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# A COMPARATIVE EXAMINATION OF SELECTED FARM, ECONOMIC, AND MARKETING CHARACTERISTICS OF SMALL LIVESTOCK PRODUCERS IN THREE SOUTHEASTERN STATES OF THE U.S.

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**Abstract**

*Small livestock producer characteristics are important in production; yet, there is limited comparative research on the issue in the Southeastern U.S. Therefore, this study undertook a comparative examination of selected characteristics of small livestock producers in three Southeastern states. The data were obtained from samples of small producers from several counties in Alabama, Georgia, and Florida, and were analyzed by descriptive statistics. The*

*results showed that a majority either owned their farms outright or inherited them; a majority farmed more acreage than they owned; had been in livestock production for over 15 years. Many made a loss or broke-even, especially in Alabama and Florida. Most sold 30 heads or less of livestock; they normally sold these on-farm or at the auction. The findings indicate small herd sizes across the three states, leading to fewer sales, and less profit. There is a need to assist producers to increase herd sizes.*

*Keywords: Comparative Examination, Selected Characteristics, Small Livestock Producers, Southeastern States*

## INTRODUCTION

According to the USDA National Agricultural Statistics Service [NASS] (2009), cash receipts from meat animals totaled $65.0 billion in 2007. Of this amount, cattle and calves accounted for 76%, hogs and pigs accounted for 23%, and sheep and lamb accounted for 1%. However, (USDA NASS) 2019 reported a substantial increase in 2017 for cash receipts from animals and animal products totaling $176 billion. Cattle and calf receipts accounted for 38% of that total, while poultry and egg receipts accounted for 24%, and dairy receipts accounted for 22%. From the preceding, there is an upswing in the production of animals and animal products, probably because of an increase in demand. An increase in demand for livestock products is an opportunity for farmers in general, and in particular, for small producers at the local or regional levels.

Several researchers have indicated the benefits of a local or regional food system. For instance, McKibben (2007) mentioned reduced dependence on fossil fuels, and less travel time from farm to table. Lauchlan & Schrader (2009) mentioned reduced food supply risk resulting from a greater degree of local independence; the possibility of relating more closely with the food, the farmer, and the land; allowing local production to substitute for fruit and vegetable imports, and allowing local producers to take a larger share of each food dollar. Low & Vogel (2011) argued that despite the increase in production and consumer interests, locally grown foods account for a small proportion of U.S. agriculture.

Low et al. (2015) stated that the local and direct-to-consumer market is growing. According to them, for example, in 2012, the level of producer participation in local food systems increased, with about 8% of U.S. farms marketing food as locally grown through direct-to-consumer or intermediated sales worth $6.1 billion. Relatedly, Low & Vogel (2011) indicated that small farms (those with less than $50,000 in gross annual sales) accounted for 81% of all farms reporting local food sales in 2008. They averaged $7,800 in local food sales per farm and

were more likely to rely exclusively on direct-to-consumer marketing channels, such as famers' markets and roadside stands. Subsequently, the USDA NASS (2015) reported that, in 2012, more than 167,000 farmers and ranchers sold over $8.7 billion of local foods directly to consumers, institutions, retailers, and local food intermediaries that market and sell locally branded foods. The study also revealed that out of the total, $3.4 billion, or 39% were sold to institutions and other local food intermediaries.

Furthermore, the USDA Agricultural Marketing Service [AMS] (2012) emphasized that local markets provide farmers with a higher share of the food dollar, with money spent at a local farm and nonfarm businesses and circulating within the community, creating a multiplier effect and resulting in greater local economic benefits. Also, Jablonski, Hendrickson, Vogel, & Schmit (2017) found that net revenues for producers in shorter, local supply chains were greater per unit for produce than for mainstream supply chain producers. Relatedly, King et al. (2010) stated that producers who market their products through more direct food supply chains typically received higher shares of the final retail price than those who market their products through more traditional supply chains. Similarly, Diamond et al. (2014) argued that growers who used local food hubs to market their products to local wholesale/large-volume customers typically retained about 60 to 85% of the market price paid by these clients.

Hale, Coffey, Spencer, & Pressman (2011) observed that although locally grown or raised food is becoming popular, finding locally produced livestock products is difficult. Newton (2014) noted that in 2012, for instance, only 8% of livestock and livestock product farms, most of them relatively small, sold food through local food marketing channels. USDA NASS (2019) reported that more than half of U.S. farms were classified as very small, with annual farm sales under $10,000. The households operating these farms typically relied on off-farm sources for most of their household income. Hoppe et al. (2001, p. 12) also stated that, "diversification is a significant factor explaining differences in the level and variability of income between higher and lower performing small farms." Paul & Nehring (2005) added that financially successful small farms tend to be more diversified. What is more, Ahearn, Korb, & Banker (2005) were of the opinion that because the Southeast has the highest share and number of small farms of the major U.S. regions, the increased consumer demand for direct-to-consumer marketing of farm products would seem to offer an exceptional opportunity for the small producers in the region.

The Southeast has a relatively large number of small producers who engage in livestock production, especially beef cattle and meat goats, and sell locally or regionally. Yet, it is not known what the farm, economic, and marketing characteristics and/or practices of small livestock producers in the Southeast are on a comparative basis. In fact, insofar as the authors are aware, there are no studies on specific characteristics of small livestock producers in the

Southeast. There is the need to conduct such an analysis to have insights into these characteristics, and possibly a glimpse into their readiness to participate in this opportunity. Therefore, the purpose of the study was to provide a comparative analysis of selected characteristics of small livestock producers in three Southeastern states of the U.S. Specific objectives were to (1) examine farm characteristics, (2) examine economic characteristics, and (3) examine marketing characteristics.

## LITERATURE REVIEW

This section discusses the relevant studies in three subsections, farm characteristics, economic characteristics, and marketing characteristics. Each subsection focuses on seven studies and they are discussed sequentially.

