Examining How Minority Farmers Can Effectively Participate in Mississippi's Medical Marijuana Initiative
January 8, 2021

Alcorn
SCHOOL OF AGRICULTURE AND APPLIED SCIENCES

Mississippi Urban Research Center

Alcorn
SOCIALLY DISADVANTAGED FARMERS AND RANCHERS POLICY RESEARCH CENTER

Alcorn
EXTENSION PROGRAM
Empowering People

SOUTHERN UNIVERSITY LAW CENTER

CANNABIS COMPLIANCE, LAW & POLICY INSTITUTE

Examining How Minority Farmers Can Effectively Participate in Mississippi's Medical Marijuana Initiative
January 8, 2021

Introduction

Medical Marijuana 2020 began to make medical marijuana available to Mississippians suffering from medical conditions classified as debilitating. A petition, signed by 228,000 Mississippians, was successful in getting ***Initiative 65*** on the ballot for the November 3, 2020 election. Voters in Mississippi approved the citizen-led Initiative 65 by a 74% majority to allow doctors to prescribe medical marijuana for 22 debilitating conditions, which requires changes in the Mississippi State Constitution.

Relevant sections of the Mississippi State Constitution include:

- ***Section 2***, which provides rules surrounding criminal sanctions and liability for the use of medical marijuana, obtained from a medical marijuana treatment center, for a debilitating medical condition. This section prevents criminal and civil sanctions for qualified patients or caregivers, physicians, and medical treatment centers and other entities for participation surrounding medical marijuana.
- ***Section 4***, which defines the terminology for medical marijuana, medical marijuana treatment center, and process.
    - Medical Marijuana is defined in Section 41-29-105(r) as all parts of the plant of the genus Cannabis and all species thereof, whether growing or not, the seeds thereof, and every compound, manufacture, salt, derivative, mixture or preparation of the plant or its seeds, excluding hashish.
    - Medical Marijuana Treatment Center is defined as an entity that is registered with and licensed and regulated by the department and that processes medical marijuana, related supplies, and/or education materials. The treatment center may participate in one or more of the activities involved in processing marijuana.
    - Processing means to acquire, administer, compound, convert, cultivate, develop, disperse, dispense, distribute, grow, harvest, manufacture, package, possess, prepare, process, produce, propagate, research, se, test, transport, or transfer medical marijuana or related products such as foods, tinctures, aerosols, oils, or ointments.
- ***Section 5*** explains that the rules and regulations implemented, administered, and enforced by the department of health shall not limit the number of licensed medical marijuana treatment facilities or set the price of the medical marijuana. These same rules require that the Department of Health issue a license for a treatment center within a reasonable time following the application for license. The final rules and regulations pursuant to the article shall be adopted no later than July 1, 2021, and the treatment center licenses shall be issued no later than august 15, 2021.
- S*ection 8* specifies that no medical marijuana treatment center shall be located within five hundred feed of a pre-existing school, church, or licensed childcare center.

In late November 2020, **the Socially Disadvantaged Farmers and Ranchers (SDFR) Policy Research Center (The Policy Center)** located at **Alcorn State University**, one of two land

grant universities in the State of Mississippi, was asked to partner with **Jackson State University** to conduct research on what is required for minority farmers in Mississippi to be active participants in the growth and production of Medical Marijuana. A project team consisting of staff from Alcorn State University's School of Agriculture and Applies Sciences, the Policy Center, Jackson State University's Mississippi Urban Research Center and Public Policy & Administration Areas and Southern University's Cannabis Compliance, Law, & Policy Institute was formed to conduct the research. ***(See Appendix I for a list of project team members)***

The project team's objectives were to: (1) determine what is required for the production and distribution of medical marijuana, (2) determine the level of interest and knowledge of minority farmers in the production and distribution of medical marijuana, and (3) determine the resource needs of minority farmers for the successful production and distribution of medical marijuana, i.e... training, equipment, financial needs, policy changes, and other needs. The project team made the decision to expand the research to include interest in industrial hemp because preliminary scans revealed that more farmers outside Mississippi were engaged in the growth and production of industrial hemp than medical marijuana.

General Requirements for Production and Distribution of Medical Marijuana/Industrial Hemp

- **Cannabis**
  - A plant of the genus Cannabis, most notably hemp, C. sativa; any of the various parts of the plant, especially the leaves and flowering tops of C. sativa, from which hashish, marijuana, bhang, and similar mildly euphorigenic and hallucinogenic drugs are prepared.
  - A group of three plants with psychoactive properties, known as Cannabis sativa, cannabis indica, and cannabis ruderalis[2]
  - The cannabis plant has over 120 different compounds that have been identified. The most common of those compounds are cannabidiol (CBD) and tetrahydrocannabinol (THC).

- **Marijuana**
  - According to the Controlled Substance Act, marijuana is defined as all parts of the plant Cannabis sativa L, whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seed or resin. The Drug Enforcement Agency has five (5) drug schedules with Schedule I being the most restricted drugs and Schedule V being the least restrictive drugs. The following factors are used to determine in which schedule a drug is classified: (1) its actual or relative potential for abuse; (2) scientific evidence of its pharmacological effect, if known; (3) the state of current scientific knowledge regarding the drug or other substance; (4) its history and current pattern of abuse; (5) the scope, duration, and significance of abuse; (6) what, if any, risk there is to the public

health; (7) its psychic or physiological dependence liability; (8)whether the substance is an immediate precursor of a substance already controlled. Marijuana is listed as a Schedule I drug, which means that it has been determined that marijuana has no accepted medical used and a high potential for abuse.

- Despite marijuana currently being federally illegal, 36 states have legalized marijuana for medicinal use and 16 of those states have also legalized marijuana for recreational or adult use. Each state that has legalized marijuana has an intricate and complex set of regulations that appear to be based in part on the priorities listed by the federal government in a United Stated Department of Justice Memorandum written by Deputy Attorney General James M. Cole. The priorities of the federal government are as follows: (1) preventing the distribution of marijuana to minors; (2) preventing the sale of marijuana from going to criminal enterprises, gangs, and cartels; (3) preventing the diversion of marijuana from states where it is legal under state law in some form to other states; (4) preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity; (5) preventing violence and the use of firearms in the cultivation and distribution of marijuana; (6) preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use; (7) preventing the growing of marijuana on public lands and the attendance public safety and environmental dangers posed by marijuana production on public lands; and (8) preventing marijuana possession or use on federal property.
- In December 2020, the House passed legislation that would end the federal ban on marijuana. The Marijuana Opportunity Reinvestment and Expungement Act (MORE Act) garnered support from both sides of the aisle, passing with a 228-164 vote in the House. Under the terms of the bill, marijuana would be removed from the Controlled Substances Act.

- **Industrial Hemp**
  - Industrial hemp is defined as the plant Cannabis sativa L and any part of the plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis. The 2018 Agricultural Improvement Act classified hemp as an agricultural commodity. Regulation of industrial hemp was vested in the United States Department of Agriculture (hereinafter "USDA). The USDA then gave the authority to each state department of agriculture to regulate hemp within its borders. States are required to submit a plan to the USDA for approval. The plan in short should a state's tracking and testing system for hemp and the production thereof.
  - While the USDA regulated the growth and production of industrial hemp, there was nothing in the Agricultural Improvement Act that regulated the extraction and production of compounds, such as CBD, that are derived from industrial hemp.

Some states such as Louisiana have regulated the sale of CBD products within its borders.

Land Requirements in Medical Marijuana Growth and Production

- The necessity of space for producing and cultivating medical marijuana is dependent on whether the farmer plans to utilize an indoor or outdoor grow space. A grower can comfortably fit at least six plants in a closet, so with a half an acre to several acres of land there is quite a lot of possibility. The amount of space needed is also dependent on the types of strains being grown, as some require more space than others. With greenhouses and indoor growing there is more opportunity for growing with little space and keeping a perpetual harvest, continuous monetary gain, and farmers not being at the mercy of the elements. Based on the information, medical marijuana indoor is 2000 square feet. If a farmer owns at least one acre of land, he or she would in turn be able to create at least 20 separate grow spaces depending on the types of marijuana plants being farmed. Another aspect to be considered is that indoor production allows for at least 4-6 harvests per year, whereas outdoor production allows for 1-3 harvests per year. While the grounds may be fertile enough to farm medical grade marijuana because of these factors, it may be safer to encourage indoor growth and production of cannabis.
- The cost to farmers to purchase the plants and seeds and licensing and inspection costs are currently unknown, as there is no information on what the state of Mississippi plans are for supplying these materials. The Legislative Budget Office Fiscal Analysis, attached to Initiative 65, estimates that in the first year the State of Mississippi expects to spend $5,000,000 on plants and seeds to sell and the anticipated revenue for commercial licenses are at $500,000.
- For perspective, it is estimated that the initial investment for Cannabis cultivation indoor averages around $830,000. This estimate includes a space for farmers who do not own their land. The average direct cost of growing cannabis yearly is around $180,000 or $516 per pound. This includes all growing materials, direct labor costs, and taxes. For sales at around 1,400 pounds per year the gross profit looks to be around $1,000,000 after revenue and direct costs are calculated. This assumes that everything is successful surrounding planting, harvesting, packaging, and selling. These costs and gross profits are averaged based on indoor growth and cultivation.

Other Requirements for Medical Marijuana

- **Grow Space**:
    - The grow will need to be large enough to be sectioned off into five separate rooms.
    - Room 1 will contain mother plants to which cuttings will be taken to produce clones. 10x10 100sqft
    - Room 2 will contain immature plants/clones until plants develop root balls and are ready be transitioned into next phase. 10x10 100sqft
    - Room 3 will contain plants in the vegetative stage. 15 x 15 225sqft

  - Room 4 will contain flowering plants. 30 x 30 900sqft
  - Room 5 will be for dry/cure and storage. 20x 20 400sqft
- **Lighting**:
  Each of the grow spaces should be equipped with light appropriate for the stage of life that the plant is in.
  - Mother plants would need full power full spectrum lighting (1000w).
  - Immature plants would require low powered lighting (300w).
  - Vegetative plants can be grown under intermediate (600w) or full power lighting (1000w) grower's preference.
- **Irrigation:**
  Irrigation needs are based on the grower's preference. Irrigation may be as complex as building a completely automated system which mixes and dispenses nutrients as well as monitoring the ph of the water, or as simple as hand watering from containers which someone has measured and mixed nutrients in order to dispatch to the plants.
- **Pest Management Plan**
  - Grower will need to establish routine to manage pest and contaminates in the grow space. Due to the nature of the conditions of the grow space, growers will need to employ measures to prevent mold and mildew from developing on the plants as well as managing insects that find their way into the grow.
- **Grow environment**
  - The conditions must be maintained at a level which is ideal optimum plant growth, which varies from phase to phase. Ideally each room is independently managed, maintaining proper temperature, humidity, and air circulation. For medical grows, each room should have a closed loop air system which scrubs and filters the air in the room in order rid the space of any potential contaminants as well as preventing potential cross contamination from room to room. Each time plants are transitioned into a space; the new space should be sanitized prior to new plants being introduced.
- **Dry Cure**
  - This is the area in which harvested plants will be hung, dried, and stored until refined into a cannabis product. It is very critical that the conditions in this space are monitored and managed accordingly in order to prevent drying plant from developing mold and/or mildew.

