

# Economic Contribution of Agriculture to the Arkansas Economy in 2009

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Agriculture is critical to Arkansas' economy, generating over 17% of the state's value added, 18% of employment and 17% of labor income. In 2010, Arkansas was in the top 25 states in the production of 24 agricultural commodities and was in the top three states for five commodities: rice, broilers, upland cotton, cottonseed and catfish. In real dollars,<sup>1</sup> 2009 agricultural cash receipts for all commodities were valued at \$7.2 billion, down from \$7.4 billion in 2008. This fact sheet summarizes the findings of a recent study undertaken to analyze the economic contribution – in terms of jobs, income and value added<sup>2</sup> – of Arkansas' Agriculture Sector in 2009.

## Measuring Economic Activity of Arkansas' Agriculture Sector

The economic contribution of agriculture includes not just the economic activity in the industries that make up the Agriculture Sector (Crop, Livestock and Forestry production and processing industries and the Agriculture-Related Sector) but also the indirect and induced contributions. The direct contributions of

agriculture are measured by production and processing of crops, poultry, livestock and forestry products and services performed by the Agriculture-Related Sector, such as commercial hunting and trapping. Indirect contributions occur when the Agriculture industries purchase goods and services from other Arkansas businesses, such as when the poultry and egg producers purchase concrete and steel and secure financing to build new poultry houses. Agriculture's induced contributions are measured through increases in personal consumption of employees working in agriculture industries and agricultural supplying firms. The sum of these direct, indirect and induced contributions provides a measure of the total economic contribution of agriculture. These contributions are measured in terms of jobs, labor income and value added.

## Agriculture's Contributions

Agriculture accounted for \$17.0 billion<sup>3</sup> of value added to the Arkansas economy in 2009. That's over 17 cents of every \$1 of value added in the state. It also provided

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<sup>1</sup> Agricultural cash receipts are reported in real 2009 dollars, which are calculated by adjusting nominal dollars with annual average prices received indices (base year 1990-92=100) published by USDA NASS. Nominal 2008 and 2009 Arkansas agricultural cash receipts were \$8.4B and \$7.2B, respectively.

<sup>2</sup> Value added is the sum of employee compensation, proprietary income, other property type income and indirect business taxes. The sum of value added for all industries is a measure of the size of the state economy.

<sup>3</sup> Contributions are reported in nominal dollars.

275,435 jobs, which was more than one in every six jobs in Arkansas, and \$10.7 billion in labor income, or 17% of the state's total labor income.

Arkansas agriculture affects other sectors of the economy through direct, indirect and induced contributions to employment and value added. The sector generated jobs and value added in all 20 industries in the North American Industry Classification System (NAICS) used for economic analysis.

## Elements of the Agriculture Sector

The total contribution of the Agriculture Sector to the state economy comprises direct, indirect and induced effects. Employment, labor income and value added are

measures of the three types of effects. Direct effects constituted the majority of the effects of employment (54%), labor income (53%) and value added (47%) generated by agriculture (Figure 1).

## Direct Effects by Sector and Relative Importance of Commodities

Direct effects of Agriculture can be further differentiated by the sectors from which they arise: Crops, Animal Agriculture, Forestry and Agriculture-Related. This analysis only compares direct effects; indirect and induced effects are excluded. Of the four sector categories, the Crops Sector created the most jobs, highest labor income and highest value added in 2009. The Agriculture-