### Farm Characteristics

Breiner (2007) examined the perceptions and attitudes of cow-calf producers toward emerging technologies and policy issues in the beef cattle industry. The author reported that the average herd size was 160; 17% of the producers had been in livestock production for 20 years or less; 47% had been in livestock production for 21-40 years, and 33% had been in livestock production for more than 40 years. Additionally, 55% indicated using technology, and in particular, personal computers in their operations; whereas, 44% did not use personal computers in their operations. Many of those using personal computers wanted to be able to quickly, or flexibly, adopt new technology as they are developed.

Nickerson & Hand (2009) examined the participation of beginning, limited resource, and socially disadvantaged farmers in conservation programs. The study showed that the average acreage operated by beginning, limited resource, and socially disadvantaged farmers was 163, 152, and 314 acres, respectively. The average acreage for small family farms was 270 acres and that for farms of all sizes operated by other farmer types was 507 acres. Also, socially disadvantaged farms specializing in livestock production were about 150 acres larger, on average, than socially disadvantaged farms in general. With regards to tenure, 79% of limited resource farmers fully owned their farms, while 14% partially owned and partially rented their farms. For small family farms, 66% fully owned their farms, 30% partially owned and partially rented their farms, and 5% were tenants or fully rented their farms.

Joseph (2013) analyzed cattle producers' practices, willingness to adopt new production practices or technologies, and their preferences for information dissemination in North Carolina. The author found that 69% of the respondents were mainly livestock farmers; 25% produced both livestock and crops, and 6% produced only crops. Additionally, the author reported 68%

had a herd size of 1-49 cattle, 21% had 50-99 cattle, and 11% had 100 or more cattle. Average years in cattle production was 37 years. The author also found that the more years of farming experience producers had, the less concerned they were with an innovation contributing to profitability; however, producers with less years of farming experience were more willing to adopt innovations that contribute to profitability. The adoption of new production practices or technologies was most influenced by profitability.

Newton (2014) analyzed small acreage farming in the U.S. based on data from the 2007 U.S. Census of Agriculture. The author reported that a majority (90%) of small farm operators fully owned the land that they farmed; 4% partially owned the land that they farmed and rented the rest, and the remaining 6% of farmers fully rented the land that they farmed. The author also found that for small acreage farms to earn over $10,000 in gross sales in a given year, a farm operator has to commit significant resources to farming. Thus, a livestock farmer would need to have sold 22 feeder cattle at 500 pounds each at the average price of $462 per animal to gross over $10,000 for both full- and part-time farmers.

Low et al. (2015) evaluated trends in U.S. local and regional food systems based on the 2012 Census of Agriculture. They found that producers who sold directly to consumers owned less land ($240 worth of land per dollar of sales), compared to other producers ($309 worth of land per dollar of sales). This was attributed to the fact that they did not need to purchase as much machinery and land to achieve a certain level of sales, and as such did not need to leverage as much of their wealth in order to obtain financing.

Osti, Gillespie, Nyaupane, & McMillin (2016) analyzed meat goat production in the U.S., focusing on the production practices used by meat goat farmers. They reported that U.S. meat goat farms had an average of 200 acres of land for farming, of which 58% were used for the meat goat production. The average meat goat herd size was 61 goats. The commonest goat breeds were Boer and Kiko goats or their mix, although there were other breeds such as Spanish and Angora goats.

Martin, Grau, Rutherford, Grandin, & Edwards-Callaway (2018) assessed cow-calf producer perspectives on management strategies and industry challenges. The results showed that 34% of the respondents had a herd size of 50 heads or less; 43% had 51-200 heads; 16% had 201-500 heads; 5% had 501-1,000 heads, and the remaining had more than 1,000 heads. Also, 57% of the respondents with a herd size of 50 heads or less were from the Northeast region; 29% with a herd size of 201 to more than 1,000 heads were from the West. In addition, 56% of the respondents mentioned land availability as their greatest challenge, followed by lack of market predictability (52%), and access to reliable labor (37%).

**Economic Characteristics**

Langemeier & Jones (2006) estimated the scope efficiency for crop and beef farms. Scope efficiency (i.e., efficiency based on the joint production of crops and animals on the same farm) was significantly higher for smaller farms than for larger farms. Despite the relatively higher scope efficiency levels for smaller farms, economic efficiency (i.e., efficiency related to cost control and economies of size) was significantly lower for smaller farms. In other words, the smaller the gross farm income, the higher the scope efficiency index and vice versa. Similarly, farms with above-average total acres or beef output had significantly lower scope efficiency indices compared with indices of farms with below-average total acres or beef output.

House & Goodwin (2012) assessed costs and returns for a meat goat operation based on fifty does and two bucks. They calculated the gross revenue as $6,117.65 and variable costs as $8,896.52. The income above variable costs was -$2,778.87. Fixed costs were $2,131.71 (total costs were, therefore, $11,028.23). Net returns were -$4,910.58. When they made adjustments to variable costs, by reducing number of animals dewormed per year (from six to one) and reducing hay and grain fed per year (by 50%), they decreased variable costs from $8,896.52 to $5,592.89 (difference of $3,303.63), and net returns were increased from -$4,910.58 to -$1,507.84. The study showed that changing practices could lead to a reduction in the cost of operations, and thereby minimize losses, or increasing profits.

Schwab et al. (2012) analyzed production costs and break-even market prices for grass-fed and organic beef. The result showed that costs per cow was $769, or $190 per cwt. The results further showed that herd size predicted 19% of the variability in total costs of a production; with herd size of 30 to 50 cows greatly influencing cost variation compared to a herd size of below 30. In other words, herd sizes below 30 dampen profitability.