Requirements for Industrial Hemp

- Requirements for industrial hemp are described in the final Report to Legislature from the MS Hemp Cultivation Task Force dated December 3, 2019 and therefore, are not repeated here.
  - The Task Force found that:
    "Current challenges facing the industry include the need to establish agricultural supply chains, breed varieties with desired and known attributes, upgrade harvesting equipment, modernize processing and manufacturing, and identify new market opportunities. Although economic studies differ in their forecasts, it is possible that hemp may be slightly more profitable than traditional row crops, but

likely less profitable than other specialty crops. Uncertainty about long-run demand for hemp products and the potential for oversupply are among possible downsides of potential future hemp production. Additionally, many estimates of projected profitability do not consider the additional costs of growing hemp in a regulated market (i.e., costs associated with licensing, monitoring, and verification of commercial hemp.)"

- The Task Force concluded that:
  "The possibility of creating a hemp cultivation program in Mississippi presents opportunities for viable new alternative crops for farmers, but probably will not represent a large boon for most growers compared to the yields with other specialty crops. It is important to manage these economic expectations on the part of farmers aspiring to grow. On the other hand, a coordinated development – with established private sector partners - of key industry components in the state, which take advantage of the Cannabis research expertise here, the experience with getting Cannabis extract product into clinical evaluation, and the robust natural products research enterprise in the state, could allow creation of a unique "niche" for Mississippi – in a public-private partnership targeting products that can be moved into a clinical research pipeline and support development of elite CBD supplement products (if the FDA allows) or of new botanical drugs.

  (See Appendix II for the final report from the Mississippi Hemp Cultivation Task Force dated December 3, 2019)

Target Participation

The focus of this research is participation by socially disadvantaged farmers and ranchers, specifically black farmers because of the decline in black farmers. Black Farmers are the only group where there has been a significant decline. The number of Black farmers peaked at nearly one million (~14% of the U.S. farm population) between 1910 and 1920, followed by a precipitous decline to under 50,000 (a mere 1.4% of farms according to 2017 NASS data). While there are several socioeconomic factors related to this drop, discriminatory United States Department of Agriculture (USDA) policies have certainly played a large role.***)*** Unless there are programs targeted for black farmers or there are set asides for black farmers to be able to be active participants in targeted programs, black farmers are projected to become extinct.

Socially Disadvantaged Farmers

- The Consolidated Farm and Rural Development Act defines a **socially disadvantaged group** as one whose members have been subject to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities. USDA regulations further define **socially disadvantaged farmers and ranchers (SDFR)** as belonging to the following groups: American Indians or Alaskan Natives, Asians, Blacks or African Americans, Native Hawaiians or other Pacific Islanders, Hispanics, and women. The 2018 Farm Act includes dedicated funding

providing increased cost share, loss compensation and loan assistance to SDFR, as well as provisions to incentivize research on issues faced by SDFR.

- According to a GAO analysis of the 2017 Census of Agriculture, SDFR accounted for 41 percent of all producers. Of these SDFRs 88.3 percent were women of any race, 8.1 percent were Hispanic, 4.2 were American Indian or Alaska Native, 3.3 percent were Black or African American and 1.6 percent were of Asian descent. In 2017, 30 percent of all farms were SDFR farms - meaning a SDFR was the principal operator. On average, SDFR farms were smaller and brought in less revenue than non-SDFR farms in 2017. These SDFR farms operated 21 percent of all acres and produced 13 percent of the total market value of production. The number of black farmers, black-owned farms, and farmland (acreage) operated by Black principal operators continues to decline. (***See Appendix III for profile of socially disadvantaged farmers and ranchers and Appendix IV for analyses of black farmers in Mississippi from the 2017 USDA Census.***

Profile of Black Farmers in Mississippi

2017 CENSUS OF AGRICULTURE *Race/Ethnicity/Gender Profile*

Mississippi
Farms with Black or African American Producers[a]

Total and Per Farm Overview, 2017

	Farms with Black/African American Producers	All Farms
Number of farms	4,984	34,988
Land in farms (acres)	658,933	10,415,136
Average size of farm (acres)	132	298
Total	($)	($)
Market value of products sold	175,641,000	6,195,968,000
Government payments	13,665,000	213,785,000
Farm-related income	9,355,000	208,081,000
Total farm production expenses	176,489,000	4,386,538,000
Net cash farm income	22,172,000	2,231,297,000
Per farm average	($)	($)
Market value of products sold	35,241	177,088
Government payments (average per farm receiving)	7,600	14,986
Farm-related income	6,833	18,846
Total farm production expenses	35,411	125,373
Net cash farm income	4,449	63,773

Share of Sales by Type (%)

Crops	55
Livestock, poultry, and products	45

Land in Farms by Use (%) [b]

Cropland	45
Pastureland	27
Woodland	22
Other	7

Land Use Practices (% of farms)

No till	6
Reduced till	6
Intensive till	12
Cover crop	3

Farms by Value of Sales

	Number	Percent [b]
Less than $2,500	2,303	46
$2,500 to $4,999	730	15
$5,000 to $9,999	700	14
$10,000 to $24,999	678	14
$25,000 to $49,999	272	5
$50,000 to $99,999	125	3
$100,000 or more	176	4
Total	4,984	100

Farms by Size

	Number	Percent [b]
1 to 9 acres	433	9
10 to 49 acres	1,724	35
50 to 179 acres	2,041	41
180 to 499 acres	612	12
500 to 999 acres	86	2
1,000 + acres	88	2
Total	4,984	100

USDA **United States Department of Agriculture**
National Agricultural Statistics Service
www.nass.usda.gov/AgCensus

Page 2 - **Farms with Black/African American Producers Mississippi, 2017**

2017 CENSUS OF AGRICULTURE *Race/Ethnicity/Gender Profile*

Market Value of Agricultural Products Sold	Sales ($1,000)	No. of Farms
Total	**175,641**	**4,984**
Crops	**96,142**	**1,570**
Grains, oilseeds, dry beans, dry peas	74,707	591
Tobacco	-	-
Cotton and cottonseed	10,113	26
Vegetables, melons, potatoes, sweet potatoes	4,069	351
Fruits, tree nuts, berries	885	88
Nursery, greenhouse, floriculture, sod	745	38
Cultivated Christmas trees, short rotation woody crops	6	4
Other crops and hay	5,617	641
Livestock, poultry, and products	**79,499**	**2,644**
Poultry and eggs	(D)	188
Cattle and calves	19,551	2,285
Milk from cows	15	3
Hogs and pigs	(D)	129
Sheep, goats, wool, mohair, milk	163	154
Horses, ponies, mules, burros, donkeys	(D)	141
Aquaculture	17	9
Other animals and animal products	68	25

Total Producers [c]	**7,028**
Sex	
Male	5,110
Female	1,918
Age	
<35	279
35 – 64	3,652
65 and older	3,097
Primary occupation	
Farming	3,277
Other	3,751
Days worked off farm	
None	2,872
1 to 199	1,824
200 +	2,332
Other characteristics	
Hispanic/Latino/Spanish	55
With military service	1,029
New and beginning farmers	1,890
Average age (years)	*61.6*

Top Crops in Acres [d]

Soybeans for beans	138,876
Forage (hay/haylage), all	55,447
Corn for grain	20,249
Cotton, all	13,795
Rice	(D)

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	(D)
Cattle and calves	91,819
Goats	4,527
Hogs and pigs	10,910
Horses and ponies	4,925
Layers	85,754
Pullets	775
Sheep and lambs	887
Turkeys	(D)

Percent of farms that:

Have internet access	55
Farm organically	(Z)
Sell directly to consumers	3
Hire farm labor	31
Are family farms	96

Demographic Data in the Census of Agriculture

The agriculture census is a complete count of U.S. farms and ranches and the people who operate them. Demographic information is available at national, state, and county levels, and for classes of farm and congressional districts. Results from the 2017 Census and earlier are available through the searchable database Quick Stats, the new Census Data Query Tool, downloadable PDF reports, maps, and topic-specific Highlights and Profiles.
See also the video "What's New in the 2017 Census?"(www.nass.usda.gov/Newsroom/Video_Features/index.php).

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.
[a] This race alone or in combination with other races. [b] May not add to 100% due to rounding. [c] Data collected for a maximum of four producers per farm. [d] Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. [e] Position below the line does not indicate rank.
(D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

Summary of Research Survey Findings & Responses

This report presents a summary of key survey findings and responses provided by socially disadvantaged farmers (SDFR) in Mississippi. The survey focused on gauging the level of interest by SDFR in Mississippi's recently approved Medical Marijuana Program. Survey findings help inform potential policy and programmatic recommendations addressing how SDFR could successfully participate in Mississippi's Medical Marijuana Program. Additionally, the survey asked participants several questions related to their levels of interest and knowledge regarding Mississippi's Industrial Hemp Program.

The survey's methodology began with the drafting of a survey instrument by the project team members. Two versions of the survey instrument distributed included a paper version (***Appendix V)*** and an online electronic version. Next, project team members identified Community Based Organizations (CBOs) representing SDFR with members in Mississippi and SDFR who had participated in Alcorn State University's small farmer or other outreach programs to distribute the survey instruments for completion. The instrument was distributed to over 300 minority farmers. The Qualtrics Online Survey portal received the electronic responses. Survey respondents returned the paper surveys to the Policy Center for processing. As of January 5, 2021, 85 participants returned the survey with responses to individual questions ranging from 85 to 62 --- that is, not all participants answered every question. Survey responses received were analyzed using bar charts, statistical tables, and narrative content research methods.

The following sub-sections present findings related to gauging the level of interest by SDFR regarding Mississippi's Medical Marijuana and Industrial Hemp programs. These sections include --- (1) Interest in participating in Mississippi's Medical Marijuana and Industrial Hemp programs; (2) Knowledge regarding Mississippi's Medical Marijuana program and Mississippi's Industrial Hemp program; (3) Resources participants feel would be needed to successfully participate in the Medical Marijuana and Industrial Hemp programs; (4) Types of Financial Resources Needed; and (V) Respondents' Comments and Suggestions.