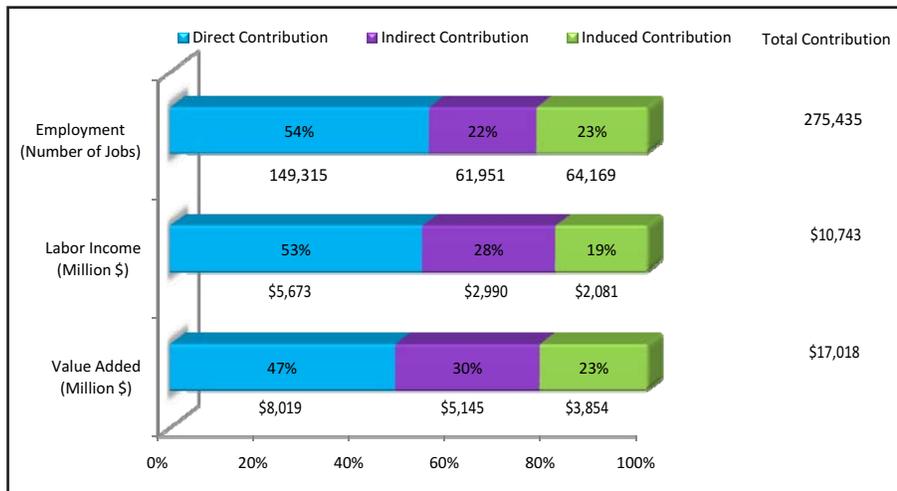
Related Sector (e.g., support activities for agriculture and forestry) was the smallest contributor to the direct effects (Table 1).

The Crops Sector directly contributed 61,422 jobs and \$3.0B in value added (Table 1). The Crops Sector includes all production and processing of cotton, food and feed grains, hay and pasture, fruits, nuts, vegetables and oil-bearing crops. Rice, wheat, corn, grain sorghum, soybeans and cotton (grain-, oilseed- and cotton-farming industries) accounted for 46% of value added and 70% of jobs in the Crops Sector in 2009.

Arkansas is a leading producer, processor and marketer of protein products. The Animal Agriculture Sector includes production and processing of poultry, eggs, beef and dairy products, hogs and pigs, catfish and other animals. This sector directly contributed 51,684 jobs and \$2.2B in value added (Table 1). The poultry industry (composed of poultry and egg production and poultry processing) is the leading industry in the Animal Agriculture Sector. It had direct impacts of three of four Animal Agriculture jobs and \$3 of \$4 of Animal Agriculture value added (Figure 2). Furthermore, the poultry industry accounted for one out of every four agricultural jobs and \$1 in \$5 of agricultural value added.

Forestry is the leading employer in south Arkansas, which is one of the nation's leading timber-producing regions. The Forestry Sector includes forest products, furniture and wood and paper processing. It directly contributed 27,886 jobs and \$2.6B in value added (Table 1). The top five forestry industries – paper mills, sanitary paper product manufacturing, paperboard mills,

**Figure 1. The Agriculture Sector's Contribution to Arkansas' Economy in 2009**



**Table 1. The Direct Contributions of the Agriculture Sector in 2009**

	Employment (Number of Jobs)	Labor Income (Million \$)	Value Added (Million \$)
Crops	61,422	\$2,048	\$2,965
Animal	51,684	\$1,880	\$2,203
Forestry	27,886	\$1,477	\$2,612
Agriculture-Related	8,324	\$268	\$240
<b>Total</b>	<b>149,315</b>	<b>\$5,673</b>	<b>\$8,019</b>

