Evaluating Economic Impacts of COVID-19

For Arkansas' Agriculture and Forestry Sectors in 2020

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&

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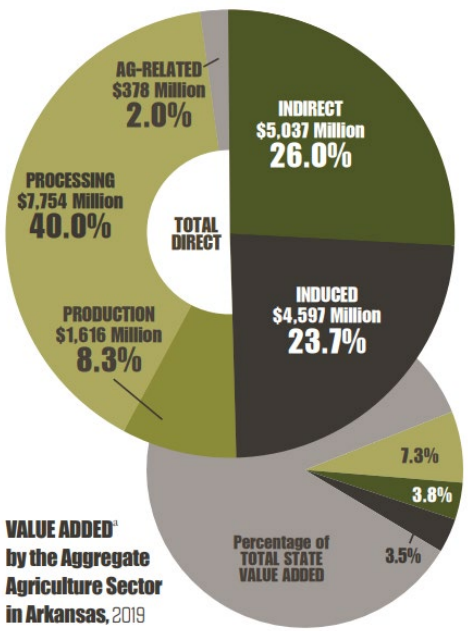
Background

Arkansas is in the top 25 states in the production of the following agricultural commodities: (2020 Production Year)[a]

- **No. 1 in Rice**
- **No. 3 in Broilers**
- **No. 3 in Cotton (upland)**
- **No. 3 in Cottonseed**
- **No. 4 in Catfish (foodsize)**
- **No. 4 in Turkeys**
- **No. 7 in Peanuts**
- **No. 10 in Chicken Eggs**
- **No. 11 in Beef Cows**[b]
- **No. 11 in Soybeans**
- **No. 18 in Corn for Grain**
- **No. 21 in Hay**
- **No. 22 in Oats**
- **No. 23 in Cattle & Calves**
- **No. 23 in Honey**
- **No. 24 in Hogs & Pigs**



VALUE ADDED[a] **by the Aggregate Agriculture Sector in Arkansas,** 2019

Arkansas Agriculture contributed **14.6% of the state value added** WHICH IS APPROXIMATELY **$19.4 Billion in value added**[a]**.**

In 2020 **42%** of Arkansas land was comprised of farms.

42,200 Farms on 14.0 million acres with an average farm size of 332 acres.

57% of the state is comprised of forests.

In 2019, Arkansas' top commodities

in terms of cash farm receipts[a] were:

Commodity	Cash receipts
Broilers	$3,610 Million
Soybeans	$1,198 Million
Rice	$1,065 Million
Chicken Eggs	$504 Million
Corn	$464 Million
Cattle/Calves	$452 Million
Timber	$445 Million[b]
Cotton Lint	$407 Million[c]
Turkeys	$334 Million

Source: Arkansas Agriculture Profile, Pocket Facts 2021

Background

<u>COVID-19 Factors Affecting Arkansas' Ag & Forestry Sectors</u>:

- **Restaurant, office, and school closures**
  - Food away from home (FAFH) → Food at home (FAH)
    - Producers and processors shift from wholesale to retail marketing (ag and forestry)
- **Panic Buying**
  - Agriculture Sector
    - Grocery purchases – canned / frozen goods
  - Forestry Sector
    - Toilet paper
    - Sanitary wipes
    - PPE
- **Demand Change for Food/Forest Products**
  - High-end meat cuts substituted for cheaper cuts/meats (shift to poultry)
  - New home construction fell (decreased demand for construction lumber)
  - Retail lumber sales soared

Background

<u>COVID-19 Factors Affecting Arkansas' Ag & Forest Sectors</u>:

- **April - May 2020** – outbreaks linked to meatpacking facilities
  - Close working/living conditions
  - Availability of personal protective equipment (PPE)
  - > 15 plants closed

- **April 28th** – President Trump signs executive order invoking Defense Production Act
  - Meatpacking plants are critical infrastructure that must remain open
  - ***Tyson Foods*** – Springdale, Arkansas

Background

COVID-19 Factors Affecting Arkansas' Ag & Forest Sectors:

- **Pre-COVID Financial Aid for Ag Producers**: (Row Crop Production)
  - Farm Bill
    - Market Facilitation Program (MFP)
    - Agricultural Risk Coverage (ARC)
    - Price Loss Coverage (PLC)
  - Trade Stimulus

- **Coronavirus Aid, Relief, and Economic Security (CARES) Act**:
  - Direct
    - Coronavirus Food Assistance Program (CFAP)
    - Paycheck Protection Program (PPP)
    - Economic Injury Disaster Loan Program (EIDL)
  - Indirect
    - Economic Impact Payments (EIP) – "stimulus checks"
    - Federal Pandemic Unemployment Compensation (FPUC) – "enhanced unemployment"

