POCKET FACTS 2017

HANDOUT 3

Arkansas Agriculture Profile





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QUICK FACTS

Arkansas Agriculture contributed

17.1% of the state value added

WHICH IS APPROXIMATELY

\$21.4 Billion in value added.



43,000 Farms on 13.7 million acres with an average farm size of 319 acres.

57% of the state is comprised of forests.



QUICK FACTS

In 2017, Arkansas **average farm real estate value was \$3.180 per acre.**

- Average pasture land: \$2,520 per acre

Arkansas certified organic acreage has grown more than 1,500% between 2014 and 2016. In 2016, Arkansas hosted **64 organically certified farms,** operating on 4,871 acres, with \$39.8 million in reported sales Of this value:

- \$30.1 million (76%) was from the sale of livestock and poultry products^a
- **\$5.4 million** (14%) was from the sale of livestock and poultry
- \$4.3 million (11%) was from the sale of crops

Source: USDA NASS, 2017b; USDA NASS, 2016; USDA NASS, 2017c *Livestock and poultry products are those produced from a live animal. This includes items such as milk, eggs, wool, etc.

In 2016, Arkansas' top commodities

in terms of cash receipts were:



\$3,136 Million



\$1,437 Million



\$1,028 Million



\$489 Million



\$485 Million



\$434 Million



\$394 Million

Lint

Cotton

\$201 Million



\$64 Million

Source: USDA ERS, 2017a

Ahead of the Curve

Arkansas consistently ranks in the

top one-third of the nation

for agricultural cash receipts.

In 2016, Arkansas ranked

16th in the Nation

WITH

\$8.0 BILLION

for total agricultural cash receipts.

- **No. 11 in animals and animal products** valued at \$4.7 billion.
- No. 18 in crops, valued at \$3.3 billion.

Source: USDA FRS 2017a

Arkansas is in the top 25 states in the production of the following agricultural commodities: (2016 Production Year)^a

- No. 1 in Rice
- No. 2 in Broilers
- No. 3 in Catfish (foodsize)
- No. 4 in Cotton (upland)
- No. 4 in Cottonseed
- No. 5 in Turkevs
- No. 10 in Grain Sorghum
- No. 10 in Chicken Eggs
- No. 11 in Sovbeans
- No. 11 in Beef Cowsb
- No. 16 in Corn for Grain
- No. 20 in Honey
- No. 23 in Oats
- No. 23 in Cattle and Calves
- No. 24 in Hav

Note: Beginning in 2016, the USDA stopped reporting values for blueberries. grapes, peaches, pecans, tomatoes and watermelons for Arkansas Therefore. rankings are no longer available for these crops.

Source: USDA NASS, 2017 d.

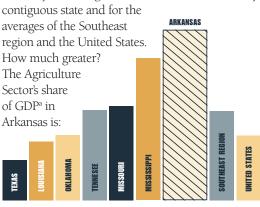
*Data for some states are unavailable due to nondisclosure, especially for livestock and livestock products commodities. As a result, these states are not included in the rankings, which may affect Arkansis' actual rank.

*Bed cows is a Jan. 1, 2016, inventory comprised of "bed cows that have calved": "bed cows replacement heilers 500 pounds and over."

Arkansas Counts on Agriculture



The Aggregate Agriculture Sector's share of the state economy is much greater for Arkansas than for any



The Agriculture Sector's Share of the State Economy

- 4.3 times greater than in Texas
- 2.9 times greater than in Louisiana
- 2.6 times greater than in Oklahoma
- 1.9 times greater than in Tennessee
- 1.8 times greater than in Missouri
- 1.2 times greater than in Mississippi
- 1.9 times greater than for the Southeast^b region
- 2.6 times greater than for the US as a whole

Source: USDC BEA, 2017; English, Popp, and Miller, 2017a. "Calculations based on the percent contribution of the Agriculture Sector to state GDP. "The Southeast is defined by BEA to include the states AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, and WV, and is not the sum of Arkansas's contiguous states listed in the table.