Ahearn & Stern (2013) examined direct to consumer sales of farm products focusing on producer and supply chains in the Southeast. Their study revealed that in the short run, the availability of farmers' markets had a negative impact on the likelihood of success of producers based on net cash income; this impact was, however, not significant. However, in the long-run, growth in farmers' markets had a statistically significant and positive impact on the return on assets, but not on the net cash farm income. Their study also showed that the size of a farm was positively related to farm profitability.

Bhandari, Gillespie, & Scaglia (2015) examined the efficiency of U.S. grass-fed beef farms. They reported that the average income of a respondent was $58,146; the average labor expense was $9,267, and the average feed expense was $5,184. More experienced farmers were more efficient in using inputs to produce output than were less experienced farmers. A farm in the Southeast region showed more efficiency compared to a farm in the West. Farms

involved in the cow-calf segment were less efficient than the farms that were not involved in such operations. They found that labor expenses, feed expenses, other variable expenses, and fixed expenses had positive signs and were statistically significant in relation to technical efficiency. However, land had a positive sign but was not statistically significant.

Qushim, Gillespie, & McMillin (2016) assessed meat goat enterprise efficiency in the Southeastern U.S. The results revealed that the meat goat enterprise expense per acre of goat production land for medium- and large-sized farms were lower than for small-sized farms. Total, variable, and fixed expenses per meat goat in medium- and large-sized farms were lower than for small-sized farms. Farmers selling higher volumes of meat goats for breeding stock or show were more technically efficient than those selling goats for slaughter or other purposes. They also found that meat goat enterprises can be scale efficient if their size of operation is greater than 60 goats, or greater than 40 breeding does.

Nyaupane, Gillespie, & McMillin (2017) examined how important farm profitability is to meat goat producers. They reported an average of 61 meat goats per farm, and net farm income and number of goats sold, correlated positively with farm profit maximization. They found that farm characteristics (age, education, off-farm income), economic indicators (net farm income, increase net worth, avoid low profit, risk averse), and regional variables (Southeast, Northeast, Midwest, West) affected farmers' goal structure, with economic indicators being the most important to the respondents. With respect to profitability, large-scale farmers, older farmers, and farmers with higher education tended to focus more on farm profitability.

**Marketing Characteristics**

Schmitz, Moss, & Schmitz (2003) investigated competition for U.S. stocker cattle in marketing channels. The authors found that public auctions, private sales, video auctions, and internet sales were the four major marketing channels for most producers. They also found that 66% of stocker cattle were marketed through "local" public auctions and 34% were marketed through private sales, video auctions, or internet sales (19, 11, and 5%, respectively). For smaller producers, marketing options were limited due to the relatively small size of their operations. They usually marketed cattle through public auctions.

Gillespie, Basarir, & Schupp (2004) examined beef producer choice in cattle marketing. They reported that 91% of producers marketed some cattle through conventional auction; 3% marketed through video auction (however, 17% of producers owning over 100 cattle used video auction). Furthermore, 26% marketed through private treaty; 7% marketed through retained ownership, and 14% marketed through strategic alliance or cooperatives. Overall, 39% of the

producers marketed through one or more of the alternative marketing arrangements; yet, 65% of those with more than 100 animals marketed through alternative marketing arrangements.

Steinberg & Comerford (2009) surveyed pasture-finished beef producers focusing on Northeastern U.S. They reported that 63% of the producers sold frozen retail cuts only, most of them (80%) marketed the cuts directly to customers. Additionally, 77% of producers sold all or part of their cattle as carcass sides or quarters at an average price of $4.95/kg, and 65% of farms sold part or all of their cattle as individual cuts at an average price of $10.91/kg.

Golkonda (2013) assessed marketing channels and practices used by the meat goat producers in Tennessee. The marketing channels included direct farm sales, auctions, retailers, and marketing cooperatives. About 46% of the respondents used on-farm sales; 28% sold through auctions, 11% sold through retailers or marketing cooperatives, and another 11% sold through other channels. Also, 54% indicated they sold goats seasonally during holidays or festivals; 15% indicated monthly, 9% sold weekly or daily, and 15% sold at other times.

Gillespie, Nyaupane, McMillin, & Harrison (2014) analyzed the impact of marketing channels used by U.S. meat goat producers on farm profitability. They focused on seven major marketing channels, including live auctions; dealers, brokers, or meat packers; wholesale and retail businesses; “I sell goat meat”; direct sale to consumers; market pooling; and cooperatives. For producers who selected the “I sell goat meat” option, they had a follow up question of which outlets they actually sold to, and these included; (a) farmers markets, (b) direct to consumers, (c) grocery stores, (d) restaurants, and (e) other. The researchers found that direct sale to consumers was the most used channel, followed by live auction; dealers, brokers, or meat packers; pooling; “I sell goat meat”; wholesale and retail businesses, and cooperatives. They also found that farm size and type of animal sold were significant determinants in a selection of a marketing channel.

Nyaupane, Gillespie, & McMillin (2016) analyzed the marketing of meat goats in the U.S. The results showed 79% sold their goats directly to consumers; 65% sold goats at auctions; 15% sold goats through dealers, brokers, or meat packers, and 11% used other channels, such as market pooling; wholesale and retail businesses, and cooperatives. They also reported that farm and farmer characteristics, types of animals sold, and regional variables had significant effects on marketing channel selection.

Karki, Karki, Mendreddy, Poudel, & Bhattrai (2018) examined market opportunity for

goat and lamb meat in the Southeastern U.S. The results showed that the price range for frozen goat meat was from $9.88/kg in Orlando, Florida to $19.78/kg in Birmingham, Alabama. The price for lamb, however, ranged from $21.60/kg in Mobile, Alabama to $32.98/kg in Orlando, Florida. Prices also varied depending on the type of meat for each product (e.g., lamb

kabobs, lamb rack, lamb boneless, lamb loin chops, meat goat for stew, and goat chops). Most of the stores reported that the demand for goat and lamb meat was growing due to the increasing ethnic population, but the supply was uneven. The findings from the study suggested that there was high demand for goat and lamb meat in the Southeast, and provided a market opportunity for rural producers to enter the food supply chain.