Key Survey Findings

1. *Interest in participating in Mississippi's Medical Marijuana and Industrial Hemp Program*

The following sub-section presents findings related to survey respondents' interest in participating in Mississippi's Medical Marijuana and Industrial Hemp programs. This section has three components --- (a) Participation Interest; (b) Selected Options for Participation; and (c) Potential Acres Available.

(a) Participation Interest

Table 1 –Interest in Mississippi's Medical Marijuana Program

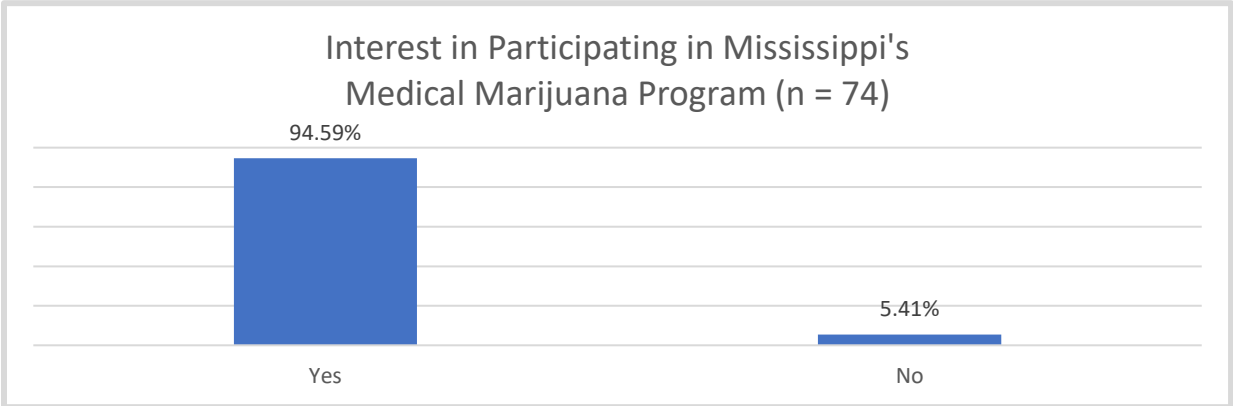
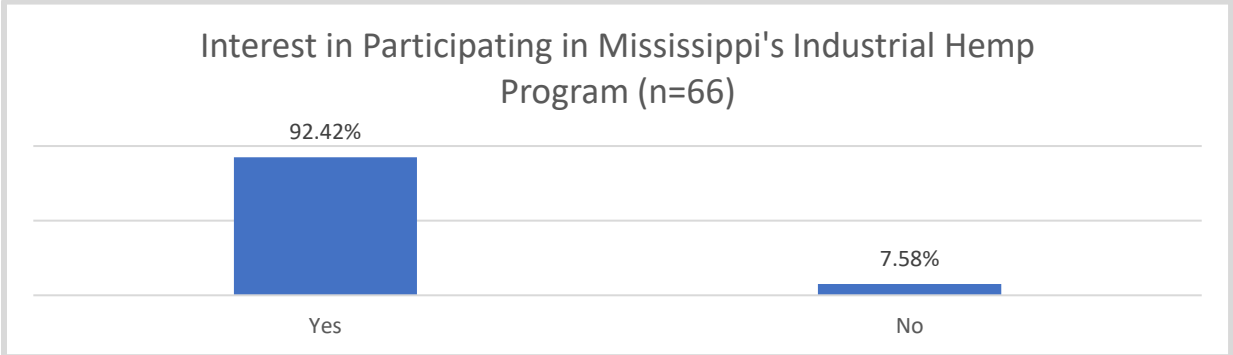


Table 2 – Interest in Mississippi's Industrial Hemp Program



Key Findings --- survey respondents expressed significant interest in participating in both programs, with the Mississippi Medical Marijuana program receiving a higher interest level (94.59%) verses the Industrial Hemp program (92.42%).

(b) Ranking of Selected Options for Participation

Table 3 – Selected Options (Medical Marijuana Program) Rankings

Ranking of Participation Choices: Medical Marijuana Program (n=77) *	Ranking
Grow	(17.0%)
Harvest	(13.7%)
Package	(9.4%)
Process	(8.4%)
Sell Medical Products	(7.4%)
Operate a Medical Marijuana Dispensary	(7.4%)
Transport	(7.4%)
Manufacture	(7.1%)
Prepare	(6.8%)
Research	(6.8%)
Test	(5.3%)
Other	(3.3%)

(* Question Type was "Select all that apply")

Table 4 - Selected Options (Industrial Hemp Program) Rankings

Ranking of Participation Choices: Industrial Hemp Program (n=64) *	**Ranking #**
Grow	(16.6%)
Harvest	(13.4%)
Package	(9.2%)
Process	(8.3%)
Transport	(8.3%)
Sell Hemp Products	(8.0%)
Prepare	(7.4%)
Manufacture	(7.1%)
Research	(7.1%)
Operate a Hemp Dispensary	(7.1%)
Test	(5.0%)
Other	(2.4%)

(* Question Type was "Select all that apply")

Key Findings --- survey respondents ranked the following options as their "top three" choices for participating in both the Medical Marijuana and Industrial Hemp programs: (1) Grow-17% and 16.6%; (2) Harvest-13.7% and 13.4% and (3) Package-9.4% and 9.2%.

(c) Potential Acres Available.

Table 5

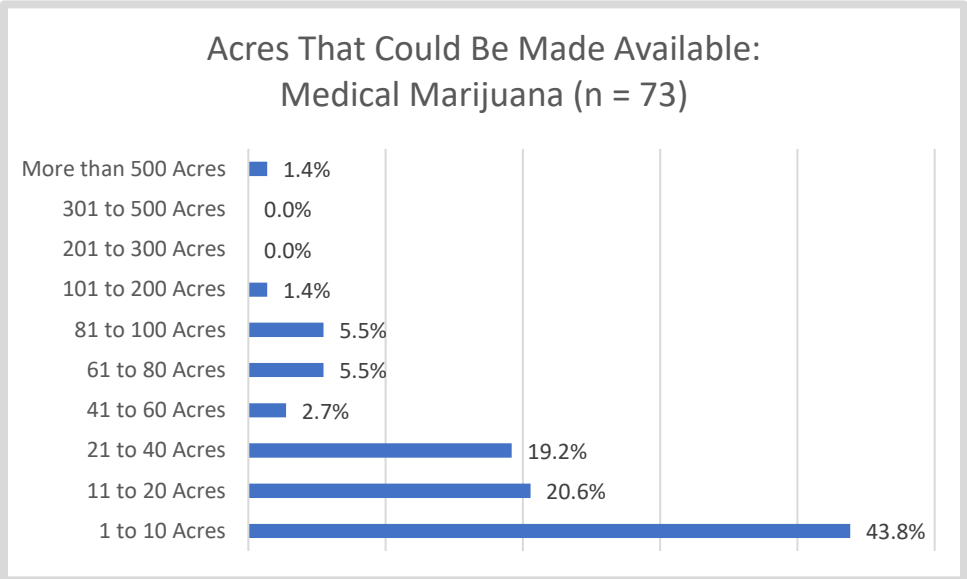
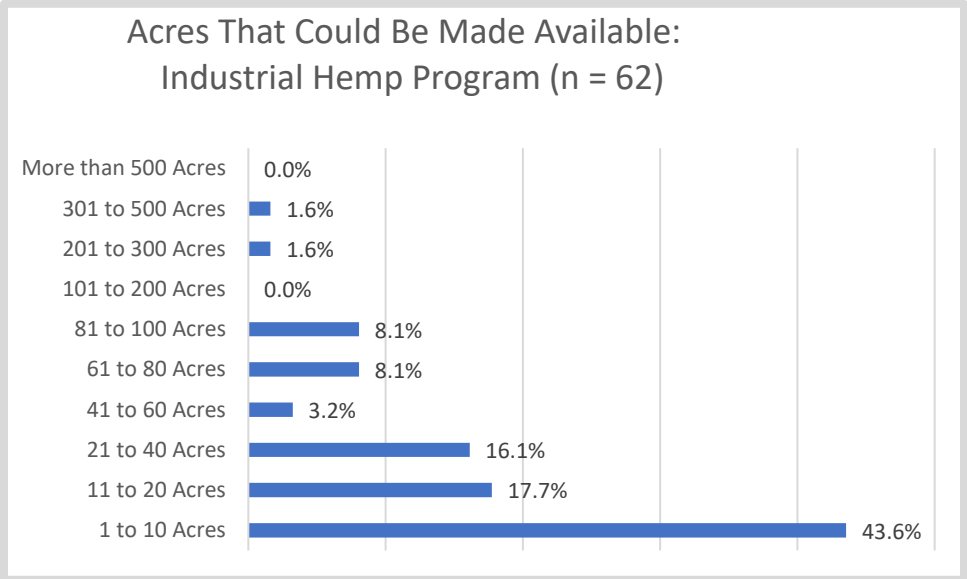


Table 6



Key Findings --- 83.6% of survey respondents had 40 acres or less available for the Medical Marijuana program and 77.4% of survey respondents had 40 acres or less available for the Industrial Hemp program. In both cases 43.6 % (largest %) responded that they could make available 10 acres or less.

2. *Knowledge regarding Mississippi's Medical Marijuana program and Industrial Hemp Programs*

The following sub-section presents survey findings related to respondents' Knowledge regarding Mississippi's Medical Marijuana and Industrial Hemp Programs.