Arkansas Counts on Agriculture

Commodity Production and Value, 2016

Commodity	Acres Harvested	Production (thousands)	Value (thousands)
Broilers ^a	N/A	6,561,100 LBS	\$3,136,206
Soybeans	3,100,000	145,700 BU	\$1,435,145
Rice	1,521,000	105,314 CWT	\$995,217
Timber	N/A	23,418,198 TONS	\$498,463
Chicken Eggs ^a	N/A	3,411,400 EGGS	\$485,411
Corn For Grain	745,000	127,395 BU	\$471,362
Cattle & Calves	N/A	496,044 LBS	\$434,899
Turkeysa	N/A	525,200 LBS	\$433,815
Cotton (upland) ^b	375,000	840 BALES	\$275,386
Hay	1,204,000	2,414 TONS	\$247,320
Cottonseed ^b	N/A	289 TONS	\$60,401
Hogs & Pigs	N/A	75,126 LBS	\$57,937
Wheat	115,000	6,210 BU	\$29,187
Catfish (foodsize)	N/A	16,300 LBS	\$16,952
Grain Sorghum	44,000	3,212 BU	\$8,904
Honey	N/A	1,656 LBS	\$3,047
Oats	8,000	584 BU	\$1,256

Source: USDA NASS 2017d; AFRC, 2017.

^{*}Total Poultry Industry (Broilers, Turkeys, and Chicken Eggs): \$4,055M

^bTotal Cotton Industry (Upland Cotton and Cottonseed): \$336M

Five-Year Production Highs, 2012-2016

Commodity	Year	Production (thousands)
Beef Cows (inventory) ^a	2016	1,075 HEAD
Broilers	2016	6,561,100 LBS
Blueberries ^b	2015	520 LBS
Cattle & Calves	2015	518,619 LBS
Chicken Eggs	2015	3,275,400 EGGS
Grain Sorghum	2015	43,120 BU
Honey	2015	1,728 LBS
Oats	2014	720 BU
Pecans ^b	2014	3,500 LBS
Rice	2014	111,957 CWT
Soybeans	2014	158,400 BU
Turkeys	2014	612,000 LBS
Catfish (foodsize)	2013	25,300 LBS
Corn for Grain	2013	161,820 BU
Grapes ^b	2013	3,280 LBS
Hay	2013	2,810 TONS
Hogs & Pigs	2013	101,110 LBS
Wheat	2013	37,820 BU
Cotton (upland)	2012	1,297 BALES
Cottonseed	2012	450 TONS
Peaches ^b	2012	3,020 LBS
Sweet Potatoes ^c	2012	780 CWT
Timber	2012	26,393 TONS
Tomatoes ^b	2012	285 CWT
Watermelon ^b	2012	423 CWT

Source: USDA NASS 2017d; AFC, 2015; AFRC, 2017. ^aBeef cows is a Jan. 1, 2016 inventory comprised of "beef cows that have calved" and "beef cow replacement heifers 500 pounds and over." ^bEstimates discontinued for Arkansas in 2016 Estimates undisclosed for Arkansas in 2016

Arkansas Counts on Agriculture

Release of the 2012 Census of Agriculture provides the opportunity to highlight additional crops where annual reporting is limited. The most recent Census indicates that Arkansas ranks in the top 25 states by value for the following 12 commodities.^a

Commodity	Value	Rank
Baitfish	\$22,710,000	1
Sport or Game Fish	13,980,000	1
Ornamental Fish	2,027,000	3
Rabbits, Live	624,000	5
Crustaceans	183,000	9
Meat Goats	1,886,000	16
Flower Seeds	10,480	18
Mules, Burros, Donkeys	223,000	21
Turfgrass (Sod)	8,944,528	21
Goats (All)	2,149,000	22
Trout	2,155,000	24
Elk in Captivity	36,000	25





Additionally, the most recent Census of Agriculture indicates that Arkansas ranks in the top 25 states in acres harvested for the following 10 commodities.^a

Commodity	Acres Harvested	Rank
Blackberries and Dewberries	334	6
Peas, such as Green Southern (Cowpeas) Blackeyed, Crowder, etc.	1,387	7
Sorghum for Syrup	31	9
Peanuts for Nuts	13,594	10
Okra	30	11
Short Rotation Woody Crops	206	16
Mustard Greens	36	16
Turfgrass (Sod)	5,279	16
Beans, Snap (Bush and Pole)	2,297	20
Turnips	14	22

Source: USDA NASS, 2014

*Rankings were estimated from values disclosed in the 2012 Census of Agriculture.

