




AN ASSESSMENT OF THE RESPONSES OF SMALL FARM PRODUCERS ON THE USE OF SUPPORTING PRODUCTION MECHANISMS IN THE ALABAMA BACK BELT

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Abstract

The use of recordkeeping templates is important in farming; yet many small farm producers do not keep records. This study assessed the perceptions of small farm producers on the use of supporting production mechanisms (SPMs). SPMs deal with economic, marketing, and financial recordkeeping. The data were obtained from a preselected group of producers in a training program and analyzed using descriptive statistics. The results show that a majority were part-time producers; males; Blacks; middle-aged; had less than a four-year college degree and earned below \$40,000 in annual household income. Additionally, the results show that many of the producers did not use the SPM templates despite the related training given to them at specific workshops. The COVID-19 pandemic, lack of time, poor Internet connection, being overwhelmed, and, probably, not understanding SPMs, may have played a role in the low usage of SPMs. This notwithstanding, it is suggested that the workshops should continue in the study area. Hopefully, a change in format from online to face-to-face may facilitate usage.

Keywords: Alabama Black Belt, Recordkeeping, Small Farm Producers, Supporting Production Mechanisms

INTRODUCTION

Farm producers, generally, face a range of issues in applying economic, marketing, and financial principles to their operations. For instance, financial issues that farm producers have had, over recent years, are related to decreasing farm income and rising farm debt. This may be probably due to the inappropriate use or management of finances or other extenuating factors. Cryan, Nigh, Myers, & Munch (2022) attributed the falling incomes and rising debt to factors

such as drought, geopolitics, and the recent global pandemic. According to Growth Energy (2018), the U.S. farm income was cut by nearly half (48%), from a 2013 high of more than \$120 billion to \$63 billion in 2017. It explained that high production expenses and debts caused profitability to shift downward. Samuels (2019) also discussed marketing and other relevant issues that producers face, such as the need for extensive storage and packaging facilities, barriers to trade, climate change issues related to production, technological upheaval, shifting demand and supply, and difficulties in accessing labor.

Furthermore, according to Samuels (2019), production by small farms significantly reduced between 1991 and 2017 due to struggles to maintain an appropriate economic, marketing, and financial base. Economic, marketing, and financial issues arise from intense competition in the sector; for example, he argued that small farms are being displaced because of the lack of adequate technology and efficiencies of scale, the unreliability of traditional marketing channels that constitute intermediaries, and the lack of the skills to carry out direct marketing effectively. Key (2017) stated that direct sales to consumers are more reliable for small farm producers than other forms of marketing. According to the U.S. Department of Agriculture Economic Research Service [USDA ERS] (2017), small farm producers accounted for approximately 24% of the country's value of production. However, production has continued to shift towards large producers because of increased efficiency from advanced technology and economies of scale enjoyed by these producers. Additionally, Quednau (2018) explained that the regulatory environment for production is designed for industrial farm production, and small farm producers have a difficult time accessing government and other programs. Further, he explained that small farm producers have had a greater challenge in coping with the harsh economic environment, adapting to the evolving marketing conditions, and dealing with challenging finances.

Also, Vanderlin (n.d.) stated that producers generally keep financial records using several documents, depending on the scale of production and extent of technology adoption. He stressed that these documents include income and expenditure receipts, checks, bank statements, invoices, cashbooks, accounts receivables, and accounts payable. According to him, the aforementioned documents facilitate the preparation of farm financial statements. He observed that in modern production, some producers have resulted to using new technology, such as data management platforms or accounting software, to keep financial records. Yet, others prefer to outsource financial recordkeeping by hiring finance professionals for recordkeeping services.

In general, small farm producers face issues regarding economic, marketing, and financial principles related to their farming operations. In particular, the Alabama Black Belt is a

place where there are many small farm producers. These producers face several challenges as other small farm producers alluded to earlier. As an example, many of them do not focus strategically on the use of supporting production mechanisms (SPMs), a term coined by Tackie (2020) to encompass economic, marketing, and financial recordkeeping by producers. The focus on SPMs could help these producers escape some of the challenges that they face. The premise is that if they diligently keep economic, marketing, and financial records, they will have the requisite data to help them make informed decisions about their operations. The purpose of this study, therefore, is to assess the responses of small farm producers on the use of SMPs. The specific objectives are to (1) describe demographic characteristics, (2) examine orderliness to the farming business, (3) examine participants' understanding and use of various recordkeeping templates based on SPMs, and (4) analyze net income.

LITERATURE REVIEW

Agricultural production requires adequate and accurate recordkeeping by producers, especially small farm producers. Proper recordkeeping helps in risk management, enhances optimal profitability, and adds to the overall betterment of operations. One set of records that producers should keep is SPMs, namely, economic records, marketing records, and financial records. The following literature captures some of the related studies associated with this study.