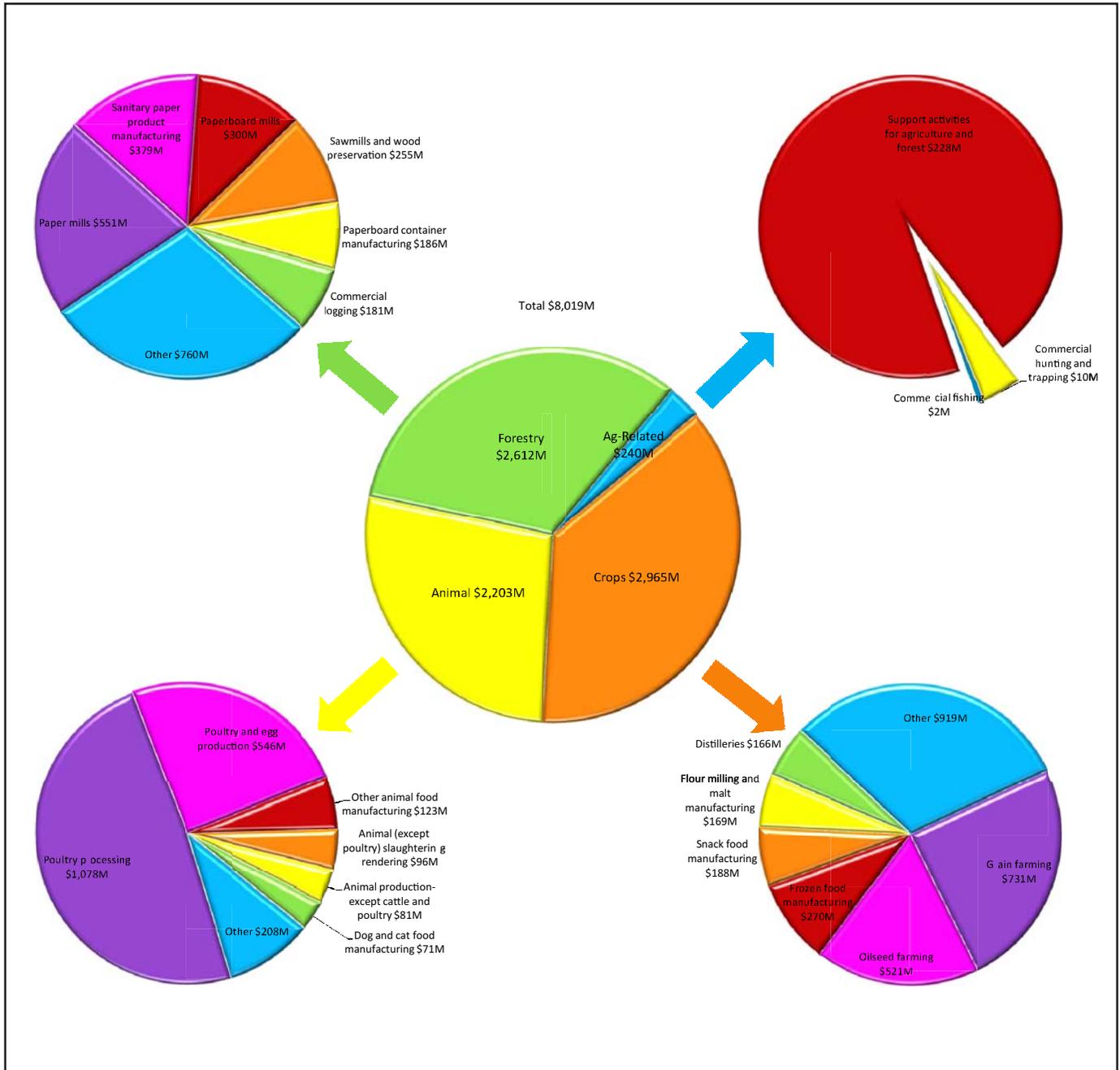
sawmills and wood preservation and paperboard container manufacturing – contributed 64% of value added (Figure 2).

The Agriculture-Related Sector comprises those industries that support the Crops, Animal

Agriculture and Forestry Sectors. Industries in this sector include commercial fishing, hunting and trapping and support activities for agriculture and forestry. The Agriculture-Related Sector directly contributed 8,324 jobs in 2009

and \$240M in value added in 2009 (Table 1). Support activities for agriculture and forestry contributed 95% of direct value added in the Agriculture-Related Sector (Figure 2).<sup>4</sup>

**Figure 2. Direct Value Added by Industry of the Agriculture Sector in 2009**



<sup>4</sup> The values of Total Value Added for industries 17 Commercial Fishing and 18 Commercial Hunting and Trapping are noticeably larger than estimates in 2008, but the Total Value Added for the Ag-Related Sector remains similar. These differences can be attributed to more specific data released by BEA REA (Bureau of Economic Analysis Regional Economic Accounts) in 2009, which allowed for a more accurate measurement of industries 17 and 18.

## Conclusion

Agriculture contributes significantly to Arkansas job creation, income and value added throughout the state's economy. As has been the case for many years, Agriculture contributes a higher proportion of state GDP in Arkansas than it does in any of the surrounding six states. Continued strength of agriculture is of paramount importance to the social and economic fabric of Arkansas communities and to the infrastructure and services that translate into quality of life for residents.

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