Study Objective

Evaluate the economic impact of COVID-19 for Arkansas' agriculture and forestry sectors in 2020

- **IMPLAN Data:**
  - **Agriculture Sector**
    - Crop and Livestock Production
    - Crop and Livestock Processing
  - **Forestry Sector**
    - Forestry Production
    - Forestry Processing
  - **Ag & Forestry Related (IMPLAN 17-19)**
    - Commercial fishing, hunting, and trapping
    - Support activities for ag and forestry

- **State and County-Level Analyses –** Compared 2019 to 2020

State-Level Contribution Analysis

<u>IMPLAN Pro Software</u> - Methods for conducting a multi-industry contribution analysis

- **<u>Key Findings</u>**: (Aggregate Ag & Forestry)
  - Minimal shifts in direct economic contributions
  - Indirect contributions increased
  - Induced contributions fell substantially

While ag and forestry showed resilience as a whole, individual industries saw offsetting gains/losses

	Employment (Jobs)			Labor Income (Million 2020 $'s)			Value Added (Million 2020 $'s)		
	2019	**2020**	**Change**	**2019**	**2020**	**Change**	**2019**	**2020**	**Change**
Direct	144,928	144,358	-0.4%	6,743	6,816	1.1%	9,872	9,861	-0.1%
Indirect	49,873	50,534	1.3%	2,965	3,105	4.7%	5,101	5,245	2.8%
Induced	59,675	48,273	-19.1%	2,602	2,159	-17.1%	4,655	3,870	-16.9%
Total Contribution	***254,476***	***243,165***	***-4.4%***	***12,310***	***12,079***	***-1.9%***	***19,628***	***18,977***	***-3.3%***

State-Level Contribution Analysis

<u>Key Findings</u>: (Ag Sector)

Ag sector showed growth from 2019 to 2020 (direct contributions)

- **<u>Ag Production</u>**
  - Growth stemmed primarily from Crop Production (except for value added)
  - Livestock production declined
- **<u>Ag Processing</u>**
  - Employment held steady
  - LI and VA increased

	Employment (Jobs)			Labor Income (Million 2020 $'s)			Value Added (Million 2020 $'s)		
	2019	**2020**	**Change**	**2019**	**2020**	**Change**	**2019**	**2020**	**Change**
Agriculture Sector	***106,613***	***107,229***	***0.6%***	***4,542***	***4,704***	***3.6%***	***5,811***	***6,583***	***13.3%***
Ag Production	**48,684**	**49,288**	**1.2%**	**1,570**	**1,514**	**-3.6%**	**1,360**	**1,196**	**-12.1%**
Crop Production	27,367	31,207	14.0%	1,110	1,178	6.1%	751	703	-6.3%
Livestock Production	21,317	18,081	-15.2%	459	336	-26.8%	610	493	-19.1%
Ag Processing	**57,929**	**57,941**	**0.0%**	**2,972**	**3,190**	**7.3%**	**4,451**	**5,386**	**21.0%**
Crop Processing	19,962	19,905	-0.3%	1,125	1,192	6.0%	2,000	2,556	27.8%
Livestock Processing	37,967	38,036	0.2%	1,847	1,998	8.1%	2,451	2,830	15.5%

State-Level Contribution Analysis

Key Findings: (Forest Sector)

Forest sector declined from 2019 to 2020 (direct contributions)

- Employment decline was in forest processing industries
- All industries saw declines in labor income and value added
  - Labor income drop larger for forest production industries
  - Pulp and paper showed largest drop in value added

	Employment (Jobs)			Labor Income (Million 2020 $'s)			Value Added (Million 2020 $'s)		
	2019	2020	Change	2019	2020	Change	2019	2020	Change
Forestry Sector	*27,702*	*26,515*	*-4.3%*	*1,831*	*1,757*	*-4.0%*	*3,677*	*2,908*	*-20.9%*
Forest Production	**4,141**	**4,228**	**2.1%**	**276**	**233**	**-15.5%**	**276**	**239**	**-13.3%**
Forestry	535	553	3.3%	39	33	-15.3%	38	35	-10.2%
Logging	3,606	3,675	1.9%	237	200	-15.6%	237	205	-13.7%
Forest Processing	**23,561**	**22,287**	**-5.4%**	**1,555**	**1,524**	**-2.0%**	**3,401**	**2,668**	**-21.5%**
Solid Wood Products	10,321	9,938	-3.7%	565	573	1.4%	1,079	990	-8.2%
Pulp and Paper	9,648	9,031	-6.4%	832	797	-4.2%	2,093	1,461	-30.2%
Furniture	3,592	3,318	-7.6%	158	153	-2.6%	230	217	-5.4%