Non-disclosure of values for some states may affect the ranking values shown in this table.





Arkansas Agriculture Snapshot

Arkansas' diverse portfolio of livestock products and crops supports the value of the Agriculture Sector year in and year out.

In 2016, there were 43,000 farms in Arkansas (USDA NASS, 2017a). These farms generated a net farm income of \$861 million (USDA ERS, 2017b). For 2015, Arkansas ranked 16th in total agricultural exports with a value of \$3.1 billion (USDA ERS, 2017c), ranking in the top ten in the nation for exports of seven commodities:

- No. 1 in rice (valued at \$859 million)
- No. 4 in broilers (valued at \$346 million)
- No. 6 in cotton (valued at \$166 million)
- No. 7 in other poultry (valued at \$104 million)
- No. 10 in soybeans (valued at \$790 million)
- No. 10 in soymeal (valued at \$201 million)
- No. 10 in vegetable oil (valued at \$123 million)





2015-2016

In 2016, Arkansas ranked 34th in overall GDP at \$120.7 billion (USDC BEA, 2017). However, when looking at the share of GDP generated by agriculture, forestry, fishing and hunting, Arkansas ranked 8th overall in the nation. In terms of agricultural cash receipts in 2016, Arkansas ranked 16th with a value of \$8.0 billion, contributing 2.3% to the U.S. total cash receipt value. Arkansas ranked 18th in total crop cash receipts at \$3.3 billion and 11th in total livestock cash receipts at \$4.7 billion (USDA ERS, 2017a).

In terms of value, Arkansas' top two commodities for 2016 were broilers and soybeans. Bringing in over \$3.1 billion, broiler production represented 39% of all agricultural cash receipts in the state. At over \$1.4 billion, soybeans contributed almost 18% to total Arkansas cash receipts in 2016. Rice also had a large contribution with 12.8% of total agricultural cash receipts (\$1 billion) for Arkansas.





Arkansas Agriculture Snapshot

On the national level, Arkansas continued to hold the rank of number 1 rice producer in the country with cash receipts comprising over 42% of the U.S. total cash receipts for rice in 2016.

Arkansas' total cash receipt value decreased 10% between 2015 and 2016. The largest decrease was seen in the animals and animal products sector, which lost almost 11% of its value from 2015 to 2016. The crops sector also experienced a loss in value of almost 9% during this time.

On the crop side, cotton production saw the greatest gain with cash receipt value increasing 26% during 2016. Corn value also grew by more than 6% during this time with soybeans gaining almost 3%. Sorghum showed the greatest overall loss, with cash receipt value dropping 90%. This was followed by wheat





*Percentage comparisons between 2015 and 2016 values are based on real 2017 dollars. That is, our numbers are adjusted for inflation, which allows for a true "apples to apples" comparison.

2015-2016

which dropped by almost 58%, oats (-30.3%), hay (-27.3%), sweet potatoes (-20.0%), rice (-16.3%), and cottonseed (-10.1%). The miscellaneous crops category gained almost 10% during this time. However, reporting of several specialty crop values, including beans, blueberries, grapes, peaches, pecans, tomatoes, and watermelons was discontinued, resulting in a lower overall cash receipt total for 2016. Peanuts were a new addition to the list, generating more than \$8 million in 2016.

On the animal production side, cattle and calves saw the greatest loss at almost 31%. This was followed by milk (-21.7%), chicken eggs (-16.3%), honey (-15.5%), and farm chickens (-10.7%). Catfish were the only animal production commodity to increase, with its value rising by 2.1%.





Economic Contribution of Ag

The total economic contribution of the Aggregate Agriculture Sector includes three areas of wealth and job generation.

- **Direct Contributions** are generated by production and processing of crops, poultry, livestock and forest products.
- Indirect Contributions result when agricultural firms purchase materials and services from other Arkansas businesses

 a very important part of the economy in many communities.
- Induced Contributions result when employees of agricultural firms and their suppliers spend a portion of their salaries and wages within Arkansas.