Table 7 – Knowledge About MS Medical Marijuana Program

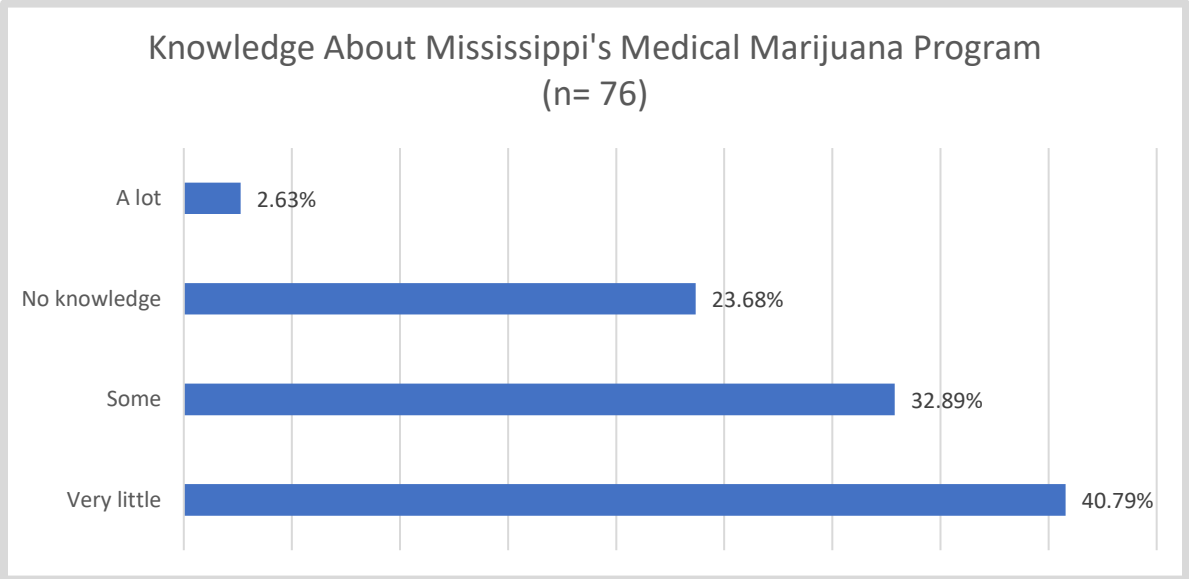
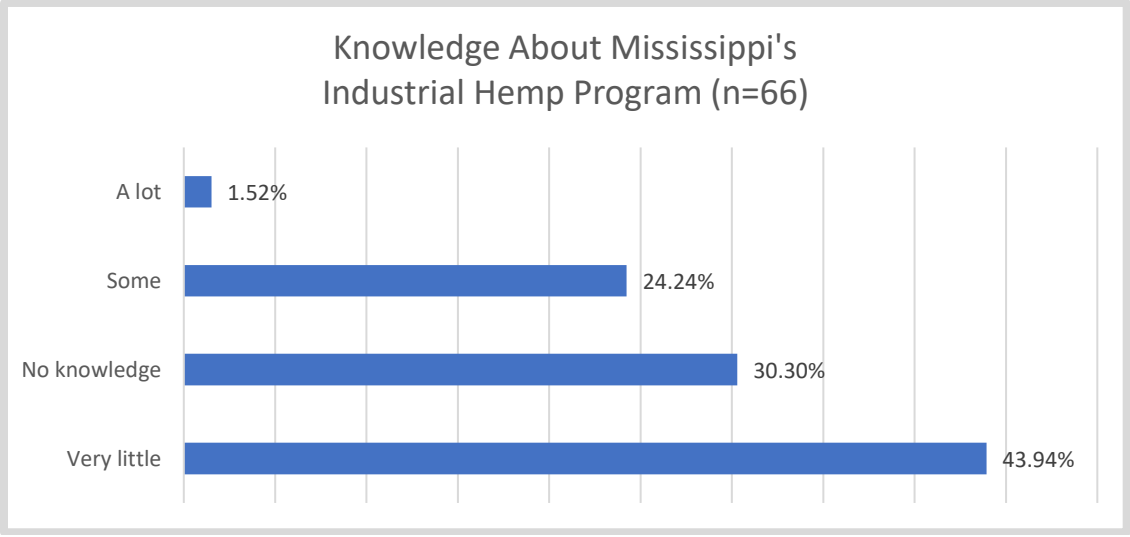


Table 8 – Knowledge About MS Industrial Hemp Program



Key Findings --- Over 60% of respondents indicated they had "Very Little to No knowledge" regarding both programs. This finding indicates a need for providing educational training on both programs.

3. Resources needed to successfully participate in Mississippi's Medical Marijuana and Industrial Hemp programs

The following sub-section presents findings related to respondents' financial ability to participate in Mississippi's Medical Marijuana and Industrial Hemp programs. This section has three components --- (a) General Financial Ability; (b) General Resources Needed to Participate; and (c) Types of Financial Resources Needed.

(a) General Financial Ability

Table 9 – General Financial Ability to Participate (Medical Marijuana)

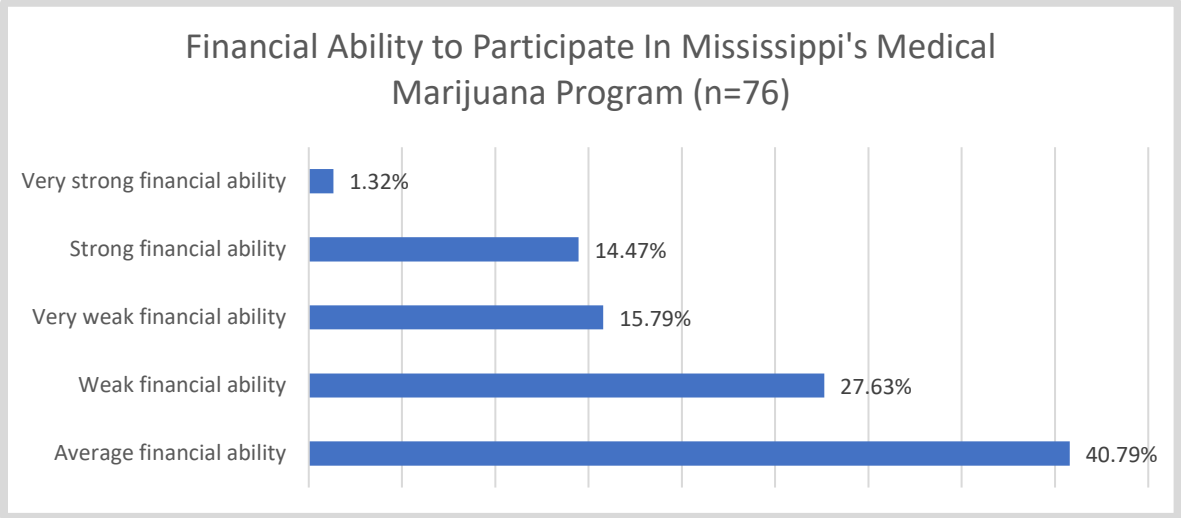
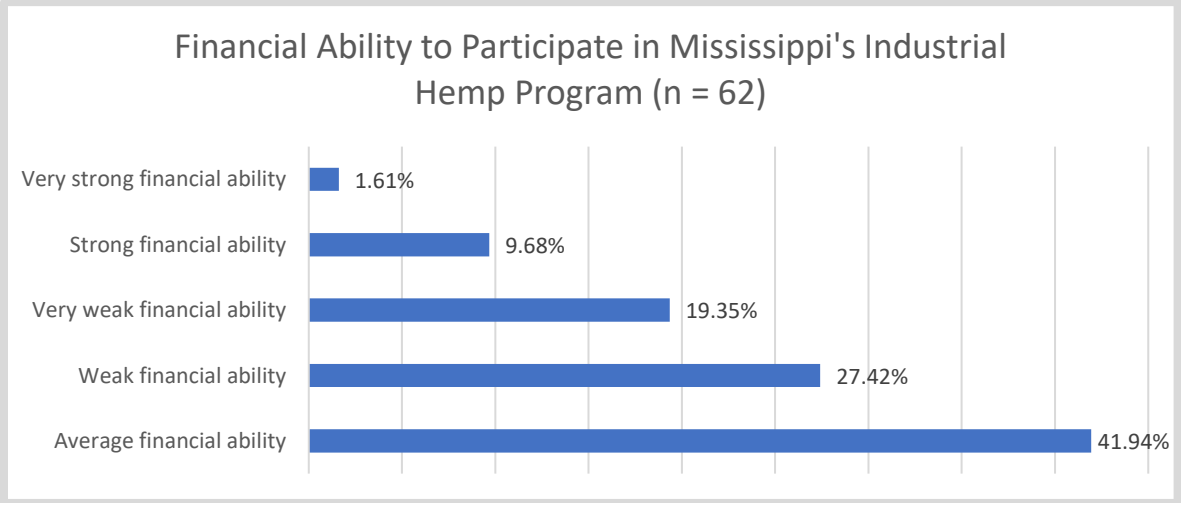


Table 10 – General Financial Ability to Participate (Industrial Hemp)



Key Findings --- for both programs, approximately 40% of survey respondents indicated they have "Average financial ability" to participate. Survey responders indicated a higher "Strong financial ability" for participating in the Medical Marijuana program (14.47%) verses participating in the Industrial Hemp program (9.68%).

(b) General Resources Needed to Participate

Table 11 – General Resources Needed (Medical Marijuana)

Ranking of Resources Needed to Successfully Participate: Medical Marijuana Program (n=77) *	**Ranking #**
Information on Program Requirements	(18.2%)
Training on Specific Program Components	(18.2%)
Specialized Equipment	(17.4%)
Financial resources	(16.9%)
Mentors	(14.3%)
Financial counseling	(11.2%)
Other	(3.9%)

(* Question Type was "Select all that apply")

(c) Types of Financial Resources Needed

Table 12 - General Resources Needed (Industrial Hemp)

Ranking of Resources Needed to Successfully Participate: Industrial Hemp Program (n=64) *	**Ranking #**
Information on Program Requirements	(18.9%)
Training on Specific Program Components	(18.9%)
Financial resources	(18.0%)
Specialized Equipment	(16.7%)
Mentors	(13.8%)
Financial counseling	(11.5%)
Other	(2.2%)

(* Question Type was "Select all that apply")

Key Findings --- the "top two" resources ranked as needed by survey respondents to participate successfully in both programs were "Information on Program Requirements" and "Training". Specialized Equipment emerged as the third top choice for Medical Marijuana resources needed, whereas Financial resources emerged as the third top choice for the Industrial Hemp program.

4. Types of Financial Resources Needed

Table 13 – Types of Financial Resources Needed (Medical Marijuana)

Ranking of the Types of Financial Resources Needed: Medical Marijuana Program (n=63) *	Ranking #
Startup grants	(43.8%)
Lines of credit	(29.9%)
Bank loans	(15.3%)
Other	(11.0%)

Table 14 – Types of Financial Resources Needed (Industrial Hemp)

Ranking of the Types of Financial Resources Needed: Industrial Hemp Program (n=62) *	Ranking #
Startup grants	(43.9%)
Lines of credit	(30.1%)
Bank loans	(17.9%)
Other	(8.1%)

(* Question Type was "Select all that apply")

Key Findings --- in terms of the "types" of financial resources survey respondents ranked as needed for success, responses for both the Medical Marijuana and Industrial Hemp programs received identical rankings as follows: (#1) Startup grants; (#2) Lines of Credit; and (#3) Bank loans.