County-Level Comparison

IMPLAN Study Area Data

- **2019** - AR county data
- **Evolving Economy** – AR county data
  - 2020-Q2
  - 2020-Q3
- **2020** - AR county data
- Direct contributions only

Out of **75 counties:**

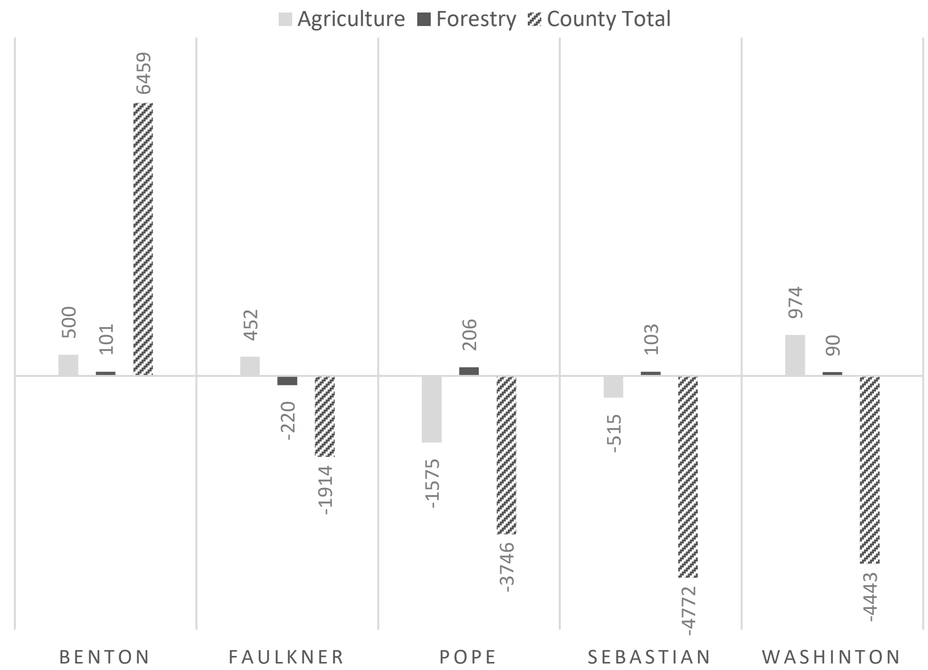
- 20 saw gains in total county employment
- 40 saw gains in ag sector employment
- 39 saw gains in forest sector employment

5 counties showing the most substantial shifts (increasing or decreasing) in ag and/or forestry employment were selected for analysis.