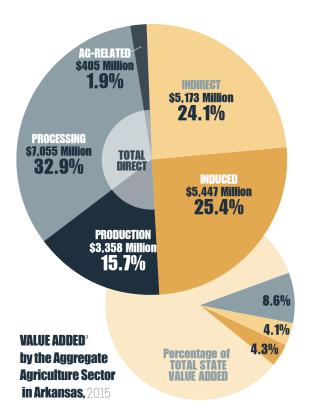
Government payments — payments made directly to some recipients in the farm sector — are included in the contribution analysis. Input providers (fertilizer, pesticide and equipment manufacturers) and retail locations (restaurants, grocery stores, lawn

and garden centers, etc.) are not considered part of the Aggregate Agriculture Sector, but some of the economic activity of these industries and other retail stores and input providers is picked up as indirect and induced effects and included in the total contribution.

These contributions are reported in terms of Jobs, Labor Income, and Value Added.

- Jobs includes all wage and salary employees, as well as self-employed workers in a given sector.
- Labor Income consists of proprietary income which includes all income received by self-employed individuals and wages, which includes all payments to workers including benefits.
- Value Added includes Labor Income plus indirect taxes and other property-type income such as payments for rents, royalties and dividends.
 Value Added and Gross Domestic Product (GDP) are equivalent measures in theory but are estimated using different methods and data sources.

Economic Contribution of Ag



Source: IMPLAN, 2017; English,

Popp, and Miller, 2017b. Note: Presented in current dollars.

[&]quot;Value added is the sum of employee compensation, proprietary income, other property type income and indirect business taxes. This includes contributions generated by agricultural production and processing, but excludes retail sales.

Agriculture contributes more than \$21 Billion in value added

WHICH IS APPROXIMATELY



Economic Contribution of Ag

Agriculture and associated agricultural activities are major contributors to the Arkansas economy. The total economic contribution of Arkansas' Aggregate Agriculture Sector includes all direct, indirect, and induced effects generated through agricultural production, processing, and agriculture- related activities within the state.

Total Contribution of Arkansas Agriculture, 2015

- 264,215 Jobs 1 out of 6 Arkansas jobs
- \$9,572 Million in Wages 15.2% of the state total
- \$12,788 Million in Labor Income 17.6% of the state total \$21,439 Million in

Value Added \$1 out of \$6 in Arkansas

Source: IMPLAN, 2017; English, Popp, and Miller. 2017b.



Value Added Contributions

Value Added By the Aggregate Agricultural Sector in AR, 2015				
Contribution Area	Value (Millions)	% of Total Contribution	% of State Total	
Direct	\$10,819	50.5	8.6	
Indirect	\$5,173	24.1	4.1	
Induced	\$5,447	25.4	4.3	
TOTAL	\$21,439	100	17.1	

The far-reaching contributions of agriculture are seen in the distribution of Value Addeda throughout the economy.

Value Added Generated by Ag in Top Five NAICS Industries		
industry	Value (Millions)	
Manufacturing	\$7,224	
Agriculture, Forestry, Fishing, and Hunting	\$3,763	
Wholesale Trade	\$1,854	
Real Estate Rental and Leasing	\$1,471	
Public Administration	\$911	
Top Five Total	\$15,223	
(71% of all Value Added generated by Agriculture)		

Source: IMPLAN, 2017; English, Popp, and Miller, 2017b.

^aValue added is the sum of employee compensation, proprietary income, other property type income and indirect business taxes. This includes contributions generated by agricultural production and processing, but excludes retail sales.

^bGroupings based on the U.S. Census Bureau's 2-digit North American Industry

Classification System (NAICS) aggregation.

Economic Contribution of Ag

Employment Contributions

Employment By the Aggregate Agricultural Sector in AR, 2015				
Contribution Area	Johs	% of Total Contribution	% of State Total	
Direct	134,082	50.7	8.4	
Indirect	52,257	19.8	3.3	
Induced	77,876	29.5	4.9	
TOTAL	264,215	100	16.6	

Arkansas' Aggregate Agriculture Sector generates employment in all 20 industries in the North American Industry Classification System (NAICS) used for economic analysis.