- NOTE: Items listed in the "Other" categories included Site prep; Equipment; Seed information; Labor/Staff to run operations; High Tunnel funding; Sponsors; Investors

5. *Respondents' Comments and Suggestions*

The survey contained a section where respondents could provide comments and suggestions related to the Medical Marijuana and Industrial Hemp programs. The following is a synopsis of the top three major "*themes*" emerging from the comments and suggestions:

(1) Getting more information --- ("I would like more information on license to grow and produce; Please provide us with any information and opportunities in the medical marijuana field; How many acres will one need to grow? Please contact me with any info at (601)___-_____; What's the financial advantage of participating in the program? provide more information")

(2) Ensuring minorities can participate --- ("I don't want minorities to be left out of these opportunities. Minority must be a part of this developing industry. The licenses and certification should be lower enough for minorities to be able to participate, similar to Oklahoma and regulations to ensure minorities are included like California. There needs to be minority underserved farmers and representatives building the policy")

(3) Needing funding assistance (especially with start-up) --- ("we would like funding from USDA and Alcorn for greenhouse growing and high tunnel development; provide start up grants")

* NOTE --- several respondents listed their names and contact information (primarily telephone numbers) requesting follow-up from project team members.

Discussion of Production and Distribution Models in States Other than Mississippi

Models Used to Distribute/Allocate Medical Marijuana Licenses[1]
(Including Number of States with "Social Equity Policies"[2]

	Government Model – State Agency Only	Government Model – State & Local Agency	Land Grant Model	Private Sector/Free Market / Other	States with Social Equity Policies
Number of States Using Model	**31**	**2** (California & Connecticut)	**1** (Louisiana) State Still Regulates	**1** (Minnesota) State Still Regulates **1** (New Mexico) Requires License as a Nonprofit Producer	**12**

[1] Medical cannabis business opportunities could swell in several states this year. States to Watch for Possible Medical Cannabis Program Expansion in 2020. Smith, Jeff. Marijuana Business Daily. February 14, 2020. https://mjbizdaily.com/medical-cannabis-business-opportunities-could-swell-in-several-states-this-year/

[2] Legal Medical Marijuana States and DC. (2020) Britannica ProCon.org. https://medicalmarijuana.procon.org/legal-medical-marijuana-states-and-dc/

Farmers as Growers/Cultivators/Producers

License Regulations
The licensing structure of each legal state varies as shown in the chart below. Many states have imposed limits on the number of licenses that can be issued to cultivation businesses. There are some additional states that have opened the application process for licenses once certain benchmarks such as an increase in the number of medical patients are reached.

Regardless of the license structure, it appears there are some commonalties among the application process such as an application fee, an amount of capital on hand in banking institutions, and a bond if selected as a licensee. After a license is granted, most states require any owner who owns an interest of five percent or more to be subjected to a background check to ensure there is no criminal record. The requirements for the licensees directly correspond to the federal priorities set forth in the Cole Memorandum.

Social Justice/Equity
Social equity is broadly defined and has been addressed in different ways regarding cannabis legalization. States have given defined social equity by implementing expungement processes for those convicted of cannabis crimes to low interest rate loan programs for populations identified as disadvantaged or impacted by the war on drugs.

To determine which programs may have had a more sustainable or significant impact on Black people or other people of color, a more robust study of each program is needed. California has seen at least four (4) of its cities enact social equity cannabis programs. Ohio passed legislation in which 15% of medical marijuana business licenses is to be awarded to economically disadvantaged groups but the provision was found to be unconstitutional. It appears that a "successful" social equity program would have the following components: (1) points awarded in the application process for a diversity plan, (2) low-interest loans or grants for economically disadvantaged groups and those impacted by the war on drugs, (3) a business mentorship program, (4) technical assistance, (5) education programs in economically disadvantaged areas and areas affected by the war on drugs. It may also be advantageous to have a component like that of Florida whereby the HBCU land-grant university is awarded a dollar amount for education and outreach in economically disadvantaged areas. ***(See Appendix VI for full state-by-state report)***

State	Legalization (Medical or Adult Use)	Cultivation License Limit	Social Equity
Alaska	Med & AU	No State limit but may have local limit	No
Arizona	Med & AU	Does not appear to have a limit	No
Arkansas	Med	No less than 4 and no more than 8	No
California	Med & AU	Varied structure due to Med & AU	Yes (adult use)
Colorado	Med & AU	Varied structure due to Med & AU	Yes (adult use)
Connecticut	Med	No less than 3 and no more than 10	No
Delaware	Med	One in each county	No
DC	Med	No more than 10	Yes
Florida	Med	Five licenses	Yes and No
Hawaii	Med	Eight (8) Total	No
Illinois	Med & AU	21 currently operating cultivation cen.	Yes (adult use)
Louisiana	Med	2 licenses	No
Maine	Med & AU	14 licenses total	No
Maryland	Med	15 pre-approved grow licenses	Yes
Massachusetts	Med & AU	50 as of 5-31-2019	Yes
Michigan	Med & AU	Additional Research Needed	Unknown
Minnesota	Med	Two (2)	No
Mississippi	Med	No limit according to Amend 65	No
Missouri	Med	10 Cultivation facilities	No
Montana	Med & AU	Additional Research Needed	No
Nevada	Med & AU	157 cultivation facilities	No
New Hampshire	Med	No More than 4 at one time	No
New Jersey	Med & AU	As of 2-4-2020 11 total	No
New Mexico	Med	35 Licensed non-profits in 2017	No
New York	Med	Five with option to create additional licenses	No
North Dakota	Med	No more than 2 compassion centers	No
Ohio	Med	12 Level 1 and 12 Level 2	No
Oklahoma	Med	6,277 active grower licenses	No
Oregon	Med & AU	Additional Research Needed	Not Currently
Pennsylvania	Med	No more than 25 growers/processors	Unknown
Rhode Island	Med	Unknown	No
South Dakota	Med & AU	Approved on November 3, 2020	Unknown

State	Legalization (Medical or Adult Use)	Cultivation License Limit	Social Equity
Utah	Med	No more than 8 cultivation centers	Yes
Vermont	Med & AU	Five (5) as of 2019	No
Virginia	Med	Five (5) state run facilities	No
Washington	Med & AU	Additional Research Needed	No
West Virginia	Med	10 grower facilities	No

Role of the Land-Grants in Medical Marijuana Production

Alcorn State University

There are two land grant universities in the State of Mississippi, Alcorn State University located in Lorman, MS and Mississippi State University located in Starkville, MS. Two potential roles for the land grant universities are the production of Medical Marijuana and the education and training of minority and limited resource farmers in Mississippi. Medical Marijuana is the processed end product obtained from the plant Cannabis and belongs to the family **Cannabaceae**. Three main species are used for medical marijuana production-- **Cannabis *sativa, Cannabis indica, and Cannabis ruderalis***. A cannabis plant is considered as Medical Marijuana when the tetrahydrocannabinol (THC) level is more than 0.3%. The flower/ inflorescence is the main part of the plant which is processed into THC containing plant product. Most Medical Marijuana production is known to occur indoors in greenhouses to maintain uniformity in quality of the product by controlling the growth and physiology. The indoor cultivation is also recommended to protect the plant from potential illegal harvesting. The School of Agriculture and Applied Sciences at Alcorn State University analyzed what is necessary and the projected costs to establish indoor production of Medical Marijuana and to meet the education needs of minority and limited resource farmers in Mississippi.

Specific objectives are to:

1. Establish indoor Medical Marijuana production at Alcorn State University
2. Collect the Biotic and Abiotic variations during plant growth
3. Evaluate agronomic parameters on plant growth
4. Evaluate economic feasibility of indoor production of medical marijuana for adoption by small and medium scale resource limited minority farmers and ranchers
5. Conduct educational, extension and outreach programs as it relates to Medical Marijuana

Initiation of indoor cultivation of Medical Marijuana requires an approximate budget of **$930,000** for the initial year and an annual budget of **$600,000**. For successful production of indoor Medical Marijuana, a robust certified greenhouse is a prerequisite. The recommended minimum square footage for a greenhouse for successful production is 3000 sq. ft. The cost per square foot is about $110 and **$330,000** is budgeted towards construction of greenhouse which meets the Medical Marijuana production compliance. The additional budgeted amount includes projections for staff for maintenance of the greenhouse production of Medical Marijuana, lighting for indoor

cultivation, annual cost of seeds and nutrients, indoor drip irrigation for greenhouse, and for annual harvesting and processing.

The projected annual budget for Agriculture Extension staff to provide training and outreach activity to minority and limited resource farmers is **$500,000** and includes staff salaries (3), travel, meals, and lodging and educational and promotional materials. ***(See Appendix VII for projected budget)***

Southern University
When similar legislation passed in the state of Louisiana, Southern University Agricultural Center under Act 96, informed the Louisiana Department of Agriculture and Forestry that they had approved a measure authorizing the institution to establish a medical marijuana production facility pursuant to the Act. With this, the university began soliciting public-private partnerships for their Medical Marijuana Cultivation and Production Facility. Through this program, the Southern University Agricultural Research and Extension Center was able to launch its own THC medical cannabis products.

Southern University Agriculture and Research Extension Center
Southern University Agriculture Research and Extension Center (SUAREC) received one of two licenses in Louisiana to cultivate, harvest and manufacture medical marijuana. SUAREC commenced a search through an RFP process for a company who could cultivate, harvest, and manufacture medical marijuana products. SUAREC contracted with Advanced Biomedics (Ilera Holistic) to cultivate, harvest, and manufacture medical marijuana. Based on the agreement, SUAREC is set to receive $6 million dollars in guaranteed funds over a five (5) year period which will allow the program to exist without taxpayer funds. SUAREC will also conduct research on medical marijuana.

Currently, SUAREC and Ilera have products AYO (medical marijuana brand) and Alafia (cbd brand) available throughout the state of Louisiana at the nine registered medical marijuana pharmacies.

Conclusions/Recommendations

Voters in Mississippi approved the citizen-led Initiative 65 by a 74% majority to allow doctors to prescribe medical marijuana for 22 debilitating conditions. Thirty-six (36) states other than Mississippi have legalized marijuana for medicinal use and 16 of those states have also legalized marijuana for recreational or adult use. Each state that has legalized marijuana has an intricate and complex set of regulations. The licensing structure of each legal state varies. Of the 36 states that have legalized marijuana for medicinal use, 31 states regulate licenses at the state level, 2 states regulate at state and local level, 1 state has granted licenses to the two land grant universities in the state, and two states allow free market.

Twelve (12) of the 36 states have social equity programs in place with varying levels of success. Components of a successful social equity program would include: (1) points awarded in the

application process for a diversity plan, (2) low-interest loans or grants for economically disadvantaged groups and those impacted by the war on drugs, (3) a business mentorship program, (4) technical assistance, (5) education programs in economically disadvantaged areas and areas affected by the war on drugs. It may also be advantageous to have a component like that of Florida whereby the HBCU land-grant university is awarded a dollar amount for education and outreach in economically disadvantaged areas.