The literature discussed above, can be summarized as follows: The farm characteristics emphasized farm size and land ownership status (Breiner, 2007; Nickerson & Hand, 2009; Newton, 2014; Low et al., 2015; Osti et al., 2016) and herd size (Joseph, 2013; Martin et al., 2018). The economic characteristics focused on revenues costs and profits/profitability (House & Goodwin, 2012; Schwab et al., 2012; Ahearn & Stern, 2013; Nyaupane et al., 2017) and efficiency (Langemeier & Jones, 2006; Bhandari et al., 2015; Qushim et al., 2016). The marketing characteristics emphasized where “product” is sold (Schmitz et al., 2003; Gillespie et al., 2004; Golkonda, 2013; Gillespie et al., 2014); and how “product” is sold (Steinberg & Comerford, 2009; Karki et al., 2018).

## METHODOLOGY

For this descriptive study, a questionnaire was developed that had six sections, namely, farm information, production, processing, economics, marketing, and demographic information. It went through several iterations before it was finalized. After this, it was submitted to the Institutional Review Board for approval before being administered. The questionnaire was then administered to a convenience sample of livestock producers in three Southeastern states, Alabama, Georgia, and Florida, at different time periods. Convenience sampling was used in this case, because there was a lack of a known sampling frame.

The data were collected through face-to-face means from small beef cattle and meat goat producers, either through interviews or self-administered in the presence of the administrator. In Alabama, the data came from producers, primarily, in the south central counties. Data were collected from the summer of 2013 to the spring of 2014. The total sample was 121. In Georgia, the data came from producers, primarily, in selected counties in the northern, central, and southern parts of the state. Data were collected from the summer of 2013 to the spring of 2016. The total sample was 40. In Florida, the data came from producers, primarily, in selected counties in the north and central parts of the state. Data were collected from the summer of 2013 to the summer of 2016. The total sample was 70. In all three states, the data were collected by county Extension agents, other personnel, as well as graduate students.

In this study, the data covered selected socioeconomic characteristics, farm characteristics, economic characteristics, and marketing characteristics. The socioeconomic characteristics included farming status, gender, race/ethnicity, age, education, and household income. The farm characteristics included ownership status, acreage owned, acreage farmed, years involved with farming, years involved with livestock production, enterprise type, beef cattle herd size, and meat goat herd size. The economic characteristics included beef cattle and meat goat expenses, gross receipts, and profits. The marketing characteristics included beef cattle sold, meat goats sold, where beef cattle are sold, and where meat goats are sold. The data were analyzed by descriptive statistics, specifically, percentages. Using percentages normalizes all results. This methodology was adopted in the study, because the primary focus is to examine trends in the different categories. The study is part of a larger study on small livestock producers and local or regional production.

## RESULTS AND DISCUSSION

Table 1 presents the socioeconomic characteristics of the respondents. There were more part-time producers in Alabama and Florida, 69 and 60%, respectively, than full-time producers. The situation was different for Georgia where there were more full-time producers than part-time producers (50 versus 48%). For gender, there were more male producers in Alabama than female producers (83 versus 14%). In Georgia, there were more female producers than male producers (55 versus 43%). However, in Florida, the proportions were equal (50% each). Furthermore, there were more Black respondents in Alabama than White respondents; however, in Georgia and Florida there more White respondents than Black respondents.

Not surprisingly, there were also more middle to older (45 years or older) producers in all three states than younger producers, 81% for Alabama; 60% for Georgia, and 90% for Florida. For education, most of the producers in the three states have had education beyond high school, 61% for Alabama; 75% for Georgia, and 66% for Florida. However, for college educated (four-year and above) respondents, the percentages were less, 30% for Alabama; 45% for Georgia, and 26% for Florida. For annual household income, a sizeable proportion of producers in Alabama and Florida had an annual household income of below $30,000, 32 and 40%, respectively, compared to Georgia, 8%. However, for Alabama and Florida more producers earned an annual household income of more than $30,000 but less than $60,000, 46 and 43%, respectively, than Georgia 33%; when it comes to annual household income of over $60,000, Georgia by far dominated Alabama and Florida with 38% compared with 12 and 13%, respectively, for the latter two states.

Table 1. Socioeconomic Characteristics (N = 121, 40,

| Variable | AL | GA | FL |
|---|---|---|---|
| **Farming Status** | | | |
| Full-time | 29.8 | 50.0 | 34.3 |
| Part-time | 68.6 | 47.5 | 60.0 |
| No Response | 1.7 | 2.5 | 5.7 |
| **Gender** | | | |
| Male | 82.6 | 42.5 | 50.0 |
| Female | 14.0 | 55.0 | 50.0 |
| No Response | 3.3 | 2.5 | 0.0 |
| **Race/Ethnicity** | | | |
| Black | 81.0 | 35.0 | 41.4 |
| White | 15.7 | 57.5 | 47.1 |
| Other | 0.8 | 2.5 | 1.4 |
| No Response | 2.5 | 5.0 | 10.0 |
| **Age** | | | |
| 20-24 years | 2.5 | 0.0 | 0.0 |
| 25-34 years | 0.8 | 2.5 | 1.4 |
| 35-44 years | 9.1 | 12.5 | 7.1 |
| 45-54 years | 20.7 | 15.0 | 18.6 |
| 55-64 years | 30.6 | 22.5 | 32.9 |
| 65 years or older | 29.8 | 40.0 | 38.6 |
| No Response | 6.6 | 7.5 | 1.4 |
| **Educational Level** | | | |
| High School Graduate or Below | 33.9 | 22.5 | 32.9 |
| Two-Year/Technical Degree | 15.7 | 17.5 | 10.0 |
| Some College | 15.7 | 12.5 | 30.0 |
| College Degree | 15.7 | 17.5 | 22.9 |
| Post-Graduate/Professional Degree | 14.0 | 27.5 | 2.9 |
| No Response | 5.0 | 2.5 | 1.4 |
| **Annual Household Income** | | | |
| $10,000 or less | 0.8 | 0.0 | 7.1 |
| $10,001-20,000 | 13.2 | 2.5 | 7.1 |
| $20,001-30,000 | 18.2 | 5.0 | 25.7 |
| $30,001-40,000 | 19.0 | 7.5 | 20.0 |
| $40,001-50,000 | 11.6 | 15.0 | 2.9 |
| $50,001-60,000 | 15.7 | 10.0 | 20.0 |
| Over $60,000 | 11.6 | 37.5 | 12.9 |
| No Response | 9.9 | 22.5 | 4.3 |