Jobs Generated by Ag in Top Five NAICS Industries ^a		
Industry	Johs	
Manufacturing	74,745	
Agriculture, Forestry, Fishing, and Hunting	60,442	
Health Care and Social Assistance	14,770	
Public Administration	13,843	
Retail Trade	12,160	
Top Five Total	175,959	
(67% of all Jobs generated by agriculture)		

Source: IMPLAN, 2017; English, Popp, and Miller, 2017b.
"Groupings based on the U.S. Census Bureau's 2-digit North American Industry
Classification System (NAICS) aggregation.

Labor Income Contributions

Labor Income By the Aggregate Agricultural Sector in AR, 2015			
Contribution Area	Value (Millions)	% of Total Contribution	% of State Total
Direct	\$6,822	53.4	9.4
Indirect	\$2,899	22.7	4.0
Induced	\$3,067	24.0	4.2
TOTAL	\$12,788	100	17.6

Value is further spread throughout the economy by the spending of labor income by individuals whose jobs are upheld by agriculture.

Labor Income Generated by Ag in Top Five NAICS Industries ^a		
Industry	Value (Millions)	
Manufacturing	\$3,747	
Agriculture, Forestry, Fishing, and Hunting	\$3,139	
Wholesale Trade	\$831	
Public Administration	\$743	
Health Care and Social Assistance	\$731	
Top Five Total	\$9,191	
(72% of all Labor Income generated by Agriculture)		

Source: IMPLAN, 2017; English, Popp, and Miller, 2017b *Groupings based on the U.S. Census Bureau's 2-digit North American Industry

Classification System (NAICS) aggregation.

Promoting Agricultural and Rural

Helping Grow Arkansas' Forestry Industry

Forests are among Arkansas' most valuable resources. Not only do they provide timber for paper, construction, and heating, but forests also help fuel local economies through outdoor recreation and tourism activities. Arkansas' forestlands' role in maintaining clean water, clean air, nutrient cycling and wildlife habitat is priceless.

The U of A System Division of Agriculture has many resources dedicated to forestry. Its Arkansas Forest Resources Center is a University of Arkansas System Center of Excellence. The Division works with the School of Forestry and Natural Resources at the University of Arkansas at Monticello, bringing together interdisciplinary expertise. The Center and School are headquartered at the University of Arkansas at Monticello campus, but their programs range statewide.

The Division of Agriculture conducts forestry research at several of its research and extension centers across Arkansas: the Batesville Livestock and Forestry Station, the Southwest Research and Extension Center in Hope, the Southeast Research and Extension Center in Monticello, the Pine Tree Station near Colt, and the Arkansas Agricultural Research and Extension Center in Fayetteville.

Sustainability



Arkansas has 19 million forested acres — a larger area than New Hampshire, New Jersey, Connecticut, Delaware and Rhode Island combined. Much of that land, 15.3 million acres, is in private hands. The federal government owns nearly 2.7 million acres in national forests and Department of Defense land. The state of Arkansas accounts for about 396,000 acres and the remainder, about 76,000 acres, is owned by counties and municipalities and other public entities.

Major Economic Impact

Every one job in forestry creates additional jobs elsewhere in Arkansas. Forestry industries provide jobs in 86 percent of all economic sectors in Arkansas through logging, solid wood products, furniture and

Promoting Agricultural and Rural

paper and pulp. Among 13 southern states, forestry makes the largest contribution to Arkansas' economy — more than 5 percent.

Economist Matthew Pelkki, associate director of the Arkansas Forest Resources Center and professor within the University of Arkansas System Division of



Agriculture based at the University of Arkansas at Monticello, said the logging and solid wood products side has been steadily improving since 2010; even the 2012-2014 IMPLAN data shows strong recovery in those sub-sectors.

Forests and the wildlife they harbor are also a significant source of tourism and recreation dollars. A 2016 article in the *International Journal of Environmental Studies* found that in 2011, hunting in Arkansas provided 10,181 jobs and \$609 million in value added (Poudel, Henderson, and Munn, 2016).