According to a GAO analysis of the 2017 Census of Agriculture, SDFR accounted for 41 percent of all producers. Of these SDFR 88.3 percent were women of any race, 8.1 percent were Hispanic, 4.2 were American Indian or Alaska Native, 3.3 percent were Black or African American and 1.6 percent were of Asian descent. In 2017, 30 percent of all farms were SDFR farms - meaning a SDFR was the principal operator. On average, SDFR farms were smaller and brought in less revenue than non-SDFR farms in 2017. These SDFR farms operated 21 percent of all acres and produced 13 percent of the total market value of production. The number of black farmers, black-owned farms, and farmland (acreage) operated by Black principal operators continues to decline. The number of Black farmers peaked at nearly one million (~14% of the U.S. farm population) between 1910 and 1920, followed by a precipitous decline to under 50,000 (a mere 1.4% of farms according to 2017 NASS data).

In Mississippi, as of 2017, there were 4,885 farms in Mississippi operated by Black principal producers. Approximately 62% (3,022) were fully owned, 27% were partially owned, and tenant producers operated 11%. Since the 2012 U.S. Agriculture of the Census, Black farmers in the state declined by 8.6%. Social equity programs are needed to stop the decline in black farmers and black farms.

Key survey findings and responses provided by minority farmers in Mississippi, which focused on gauging the level of interest by SDFR in Mississippi's recently approved Medical Marijuana Program, and Mississippi's existing Industrial Hemp Program, revealed significant interest in participating in both programs --- the Mississippi Medical Marijuana program received a 94.59% interest level, and the Industrial Hemp program received a 92.42% interest level.

- Survey respondents indicated their "top three" choices for participating in both the Medical Marijuana and Industrial Hemp programs would be to --- (#1) Grow; (#2) Harvest; and (#3) Package.

- For both the Medical Marijuana and Industrial Hemp programs, more than 40% of survey respondents selected "1 to 10 acres" as being the largest category of land they could make available.

- For both the Medical Marijuana and Industrial Hemp programs, over 60% of respondents indicated they had "Very Little to No knowledge" of those programs.

- For both the Medical Marijuana and Industrial Hemp programs, approximately 40% of survey respondents indicated they have "Average financial ability" to participate. For the Medical Marijuana program, approximately 43% of survey responders indicated they had

a "Weak to Very Weak" financial ability to participate. For the Industrial Hemp program, approximately 47% of survey responders indicated they had a "Weak to Very Weak" financial ability to participate.

- For both the Medical Marijuana and Industrial Hemp programs, the "top two" resources listed as needed by survey respondents to participate successfully were (#1) Information on Program Requirements and (#2) Training. Specialized Equipment emerged as the third top choice for Medical Marijuana resources needed, whereas Financial resources emerged as the third top choice for the Industrial Hemp program.

- In terms of the "types" of financial resources listed as being needed to successfully participate, survey respondents ranked (#1) Startup grants; (#2) Lines of Credit; and (#3) Bank loans for both the Medical Marijuana and Industrial Hemp programs.

- From the survey's Comments and Suggestions section, the top three major "*themes*" emerging from the comments/suggestions included (#1) *Getting more information;* (#2) *Ensuring minorities can participate; and* (3) *Needing funding assistance* (especially with start-up).

Based upon the survey findings received to-date, the project's overall research goals of (1) gauging the level of interest by SDFR in Mississippi's Medical Marijuana and Industrial Hemp programs and (2) developing policy and programmatic recommendations addressing how SDFR could successfully participate in the two programs and analyses of the documents described above, the following implications could be derived from research:

- Social equity programs for minority farmers to stop the decline in black farmers and black farms - A need to develop minority inclusion criteria to ensure Mississippi minority farmers have an opportunity to successfully participate in both programs.
- Defined roles for the two land grant universities in Mississippi—Alcorn State University and Mississippi State University.
- Access to capital and other resources for minority farmers to be able to participate in the production and distribution of medical marijuana and/or industrial hemp-- defined upfront.
- A need for providing more information to SDFR on the content and participation requirements of both programs.
- A need to provide more information to SDFR regarding how to participate with (#1) Growing; (#2) Harvesting; and/or (#3) Packaging opportunities related to medical marijuana and industrial hemp crops.
- A need to provide more information to SDFR regarding how to increase their financial ability to participate in both programs.
- A need to provide education and training opportunities that can help SDFR successfully participate in both programs.

APPENDICIES

Appendix I: Project Team Members

Socially Disadvantaged Farmers and Ranchers Policy Research Center at Alcorn State University

Eloris Speight, Director espeight@alcorn.edu

April S. Love, Policy Analyst aslove@alcorn.edu

Conisha T. Hackett, Research Analyst chackett@aclorn.edu

Jackson State Minority Urban Research Center

Dr. Sam Mozee, Director sam.mozee@jsums.edu

Frederick O'Quin, Research Analyst frederick.a.oquinn@jsums.edu

Jackson State University, Department of Public Policy and Administration

Dr. Johnny Gilleylen, Chair johnny.b.gilleylen@jsums.edu

Alcorn State University, School of Agriculture and Applied Sciences

Dr. Edmund Buckner, Dean and Director of Land-grant Programs bucknere@alcorn.edu
Dr. Franklin Chukwuma, Associate Director of Extension franklinc@alcorn.edu
Dr. Ananda Nanjundaswamy, Associate Professor of Grain Sci. and Bioprocessing ananda@alcorn.edu ***Southern University Law Center Cannabis Compliance, Law and Policy Institute*** Marla Dickerson, Director mdickerson@sulc.edu

Appendix II: Mississippi Hemp Cultivation Task Force

Report to Legislature December 3, 2019

(See Attached Report)

Appendix III: Profile of Socially Disadvantaged Farmers and Ranchers (SDFR) from 2017 Census

Demographic Characteristics of Producers by Ethnicity and Race, 2017

Producers						
	All Producers	Hispanic	American Indian or Alaska Native	Asian	Black	Native Hawaiian or Pacific Islander
Number of producers	3,399,834	112,451	79,198	25,310	48,697	5,296
Average age	57.5	55.0	56.6	54.9	60.8	54.9
% less than 35 years	8	9	10	9	6	11
% New/beginning	27	36	28	40	29	35
% Primary occupation farming	42	40	47	48	44	39

8
USDA National Agricultural Statistics Service www.nass.usda.gov 2017 CENSUS of AGRICULTURE

Farm Characteristics by Ethnicity and Race, 2017

Farms						
	All farms	Hispanic	American Indian or Alaska Native	Asian	Black	Native Hawaiian or Pacific Islander
Number	2,042,220	86,278	60,083	18,338	35,470	4,341
Average farm size (acres)	441	372	978	160	132	240
Average TVP	$190,245	$252,267	$58,885	$406,669	$39,928	$163,776
Average Net Income of Operation	$43,053	$45,226	$8,577	$111,319	$3,509	$24,867
% with internet access	75	70	66	74	62	79

9
USDA National Agricultural Statistics Service www.nass.usda.gov 2017 CENSUS of AGRICULTURE

Number of Farms by Race and Ethnicity: Changes from 2012 to 2017

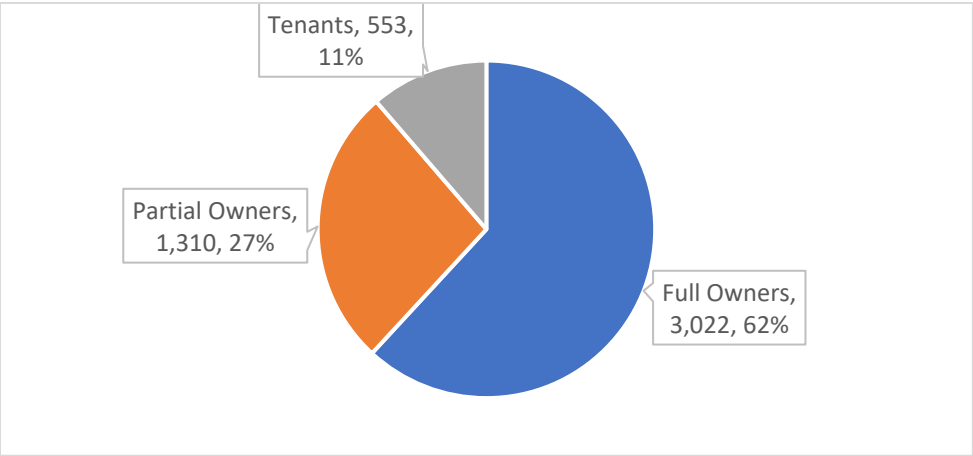
	2012	2017	% change
All farms	2,109,303	2,042,220	-3%
Any farm with a producer reporting as:			
Hispanic	79,807	86,278	8%
American Indian or Alaska Native	56,092	60,083	7%
Asian	18,007	18,338	2%
Black	36,382	35,470	-3%
Native Hawaiian or Pacific Islander	3,236	4,341	34%

10
USDA National Agricultural Statistics Service www.nass.usda.gov 2017 CENSUS of AGRICULTURE

Appendix IV: Profile of Mississippi Black Farmers—Principal Operators

Number of Farms by Tenure

As of 2017, there were 4,885 farms in Mississippi operated by Black principal producers. Approximately 62% (3,022) were fully owned, 27% were partially owned, and tenant producers operated 11%. Since the 2012 U.S. Agriculture of the Census, Black farmers in the state declined by 8.6%.