Table 2 shows the farm characteristics of the producers. Focusing on ownership status, more producers in Alabama and Georgia owned farms outright 31 and 43%, respectively, compared to producers in Florida, 13%. Yet, a sizeable proportion of respondents were paying for their farms with a mortgage in all 3 states, 22, 35, and 41%, respectively, for Alabama, Georgia, and Florida. More producers in Alabama and Florida inherited their farms (22 and 33%, respectively) compared to producers in Georgia, 18%. A surprising phenomenon is that very few producers only leased land, 3, 5, and 7%, respectively, for Alabama, Georgia, and Florida. Farm ownership status may have implications for securing loans for farm operations if and when necessary, especially when land is inherited and owned as heir property. The results for producers renting land are not that different from Nickerson & Hand (2009) and Newton (2014) who, respectively, reported 5 and 6% fully rented the lands they farmed.

Table 2. Farm Characteristics (N = 121, 40, and 70)

| Variable | AL | GA | FL |
|---|---|---|---|
| **Ownership Status** | | | |
| Purchased (paid-off) | 30.6 | 42.5 | 12.9 |
| Purchasing with mortgage | 22.3 | 35.0 | 41.4 |
| Leased | 3.3 | 5.0 | 7.1 |
| Inherited | 22.3 | 17.5 | 32.9 |
| Multiple | 21.5 | 0.0 | 5.7 |
| **Total Acreage Owned** | | | |
| 10 acres or less | 29.9 | 17.5 | 14.3 |
| 11-20 acres | 6.6 | 5.0 | 22.9 |
| 21-30 acres | 5.8 | 7.5 | 30.0 |
| 31-40 acres | 7.4 | 5.0 | 5.7 |
| 41-50 acres | 9.1 | 10.0 | 5.7 |
| 51-60 acres | 10.7 | 47.5 | 5.7 |
| More than 60 acres | 50.4 | 2.5 | 14.3 |
| No Response | 0.0 | 0.0 | 1.4 |
| **Total Acreage Farmed** | | | |
| 10 acres or less | 6.6 | 12.5 | 5.7 |
| 11-20 acres | 5.0 | 7.5 | 7.1 |
| 21-30 acres | 4.1 | 2.5 | 18.6 |
| 31-40 acres | 5.8 | 7.5 | 27.1 |
| 41-50 acres | 7.4 | 5.0 | 7.1 |
| 51-60 acres | 10.7 | 10.0 | 12.9 |

Table 2…

| | | | |
|---|---|---|---|
| More than 60 acres | 57.9 | 55.0 | 21.4 |
| No Response | 2.5 | 0.0 | 0.0 |
| **Years in Farming** | | | |
| 1-5 years | 6.6 | 5.0 | 14.3 |
| 6-10 years | 5.0 | 15.0 | 11.4 |
| 11-15 years | 4.1 | 15.0 | 30.0 |
| 16-20 years | 5.8 | 2.5 | 18.6 |
| 21-25 years | 7.4 | 15.0 | 10.0 |
| 26-30 years | 10.7 | 30.0 | 11.4 |
| More than 30 years | 57.9 | 17.5 | 4.3 |
| No Response | 2.5 | 0.0 | 0.0 |
| **Years Involved with Livestock** | | | |
| 1-5 years | 14.9 | 7.5 | 20.0 |
| 6-10 years | 14.9 | 10.0 | 11.4 |
| 11-15 years | 6.6 | 12.5 | 18.6 |
| 16-20 years | 6.6 | 12.5 | 21.4 |
| 21-25 years | 14.0 | 10.0 | 10.0 |
| 26-30 years | 18.2 | 25.0 | 14.3 |
| More than 30 years | 24.0 | 22.5 | 2.9 |
| No Response | 0.8 | 0.0 | 1.4 |
| **Animal Type/Enterprises** | | | |
| Beef Cattle | 71.1 | 57.5 | 18.6 |
| Meat Goats | 21.5 | 27.5 | 81.4 |
| Both | 6.6 | 12.5 | 0.0 |
| No Response | 0.8 | 2.5 | 0.00 |
| **Beef Cattle Herd Size** | | | |
| 10 or less | 16.5 | 12.5 | 4.3 |
| 11-20 | 17.4 | 2.5 | 4.3 |
| 21-30 | 9.1 | 15.0 | 4.3 |
| 31-40 | 11.6 | 7.5 | 1.4 |
| 41-50 | 4.1 | 5.0 | 1.4 |
| 51-60 | 5.0 | 0.0 | 1.4 |
| 61-70 | 7.4 | 7.5 | 1.4 |
| More than 70 | 4.1 | 12.5 | 0.0 |
| No Response | 4.1 | 10.0 | 0.0 |
| Not Applicable | 20.7 | 27.5 | 81.4 |

| **Meat Goat Herd Size** | | | | Table 2… |
|---|---|---|---|---|
| 10 or less | 5.8 | 17.5 | 27.1 | |
| 11-15 | 1.7 | 0.0 | 14.3 | |
| 15-20 | 5.8 | 10.0 | 10.0 | |
| 21-25 | 2.5 | 10.0 | 5.7 | |
| 26-30 | 1.7 | 2.5 | 5.7 | |
| 31-35 | 0.8 | 2.5 | 4.3 | |
| 36-40 | 1.7 | 0.0 | 7.1 | |
| More than 40 | 7.4 | 0.0 | 7.1 | |
| No Response | 0.8 | 0.0 | 1.5 | |
| Not Applicable | 71.9 | 57.5 | 17.1 | |