In 2015, growing stock in Arkansas timberlands continued to grow. Compared to 1978, Arkansas softwoods grew 48 percent to 366.8 million tons.

Sustainability

Hardwoods grew 64 percent to 532.8 million tons. Total growth among both major species groups was 57 percent. Timberlands were defined as land with the capacity to grow 20 cubic feet of timber per acre per year. Forestland, on the other hand, is defined as land that supports forest cover but has no productivity qualification.

Since 2014, there has been significant investment in Arkansas sawmills and paper mills, including the \$1.3 million Shandong Sun Paper Mill in Clark County and the Highland Pellets plant near Pine Bluff, which is expected to employ 75 people.

Driving growth in 2016 were the needs of an expanding housing market for flooring, cabinetry and framing, as well as rising demand for consumer products, along with its need for more packaging and pallets for shipping.

This growth is no small thing in a state whose economy is four times more dependent on the forestry industry than the United States as a whole. "So when the economy for wood products improves, Arkansas gets a real economic boost," Pelkki said.



Promoting Agricultural and Rural

The Center for Agricultural and Rural Sustainability

The mission of the Division of Agriculture's **Center for Agricultural and Rural Sustainability (CARS)** is to increase prosperity for rural Arkansas through sustainable practices. The Center has identified five major focus areas:

- Sustainability Indices measure key impact areas and trends over time, foster productive dialogue and promote progress toward sustainability.
- Contribution of Agriculture evaluate the annual contribution of agricultural production and processing sectors to the Arkansas economy.
- Regional Food Program conduct research, education and outreach to support and promote the value chain of Arkansas grown and raised foods from the farm to consumer levels.
- **Life Cycle Analysis** quantify the environmental and social impacts of a product by measuring the inputs and outputs associated with its supply chain.
- Wastes Reduction and Reuse Program support
 the sustainable agricultural production in Arkansas
 by developing cost effective technologies to convert
 production wastes into energy and/or value-added
 products through research, education and outreach.

Sustainability

CARS faculty and staff are currently leading a nationwide effort to examine and improve methods for determining the economic contribution of agriculture. They are internationally recognized leaders in the science of sustainable agriculture and have constructed a portfolio of life cycle assessments (LCAs) for various agricultural crops including cotton, cocoa, corn, dairy products, peanuts and pork which provide the baseline data necessary for agricultural sector-level strategies for increasing the safety, security and stability of U.S. products. Researchers continue working toward the goal of expanding access to high quality, locally produced food to Arkansans.



Center for Agricultural and Rural Sustainability

Promoting Agricultural and Rural

Agriculture's Contribution Across the U.S.

Economic impact and contribution analyses are an increasingly popular method for illustrating the importance of food, fiber, and forestry to state and local economies. In 2015, CARS researchers conducted a survey of agricultural economists which showed vast differences in methods used to conduct contribution studies. The survey results suggested a need for further discussion, as well as the development of additional resources to aid researchers in conducting these types of studies.

CARS researchers have taken the lead in opening this discussion and are working to develop resources for enhancing the consistency and clarity of contribution of agriculture research. To provide a central location for ongoing discussion and research, they have launched a website called The Economic Contributions and Impacts of U.S. Food, Fiber, and Forest Industries.

The website contains a list of known contribution and impact studies involving the food, fiber, and forest industries in the U.S. There are also several resources for researchers to reference,

Sustainability

as well as a forum for the discussion of various topics. It can be found by visiting wordpressua.uark.edu/food-fiber-forestry-impacts.

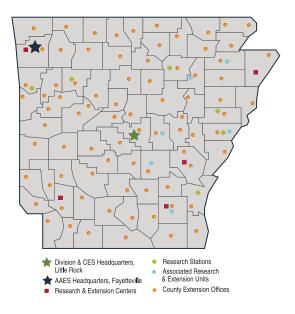
To have your study listed on the website, send an email to cars@uark.edu.



Arkansas Is Our Campus

The U of A System's 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 and Agricultural Experiment Station scientists, extension specialists and support personnel on five university campuses and at five research and extension centers and eight research stations.



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