for future dedicated cellulosic energy crops for the next generation of biofuels conversion technologies; and
- the development of new conversion technologies and co-product streams.

### Efficiency of corn, soybeans and cellulosic energy crops as biofuel feedstocks

	Energy Ratio <sup>+</sup>	Output Potential
Corn to Ethanol	1.4*	2.75 gal/bu
Soy to Biodiesel	3.2*	1.50 gal/bu
Cellulosic Ethanol	4+**	65-95 gal/dry ton

<sup>+</sup>Units of biofuel energy derived per unit of fossil fuel energy required to produce.

\* Assumes getting credit for by-products of DDG and soybean meal.

\*\* Energy ratio estimates vary widely depending on yield, irrigation, fertilizer input as well as production method, logistics and utilization of waste heat. Studies have shown energy ratios in excess of 20.

# Arkansas is Our Campus

The University of Arkansas Division of Agriculture conducts research and extension programs to support Arkansas agriculture in its broadest definition.

Our employees include Cooperative Extension Service faculty in all 75 counties, Agricultural Experiment Station scientists and Extension specialists on five university campuses and at five research and extension centers, and support personnel at 10 branch experiment stations and other units.

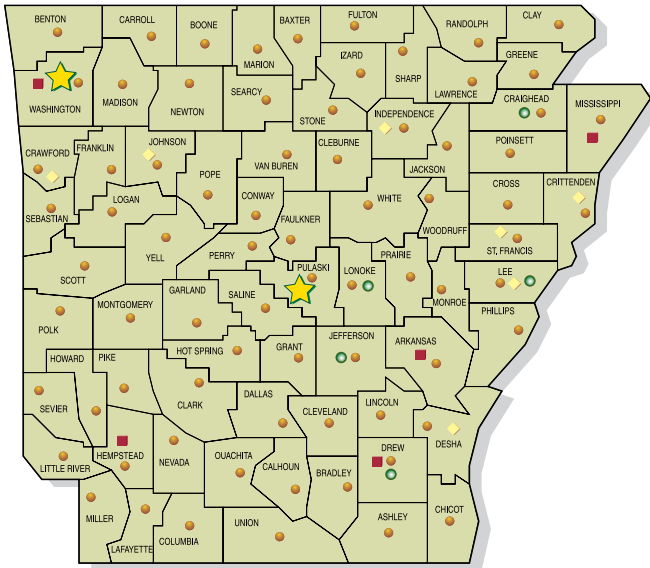


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UNIVERSITY OF ARKANSAS  
DIVISION OF AGRICULTURE

## Locations



- Division & CES Headquarters, Little Rock  
AAES Headquarters, Fayetteville
- Research & Extension Centers
- Branch Experiment Stations
- Other Locations
- County Extension Offices



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