For acreage owned, 42% of respondents owned 30 acres or less in Alabama and 30% owned 30 acres or less in Georgia; however, an overwhelming majority, 67%, owned 30 acres or less Florida. In addition, 27 and 17%, respectively, of respondents in Alabama and Florida owned 31-60 acres of land compared to 63% that owned 31-60 acres in Georgia. A little over 50% of the producers in Alabama owned over 60 acres of land, a far more dominant proportion than the other two states (3 and 14%, respectively, for Georgia and Florida). Regarding acreage farmed, the proportions were more uniform. Respectively, 16, 23, and 31% farmed 30 acres or less in Alabama, Georgia, and Florida; 24, 23, and 47% farmed 31-60 acres in Alabama, Georgia, and Florida. Moreover, examining farming over 60 acres the proportions for Alabama and Georgia were more consistent than Florida. For the two states, 58 and 55%, respectively, of the respondents indicated they farmed more than 60 acres. For Florida, 21% farmed more than 60 acres. Overall, acreage farmed was more than acreage owned, possibly due to renting additional land on a monthly basis, or using additional land without a formal leasing arrangement. The number of acreage farmed was way less than those reported for limited resource farmers by Nickerson & Hand (2009) and Otsi et al. (2016). The former reported an average acreage of 163,152, and 314 acres for beginning farmers, limited resource farmers, and socially disadvantaged farmers, respectively. Otsi et al. (2016) also reported an average acreage of 116 acres for meat goat farmers.

Furthermore, 16% of respondents in Alabama had farming experience of 15 years or less; compared to 35% in Georgia and 56% in Florida. Also, 24, 48, and 40% had farming experience of 16-30 years, in Alabama, Georgia, and Florida, respectively. With respect to

farming experience of over 30 years, Alabama stood out with 58% of respondents affirming so. Each of the three states dominated in one category of years in farming, with Florida dominating in the less than 15 years category (56%); Georgia dominating in the 16-30 years category (48%), and Alabama dominating in the greater than 30 years category (58%). In summary, when it comes to years in farming, longevity favored Alabama and Georgia more: 82 and 65%, respectively, of Alabama and Georgia respondents had been in farming more than 15 years compared to 44% for Florida. Proportions for livestock farming experience of 15 years or less, were 36% for Alabama; 30% for Georgia, and 50% for Florida. For livestock farming experience of 16-30 years, the proportions were 39% for Alabama; 48% for Georgia, and 46% for Florida. For livestock farming experience of more than 30 years, associated proportions were 24% for Alabama; 23% for Georgia, and only 3% for Florida. In the case of livestock farming experience, Florida clearly dominated the 15 years or less category (50%). However, in the other two categories, the dominance was not by one state. For instance, in the 16-30 years category, both Alabama and Florida dominated (48 and 46%, respectively). In the more than 30 years category, again, both Alabama and Georgia dominated (24 and 23%, respectively). In sum, when it comes to livestock farming experience, longevity favored Georgia and Alabama more; 70 and 63%, respectively, of Georgia and Alabama respondents had livestock farming experience of more than 15 years compared to 49% for Florida. The findings are in agreement with Breiner (2007), who also reported that 80% of livestock farmers had been farming for over 20 years.

Looking at animal type and enterprises, respondents in Alabama and Georgia had more beef cattle than meat goats; 71 and 58%, respectively, than Florida with 19%. On the flip side, respondents in Florida had more meat goats than Alabama and Georgia; 81% versus 22 and 28%, respectively. The presence of more beef cattle in Alabama and Georgia than meat goats may explain why producers in the two states farm more acreages on the higher end (over 50 acres) than Florida.

Assessing beef cattle herd size, 55% of the respondents in Alabama had a herd size of 40 heads or less; 48% of respondents in Georgia had a herd size of 40 heads or less, and only 14% of respondents in Florida had a herd size of 40 heads or less. Corresponding percentages for a herd size of more than 40 heads were 21% for Alabama, 25% for Georgia, and 4% for Florida. Regarding meat goats, 18% of respondents in Alabama had a herd size of 30 herds or less; 40% of respondents in Georgia had a herd size of 30 herds or less, and 63% of respondents in Florida had a herd size of 30 heads or less. Corresponding percentages for a herd size of more than 30 heads were 10% for Alabama; 3% for Georgia, and 19% for Florida. Generally, there are relatively small herds of beef cattle and meat

goats, a reflection of the smallness of the farms, or operations. The predominant herd size for beef cattle 40 heads or less generally agrees with Joseph (2013), who found that 68% of producers had a cattle herd size of 1-49 heads. Furthermore, the predominant herd size of 30 heads or less for meat goats is in disagreement with Otsi et al. (2016) and Nyaupane et al. (2017), who reported average meat goat size of 61 goats.

Table 3 reflects the economic characteristics. For beef cattle, 39% of producers had total expenses of $5,000 or less and 24% had total expenses of more than $5,000 in Alabama; 20% had total expenses of $5,000 or less and 30% had total expenses of more than $5,000 in Georgia; and 9% had total expenses of $5,000 or less and 6% had total expenses of more than $5,000 in Florida. Moreover, 35% had gross receipts of $5,000 or less and 24% had gross receipts of more than $5,000 in Alabama; 8% had gross receipts of $5,000 or less and 38% had gross receipts of more than $5,000 in Georgia, and 4% had gross receipts of $5,000 or less and 10% had gross receipts of more than $5,000 in Florida. Overall, for beef cattle, 33% either made a loss or broke-even in Alabama; 3% either made a loss or broke-even in Georgia, and 6% either made a loss or broke-even in Florida. Also, 34% made a profit of $5,000 or less in Alabama; 45% made a profit of $5,000 or less in Georgia, and 6% made a profit of $5,000 or less in Florida. However, none made a profit of more than $5,000 in Alabama or Georgia; and 4% made a profit of more than $5,000 in Florida.