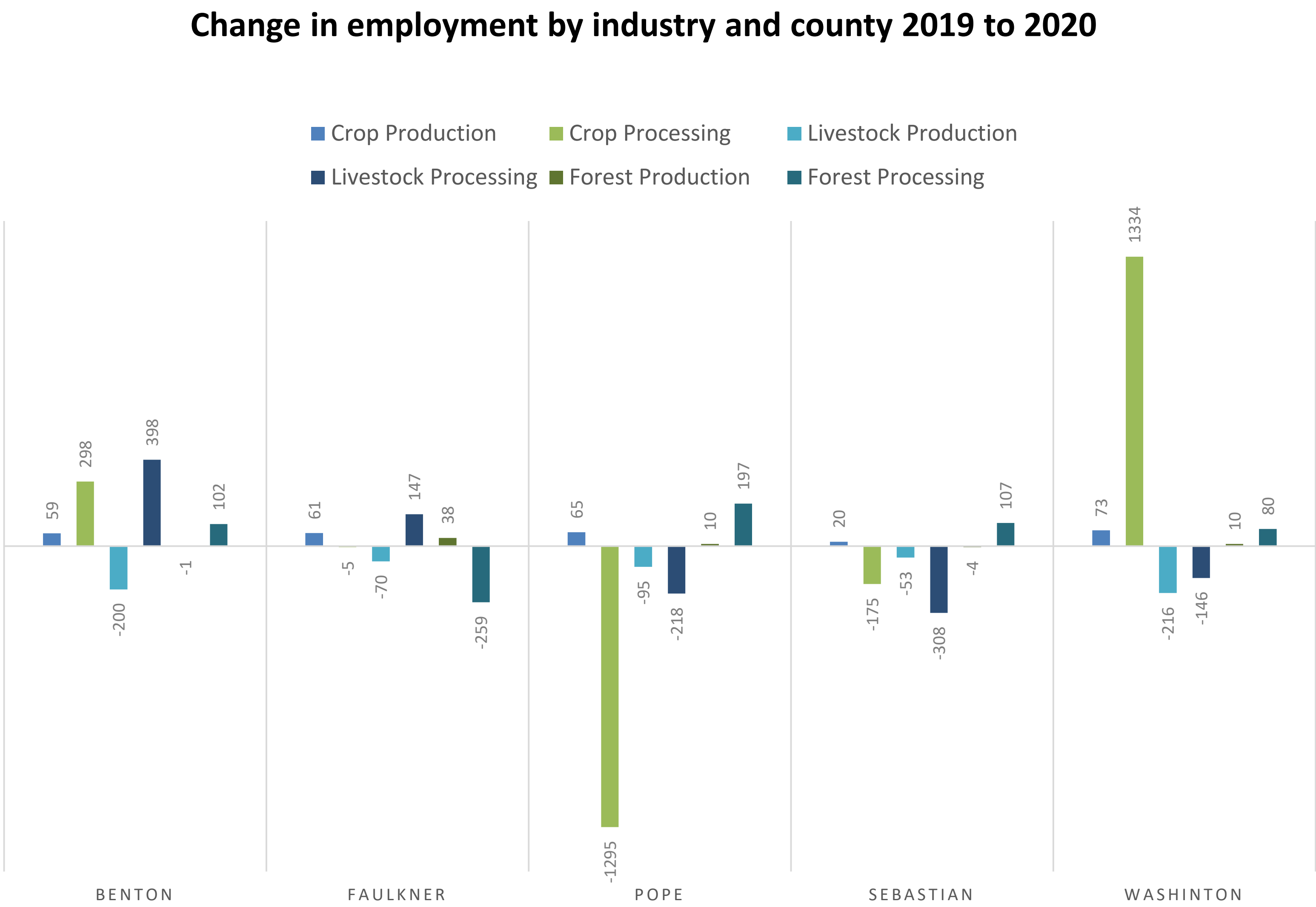
County-Level Comparison

Change in employment by sector and county 2019 to 2020

County	Agriculture	Rank	Forestry	Rank	County Total	Rank
Benton	500	2	101	3	6459	1
Faulkner	452	3	-220	73	-1914	70
Pope	-1575	75	206	1	-2746	71
Sebastian	-515	74	103	2	-4772	74
Washington	974	1	90	4	-4443	73



County-Level Comparison



County-Level Comparison

Quarterly Shifts:

- Livestock production grew in Q2, fell in Q3
- Livestock processing grew in Q2, fell in Q3, signs of rebound
- Forest production grew in Q2, fell in Q3, signs of rebound
- Forest processing volatile – panic buying / closures & stay at home