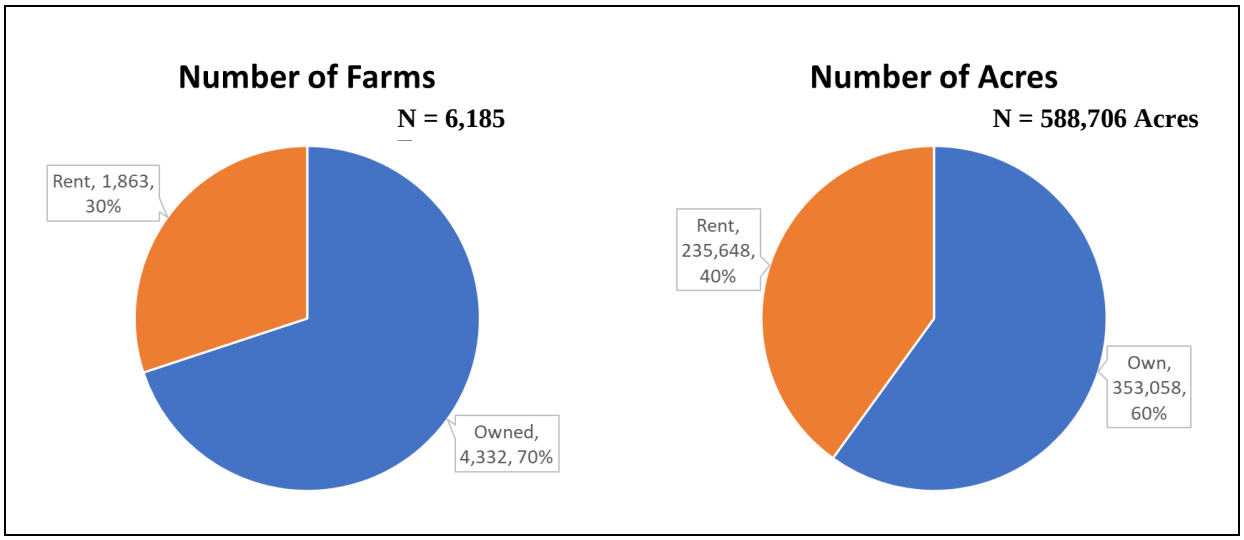


The USDA describes principal producers as an owner-operator, landlord, tenant, or sharecropper who shares the risk of producing a crop and is entitled to a share of the crop produced on the farm. A producer is described as a person who is involved in making decisions for the farm operation. The number of fully Black-owned farms declined from 3,305 in 2012 to 3,022 by 2017, a decline of 283 farms, or 8.6%.

Black Ownership in Farms and Land

There were 6,185 farms in Mississippi operated by Black producers in 2017. Black principal producers fully owned almost 70% (4,332) of the farms. Only 30% (1,863) of the farms operated by only Black principal producers were rented or leased. Black producers operated a total of 588,706 total acres in 2017. They owned 60% (353,058 acres) of the farmland, with 40% (235,648 acres) of rented or leased acreage.

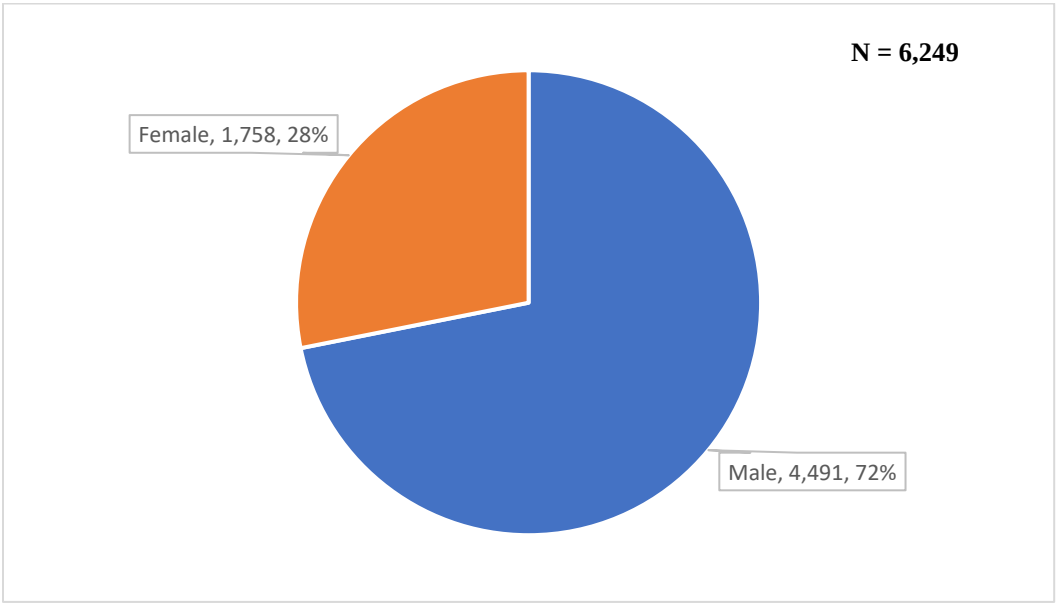
Number of Black Fully Owned Farms, 2017



Gender

There were 6,249 Black farm producers in Mississippi in the 2017 U.S, Census of the Agriculture. Male producers accounted for the majority of the state's black producers at 4.491 or 72%. Female producers accounted for approximately 28% (1,728) of the state's population.

Mississippi Black Farm Producers by Gender



Size of the Farms

Most of the farms operated by black only principal producers were less than 180 acres in size (84.7%). The modal (highest frequency) and the median (50th percentile) averages of farm size were 50 to 179 acres among 2,006 farms or 41.0% and 84.7%, respectively. Almost half of the farms (47.3%) were less than 50 acres. Approximately 595 farms (12.2%) were described to be 180 to 499 acres in size and 151 farms of 500 acres or more (3.1%).

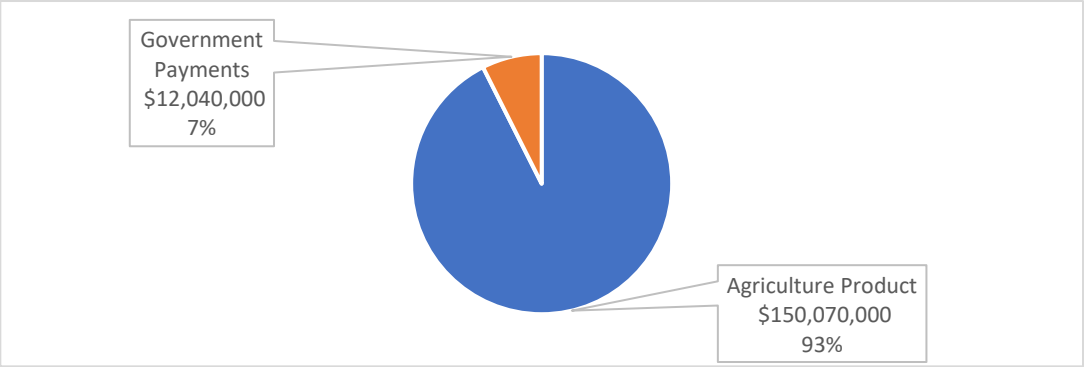
Size of Mississippi Fully Black-Owned Farms, 2017

Farm Size	No. of Acres	%	Cum%
1 to 9 acres	433	8.9	8.9
10 to 49 acres	1700	34.8	43.7
50 to 179 acres	2006	41.0	84.7
180 to 499 acres	595	12.2	96.9
500 acres or more	151	3.1	100.0
Total	**4,885**	**100.0**	

Market Value of Goods Sold by Mississippi Black Principal Producers

The total market value of goods sold by Black principal producers was $162.2 million in 2017. More than 93% ($150.1 million) of their income were derived from the agriculture products they sold, with 7% ($12.0 million) from government payments. Of the $150.1 million in agricultural products sold, 47.2% ($70.9 million) were income from the sale of crops, and 52.8% ($79.2 million) were from livestock sales.

Distribution of Market Good Sold by Mississippi Black Principal Producers, 2017



Mississippi Black Principal Farm Producers' Income by Economic Class

Most of the farms operated by black only principal producers reported income less than $25,000 (87.1%). The modal category (highest frequency) among the producers was less than $1,000 (1,255 operators, 25.7%). The median income range (50th percentile) was $2,500 to $4,999 (54.9%, 2682 producers). More than 71% (3,490) of producers reported income less than $10,000. Approximately 6.3% (311 producers) cited income of $25,000 to $49,999. Only 6.4% (318 producers) reported an income of $50,000 or more.

Distribution of Mississippi Black-Owned Farm Income, 2017

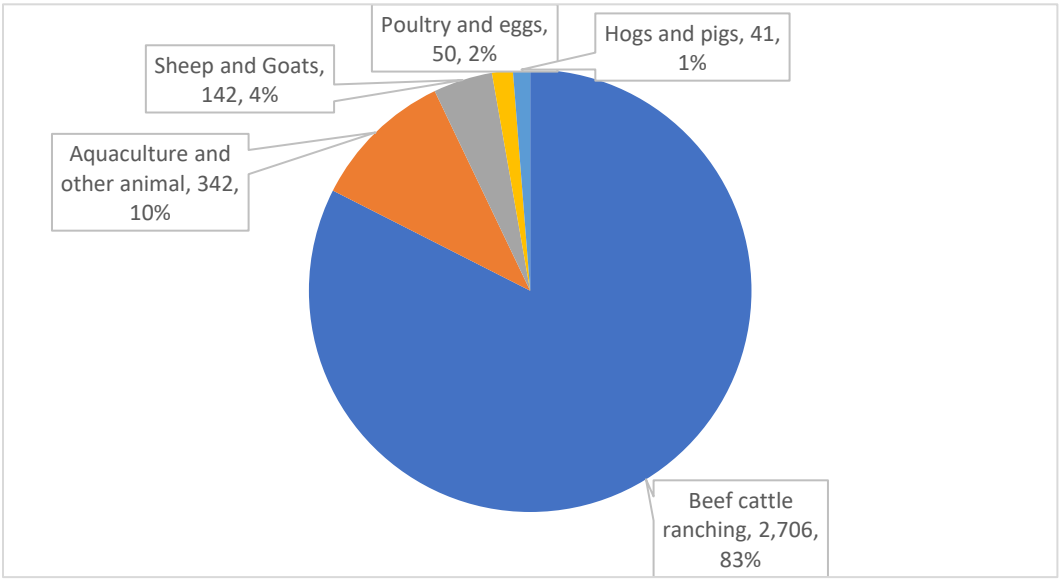
Income	Frequency	Cum F	%	Cum%
Less than $1,000	1,255	1,255	25.7	25.7
$1,000 to $2,499: 681 (13.9%)	681	1,936	13.9	39.6
$2,500 to $4,999: 746(15.3%)	746	2,682	15.3	54.9
$5,000 to $9,999: 808 (16.5%)	808	3,490	16.5	71.4
$10,000 to $24,999: 766(15.7%)	766	4.256	15.7	87.1
$25,000 to $49,999: 311 (6.3%)	311	4,567	6.3	93.6
$50,000 or more: 318 (6.5%)	318	4,885	6.4	100.0
Total	**4,885**		**100.0**	

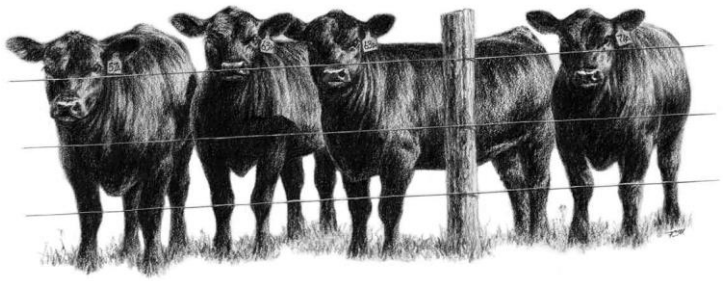
Mississippi Black-Owned Farms by NACIS Type, 2017

Of the 4,885 farms fully owned by Black principal producers in Mississippi, 3,281 farms (67.2%) were related to animal products compared to 1,604 farms (32.8%) that were plant related. Farming related Beef cattle farming was the dominant farm type among all categories of the NACIS at 2,706 farms (55.4%). Hay and sugarcane ranked as second most at 719 farms (14.7%), followed by oilseed and grain (500 farms, 31.1%) as the fourth most frequent farm category type in the state. Aquaculture and other animal ranked fifth, with vegetable and melon production fifth at 288 farms or 5.9% among Black-owned farms.