For meat goats, 19% of producers had total expenses of $2,500 or less and 3% had total expenses of more than $2,500 in Alabama; 28% had total expenses of $2,500 or less and 3% had total expenses of more than $2,500 in Georgia, and 10% had total expenses of $2,500 or less and 24% had total expenses of more than $2,500 in Florida. Moreover, 17% had gross receipts of $2,500 or less and 5% had gross receipts of more than $2,500 in Alabama; 28% had gross receipts of $2,500 or less and 5% had gross receipts of more than $2,500 in Georgia, and 17% had gross receipts of $2,500 or less and 19% had gross receipts of more than $2,500 in Florida. In this case, 11% either made a loss or broke-even in Alabama; 15% either made a loss or broke-even in Georgia, and 33% either made a loss or broke-even in Florida. Additionally, 9% made a profit of $2,500 or less in Alabama; 10% made a profit of $2,500 or less in Georgia; 13% made a profit of $2,500 or less in Florida, and 7% made a profit of more than $2,500 in Florida.

An interesting observation is that 12 and 25% of producers in Alabama and Georgia, respectively, did not respond to the beef cattle profits question, and 27% of meat goat respondents in Florida did not know their profits. This could mean either they did not keep good records, or they do not want observers to know their financial performance. This

notwithstanding, the profits for beef cattle or meat goats were not that high. This may be due to the sizes of operations, management, or both. Ahern & Stern (2013) and Nyaupane et al. (2017) reported that the size of a farm or an operation was positively correlated with profitability. House & Goodwin (2012) also stated that changing management practices could minimize losses or increase profits.

Table 3. Economic Characteristics (N = 121, 40, and 70)

| Variable | AL | GA | FL |
|---|---|---|---|
| **Beef Cattle Total Costs in Previous Year** | | | |
| $5,000 or less | 38.8 | 20.0 | 8.6 |
| More than $5,000 | 24.0 | 30.0 | 5.9 |
| Don't Know | 9.1 | 20.0 | 2.9 |
| No Response | 6.6 | 5.0 | 1.4 |
| No Applicable | 21.5 | 27.5 | 81.4 |
| **Beef Cattle Gross Receipts in Previous Year** | | | |
| $5,000 or less | 34.7 | 7.5 | 4.3 |
| More than $5,000 | 24.0 | 37.5 | 10.1 |
| Don't Know | 11.6 | 15.0 | 4.3 |
| No Response | 8.3 | 12.5 | 1.4 |
| No Applicable | 21.5 | 27.5 | 81.4 |
| **Beef Cattle Profits in Previous Year** | | | |
| Less than Zero (Loss) | 21.5 | 2.5 | 2.9 |
| Zero (Break-even) | 11.6 | 0.0 | 2.9 |
| $5,000 or less | 33.9 | 45.0 | 5.7 |
| More than $5,000 | 0.0 | 0.0 | 4.3 |
| Don't Know | 0.0 | 0.0 | 0.0 |
| No Response | 11.6 | 25.0 | 2.9 |
| No Applicable | 21.5 | 27.5 | 81.4 |
| **Meat Goat Total Costs in Previous Year** | | | |
| $2,500 or less | 19.0 | 27.5 | 10.0 |
| More than $2,500 | 2.5 | 2.5 | 24.0 |
| Don't Know | 5.8 | 12.5 | 30.0 |
| No Response | 0.8 | 0.0 | 0.0 |
| No Applicable | 71.9 | 57.5 | 18.6 |

Table 3…

| | | | |
|---|---|---|---|
| **Meat Goat Gross Receipts in Previous Year** | | | |
| $2,500 or less | 16.6 | 27.5 | 17.2 |
| More than $2,500 | 5.0 | 5.0 | 18.6 |
| Don't Know | 5.8 | 7.5 | 42.9 |
| No Response | 0.8 | 2.5 | 0.0 |
| No Applicable | 71.9 | 57.5 | 18.6 |
| **Meat Goat Profits in Previous Year** | | | |
| Less than Zero (Loss) | 6.6 | 5.0 | 27.1 |
| Zero (Break-even) | 4.1 | 10.0 | 5.7 |
| $2,500 or less | 9.2 | 10.0 | 12.9 |
| More than $2,500 | 0.0 | 0.0 | 7.1 |
| Don't Know | 7.4 | 12.5 | 27.1 |
| No Response | 0.8 | 5.0 | 1.4 |
| Not Applicable | 71.9 | 57.5 | 18.6 |

Table 4 shows the marketing characteristics of the respondents. About 69% of the respondents sold 30 beef cattle or less in Alabama; 45% sold 30 beef cattle or less in Georgia, and 17% sold 30 beef cattle or less in Florida. Overall, more beef cattle were sold in Alabama and Georgia than in Florida, mainly because more of the respondents in Alabama and Georgia raised beef cattle compared to Florida. Also, 51 and 45%, respectively, of respondents in Alabama and Georgia normally sold their beef cattle on-farm or at the auction compared to only13% of respondents in Florida due possibly to fewer respondents owning beef cattle. Considering meat goats, 23% of the respondents sold 30 meat goats or less in Alabama; 30% sold 30 meat goats or less in Georgia, and 74% sold 30 meat goats or less in Florida. The number of meat goats sold in Florida were more than that in Alabama or Georgia, because more of the respondents reared meat goats in Florida than in Alabama or Georgia. Moreover, 17 and 20%, respectively, of respondents in Alabama and Georgia normally sold their meat goats on-farm or at the auction compared to 54% of respondents in Florida. Selling on-farm or at the auction is not surprising as these outlets are the commonest outlets to small producers, as well as a less expensive way of selling of animals compared to other outlets or channels. In fact, Scmitz et al. (2003), Gillespie et al. (2004), Golkonda (2013), Gillespie et al. (2014), and Nyaupane et al. (2016) all reported that the most common marketing outlets for livestock producers were the public auction or on-farm sales.