	Change in Employment														
	2019 to 2020-Q2					2020-Q2 to 2020 Q3					2019 to 2020 (annual)				
	Benton	Faulkner	Pope	Sebastian	Washington	Benton	Faulkner	Pope	Sebastian	Washington	Benton	Faulkner	Pope	Sebastian	Washington
County Total	-6.2%	-6.6%	-2.0%	-5.9%	-7.5%	0.6%	0.8%	0.4%	1.4%	0.8%	3.8%	-3.1%	-7.6%	-5.6%	-2.9%
											0.0%	0.0%	0.0%	0.0%	0.0%
Ag & Forest Sector Total	-2.6%	16.6%	-0.4%	6.7%	-2.6%	-1.9%	-4.7%	-1.9%	-2.7%	-3.6%	5.7%	7.8%	-28.6%	-6.3%	9.1%
Agriculture Sector	*0.2%*	*8.6%*	*2.1%*	*6.5%*	*-1.4%*	*-2.4%*	*-5.7%*	*-2.9%*	*-2.7%*	*-3.3%*	*6.1%*	*11.4%*	*-43.9%*	*-10.9%*	*10.8%*
Ag Production	**2.8%**	**4.1%**	**3.7%**	**4.4%**	**3.2%**	**-4.2%**	**-7.2%**	**-5.5%**	**-6.4%**	**-5.0%**	**-7.7%**	**-0.9%**	**-3.7%**	**-6.2%**	**-7.3%**
Crop Production	-0.1%	5.1%	5.3%	0.9%	0.5%	-6.1%	-7.1%	-7.1%	-7.7%	-6.7%	24.6%	10.4%	27.4%	24.2%	22.2%
Livestock Production	3.2%	2.5%	3.1%	5.0%	3.7%	-3.9%	-7.3%	-4.8%	-6.2%	-4.7%	-12.5%	-18.0%	-16.6%	-11.9%	-13.2%
Ag Processing	**-0.5%**	**30.6%**	**1.6%**	**6.8%**	**-2.6%**	**-1.9%**	**0.0%**	**-2.1%**	**-2.3%**	**-2.8%**	**9.5%**	**70.6%**	**-55.9%**	**-11.5%**	**15.5%**
Crop Processing	-13.4%	-3.3%	4.7%	16.4%	-20.4%	0.6%	2.6%	-0.7%	0.7%	-0.3%	9.5%	-3.5%	-94.8%	-14.6%	48.6%
Livestock Processing	9.1%	96.9%	-1.6%	2.9%	7.4%	-3.4%	-2.5%	-3.6%	-3.6%	-3.8%	9.5%	215.5%	-16.3%	-10.3%	-3.0%
Forestry Sector	*-25.5%*	*20.8%*	*-7.7%*	*6.7%*	*-17.7%*	*2.7%*	*-4.1%*	*-1.4%*	*-2.5%*	*-5.0%*	*10.7%*	*-12.4%*	*34.2%*	*5.7%*	*7.7%*
Forest Production	**50.0%**	**69.5%**	**12.0%**	**22.5%**	**176.7%**	**-8.2%**	**-10.9%**	**-2.8%**	**-7.5%**	**-10.3%**	**-2.5%**	**19.7%**	**11.2%**	**-18.9%**	**8.8%**
Forestry	167.2%	3.8%	1.7%	5.4%	5.3%	-6.6%	-0.4%	-0.8%	-0.3%	-0.4%	-60.0%	-3.4%	0.8%	3.2%	5.5%
Logging	16.5%	70.4%	12.1%	25.3%	192.6%	-9.3%	-11.0%	-2.8%	-8.5%	-10.7%	13.9%	20.0%	11.3%	-22.6%	9.1%
Forest Processing	**-29.5%**	**14.8%**	**-11.0%**	**6.5%**	**-39.7%**	**4.0%**	**-2.9%**	**-1.1%**	**-2.5%**	**-2.2%**	**11.4%**	**-16.3%**	**38.1%**	**6.0%**	**7.6%**
Solid Wood Products	-23.2%	5.8%	-13.9%	-21.1%	-18.6%	-0.2%	-1.1%	-0.8%	-2.6%	-3.5%	235.2%	-25.6%	-0.7%	1.2%	35.5%
Pulp and Paper	-15.2%	22.6%	-1.0%	19.9%	-56.8%	-2.5%	-2.4%	-2.1%	-2.3%	-2.6%	11.4%	-18.2%	161.4%	3.0%	-8.9%
Furniture	-33.8%	-2.4%	-100.0%	-6.5%	5.3%	6.5%	-4.3%	-	-2.8%	3.8%	-1.5%	-11.1%	46.3%	19.7%	16.6%
Ag and Forest Related	*-12.0%*	*223.5%*	*-6.9%*	*46.2%*	*3.3%*	*1.7%*	*-6.1%*	*3.5%*	*-4.4%*	*-6.0%*	*-14.4%*	*3303.6%*	*-4.8%*	*3.7%*	*-7.6%*

Conclusions

- At the state-level, aggregate ag and forestry in Arkansas experienced relatively minor economic losses throughout the first year of the pandemic.
  - Livestock producers/processors more heavily affected than crop industries.
  - Forestry shows decline and slower recovery
- Impacts more pronounced at the county-level
  - Many industries experienced volatility in 2020-Q2 and 2020-Q3
  - Stabilization occurred by the end of 2020 for crop industries
  - Potential long-term impacts for livestock and forest industries
- Evidence that ag and/or forest industries likely played a role in mitigating job losses in some areas disproportionately affected by the pandemic.

Thanks for listening!

Please feel free to direct any advice, comments, questions to:

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Background

Timeline of COVID-19 in Arkansas: (2020)

- March 11 – first detected case
- March 15 – twelve cases and evidence of community spread
- March 17 – public schools and casinos closed
- March 19 – restaurants, bars, indoor entertainment venues, gyms closed
- By April all non-essential in-person operations were closed with social distancing protocols issued for essential businesses
- May 11 – restaurants could resume dine-in service at 1/3 capacity
- June – restrictions further loosened
- August 24 – in-person instruction for universities and public schools

Restrictions varied in some areas (particularly for social distancing and mask-wearing), but these protocols were followed for most locations.