In the animal production category, Beef cattle production represented 83.0 % of the category. Aquaculture ranked second at 1,342 farms or 10.0%, with sheep and goat farming third with 142 farms or 4.3%. There were 50 farms (2.0%) that produced poultry and eggs. Hog and pig farms among Black principal producers were approximately one percent at 41 farms.

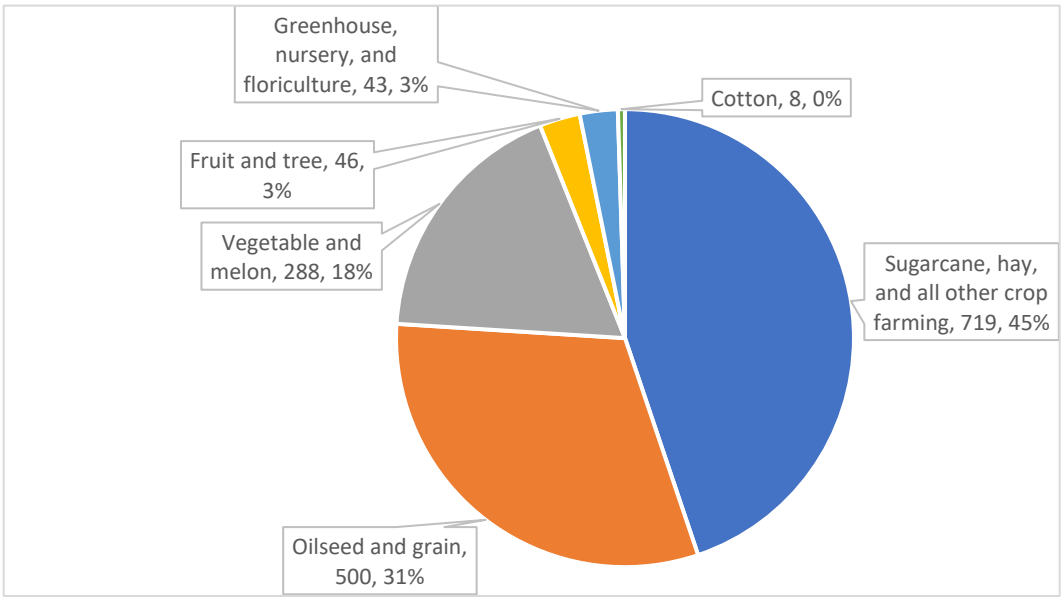
Distribution of Mississippi Black-Owned Animal-Related Farms by Frequency and Percentage



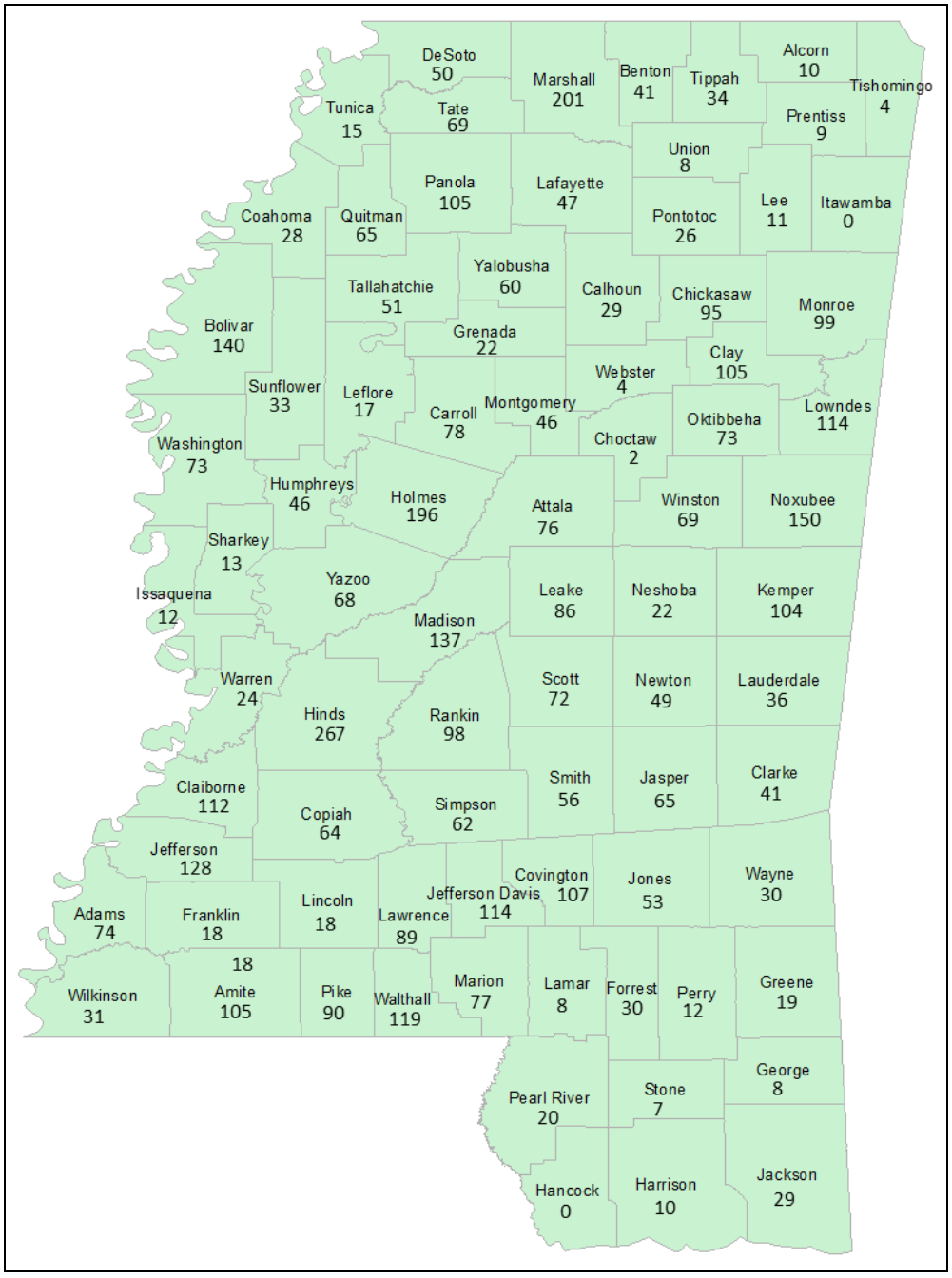


Among the plant-related farms, Sugarcane and hay crops were the dominant NACIS category at 719 farms (45.0%0). Oilseed and grain production ranked second at 500 farms (31.0%), followed by vegetable and melon production ranked third at 288 farms or 18.0%. Fruit and tree farming was fourth at 46 farms, closely followed by the greenhouse, nursery, and floriculture farming, with 43 farms also representing 3.0% of the plant-related farming. There were only eight black-owned farms in the state that produced cotton.

Distribution of Mississippi Black-Owned Plant-Related Farms by Frequency and Percentage, 2017



Number of Fully Owned Farms by Mississippi Black Principal Producers by County, 2017



Of the state's 82 counties, there were 16 counties with 100 or more farms owned by Black principal operators. Only two of the counties registered 200 or more arms, Hinds and Marshall counties. Holmes County followed them with 196 farms.

Ranking of Mississippi Counties with 100 or More Fully Owned Farms by Black Principal Operators, 2017

County	Farms
1. Hinds	267
2. Marshall	201
3. Holmes	196
4. Noxubee	150
5. Bolivar	140
6. Madison	137
7. Jefferson	128
8. Walthall	119
9. Jefferson Davis	114
10. Lowndes	114
11. Claiborne	112
12. Covington	107
13. Amite	105
14. Clay	105
15. Panola	105
16. Kemper	104

The three counties with the most farmland fully owned by the state's Black principal farm producers were Holmes County, with 46,790 acres with an average farm size of 239 acres. With 40,589 acres, Washington County ranked second with 40,589 acres at an average farm size of 556 acres. Bolivar County was third with 33,551 acres at an average farm size of 240 acres. Hinds County ranked fourth with 24,257 acres and an average farm size of 91 acres. By far, the county with the largest average size was Sunflower County at 709 acres.

Ranking of Farmland Fully Owned by Mississippi Black Principal Farm Producers, 2017

County	Land (Acres)	Farm Size
1. Holmes	46,790	238.7
2. Washington	40,589	556.0
3. Bolivar	33,551	239.7
4. Hinds	24,257	90.9
5. Sunflower	23,406	709.3
6. Marshall	22,048	109.7
7. Rankin	16,849	171.9
8. Noxubee	14,236	94.9
9. Clay	12,326	117.4
10. Lowndes	12,244	107.4
11. Amite	11,620	110.7
12 Claiborne	11,338	101.2
13. Panola	11,131	106.0
14. Madison	11,031	80.5
15 Jefferson	9,964	77.8

Appendix V: Survey Instrument

(See Attached Instrument)

Appendix VI: State by State Medical Marijuana: Selected Information

(See Attached Report)

Appendix VII: Projected Budget –Alcorn State University—School of Agriculture and Applied Sciences

RESEARCH	**Budget**	**Expenses**	**Balance**
Personnel Services			
Salaries	$50,000		
Fringe Benefits	$17,500		
Total Personnel	$67,500		
Travel & Subsistence			
Contractual Services	$11,000		
Commodities	$25,000		
Capital Outlay			
Equipment			
Other than Equipment	$330,000		
Total	$433,500		
EXTENSION	Budget	Expenses	Balance
Personnel Services			
Salaries	$337,500		
Fringe Benefits	$118,125		
Total Personnel	$455,625		
Travel & Subsistence	$10,000		
Contractual Services	$10,000		
Commodities	$20,000		
Capital Outlay			
Equipment			
Other than Equipment			
Total	$495,625		
Combined Total	$929,125		