Table 4. Marketing Characteristics (N = 121, 40, and 70)

| Variable | AL | GA | FL |
|---|---|---|---|
| **Beef Cattle Sold in Previous Year** | | | |
| 5 or less | 29.8 | 12.5 | 7.1 |
| 6-10 | 12.4 | 5.0 | 5.7 |
| 11-15 | 9.1 | 10.0 | 2.9 |
| 16-20 | 8.3 | 7.5 | 0.0 |
| 21-25 | 4.1 | 2.5 | 1.4 |
| 26-30 | 5.0 | 7.5 | 0.0 |
| More than 30 | 3.3 | 17.5 | 0.0 |
| No Response | 7.4 | 10.0 | 1.4 |
| Not Applicable | 20.7 | 27.5 | 81.4 |
| **Where Beef Cattle is Normally Sold** | | | |
| On-farm | 7.4 | 10.0 | 2.9 |
| Auction | 43.8 | 35.0 | 10.0 |
| Wholesale | 10.7 | 0.0 | 0.0 |
| Multiple | 5.8 | 20.0 | 4.3 |
| Other | 7.4 | 2.5 | 0.0 |
| No Response | 4.1 | 5.0 | 1.4 |
| Not Applicable | 20.7 | 27.5 | 81.4 |
| **Meat Goats Sold in Previous Year** | | | |
| 10 or less | 14.9 | 17.5 | 37.1 |
| 11-15 | 1.7 | 2.5 | 14.3 |
| 16-20 | 4.1 | 5.0 | 12.9 |
| 21-25 | 0.0 | 5.0 | 2.9 |
| 26-30 | 2.5 | 0.0 | 7.1 |
| More than 30 | 5.0 | 7.5 | 7.1 |
| No Response | 0.0 | 57.5 | 18.6 |
| Not Applicable | 71.9 | 5.0 | 0.0 |
| **Where Meat Goat is Normally Sold** | | | |
| On-farm | 11.6 | 7.5 | 47.1 |
| Auction | 5.8 | 12.5 | 7.1 |
| Wholesale | 4.1 | 2.5 | 0.0 |
| Multiple | 4.1 | 10.0 | 21.4 |
| Other | 0.0 | 7.5 | 1.4 |
| No Response | 2.5 | 2.5 | 4.3 |
| Not Applicable | 71.9 | 57.5 | 18.6 |

## CONCLUSION

The study compared selected factors of small livestock producers in three Southeastern states of the U.S. In particular, it assessed patterns in farm characteristics; patterns in economic characteristics; and patterns in marketing characteristics. Data were obtained from a set of convenience samples from Alabama, Georgia, and Florida, and were analyzed using descriptive statistics, specifically, percentages, to determine patterns among the various states. The results revealed that owning farm outright or inherited farm dominated ownership status for all three states, 53% for Alabama; 60% for Georgia, and 46% for Florida. For all three states, acreage farmed exceeded acreage owned; for example, in the greater than 60 acre-category for acreage owned, it showed 50% for Alabama; 3% for Georgia, and 14% for Florida but for the same category for acreage farmed results were 58% for Alabama; 55% for Georgia, and 21% for Florida. For farming experience greater than 15 years, Alabama producers dominated with 82%; followed by Georgia, 65%, and Florida, 44%. For livestock farming experience greater than 15 years, Georgia producers dominated with 70%; followed by Alabama, 63%, and Florida, 49%. It is obvious that most of the producers have been in production for a while.

However, they generally had small herd sizes in all three states. For beef cattle, 21% of respondents in Alabama; 25% in Georgia, and 42% in Florida had a herd size of more than 40 heads (but 55% in Alabama, 38% in Georgia, and 14% in Florida had a herd size of less than 40 heads). For meat goats, 10% of respondents in Alabama; 3% in Georgia, and 19% in Florida had a herd size of more than 30 heads (but 18% in Alabama, 40% in Georgia, and 63% in Florida had a herd size of 30 heads or less). For both beef cattle and meat goats, for all three states, more respondents indicated they made a loss, broke-even, or made low profits. For beef cattle, these reflected 67% in Alabama; 48% in Georgia, and 16% in Florida. For meat goats, these reflected 20% in Alabama; 25% in Georgia, and 53% in Florida. Additionally, more beef cattle were sold in Alabama or Georgia than in Florida, and more meat goats were sold in Florida than in Alabama or Georgia. Most of the livestock were sold on-farm or at the auction.

Based on the results, several observations can be made. First, the producers should be encouraged to use land “wisely”; those who indicated farm is inherited should be encouraged to regularize it if it is heir property. Second, since acreage farmed exceeded acreage owned, it is possible that many of the producers were renting land, or using land based on “loose arrangements.” Third, Alabama and Georgia producers have faming experience in general, and livestock farming experience in particular, longer than Florida producers. Fourth, producers in all three states have small herds. Fifth, producers were struggling to make profits. Sixth and final, producers used traditional channels to sell animals. In order for many more of the producers to earn more income, and possibly make more profit, they will need appropriate technical

assistance as well as increase their herd sizes. Future studies are suggested, for example, one which would increase the sample sizes, to validate the results. A limitation of the study is that it applies to the study area. Yet, it provides insights into the workings, practices, or characteristics of small livestock producers.

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