A Brief on Demographic Characteristics

Tackie, Bartlett, Adu-Gyamfi, Quarcoo, & Jahan (2016) investigated the effects of socioeconomic characteristics on selected practices of small livestock producers in Alabama. They found that 69% were part-time farmers; 83% were males; 81% were Blacks and 16% were Whites. Moreover, 60% were 35-64 years and 30% were 65 years or older; 65% had at most a two-year/technical degree or some college education. Almost 51% had an annual household income of \$40,000 or less and 39% had an annual household income of over \$40,000.

Tackie, McKenzie-Jakes, Bartlett, Adu-Gyamfi, & Perry (2018) evaluated the effects of socioeconomic characteristics on selected practices of small livestock producers in Florida. They reported that 60% of the respondents were part-time farmers; equal proportions (50% each) were males and females, 41% were Blacks and 47% were Whites. Additionally, 59% were 35-64 years old and 39% were 65 years or older; 66% had at least a two-year/technical degree; 33% were at most high school graduates; 60% had an annual household income of \$40,000 or less and 36% had an annual household income of over \$40,000.

Tackie et al. (2018) assessed the effects of socioeconomic characteristics on selected practices of small livestock producers in Georgia. About 48% were part-time producers; 55%

were females, and 42% were Blacks and 58% were Whites. Also, 50% were between 35-64 years and 40% were 65 years or older; 75% had at least a two-year/technical degree, and 23% had at most high school education; 15% had an annual household income of \$40,000 or less, and 63% had an annual household income of over \$40,000.

Producers and Recordkeeping

Economic Records

Amoako, Marfo, Gyabaah, & Gyamfi (2014) investigated accounting records keeping practices of small and medium size enterprises (SMEs). The term “accounting records” is used in the broader sense to cover both economic and financial records in the current study and the next two studies. In this study, the authors reported that most SMEs do not keep any formal records (63%). However, for those who prepare and keep records, the two main reasons are: for profitability and for control purposes. The people who usually prepare these records are consultants, accounting staff, and/or other full-time employees. For those business owners who do not prepare accounting records, the main reasons they provide are the exorbitant cost to hire consultants, lack of recordkeeping skills, and maintaining privacy. Also, the main books used for recordkeeping were the sales daybook, operating expense records book, and purchase daybook. Encouragingly, for those who prepare financial statements, the main statements prepared were income statements, balance sheets, and cash flow statements.

Musah & Ibrahim (2014) explored the relationship between recordkeeping and business performance among SMEs. They found that there was a positive and significant correlation between business performance and recordkeeping; meaning that recordkeeping and business performance are linearly related. When the factors were regressed on each other, business performance had more impact on recordkeeping than recordkeeping had an impact on business performance; the effects were, respectively, 0.319 and 0.196.

Ernest (2018) analyzed the role of bookkeeping in the survival of very small businesses. He found that most of the businesses (91%) keep accounting records. The main record book kept was the sales book only; followed by the sales, cash, and purchase book. He also found that the businesses employ accounts clerks to do recordkeeping for them manually, using the single-entry system. The main reason why the majority used the sales book only is the lack of time to keep records as mentioned by the business owners. Also, 54% said they use their records to make decisions in their businesses; 73% indicated that recordkeeping enhances business performance, and another 73% indicated that recordkeeping increases the chances of business success. Thus, recordkeeping is a necessary condition for the survival of a small business.

Khadim & Choudhury (2019) assessed the impact of recordkeeping on the growth of micro- and small-scale enterprises. They reported that, overall, 75% of micro- and small-scale enterprises practiced proper recordkeeping and 25% indicated that they did not. Also, they reported that there was a statistically significant linear relationship between proper recordkeeping and the growth of micro- and small-scale enterprises.

Mintah, Gabir, Aloo, & Ofori (2022) examined if business records management (that is, recordkeeping) affects business growth. They reported that business records management and training had a positive and an indirect effect on business growth. Yet, the positive indirect effect did not significantly cause the adequate adoption of recordkeeping practices. However, the total effect of the variables; for instance, business records management training, business records management policies, and business records management had a positive effect on business growth. They concluded that sound business records management is tied to the viability of small- and medium-sized businesses; therefore, the proprietors of these entities should take business records seriously and constantly improve upon them.

Marketing Records

Ullah, Shivakoti, Zulfiqar, & Kamran (2016) evaluated the sources, impacts, and management of farm risks and uncertainties. They reported that the use of marketing information and maintaining marketing records have become vital for producers regarding responses to risk. They explained that farm management information systems have been automated extensively for recording farm data and can facilitate farm marketing and related activities, including planning and financial activities. They concluded that identifying agricultural risks and uncertainties is essential for producers and that mitigating risks has led to the harmonization of marketing and financial functions in farm management information systems.

De Roest, Ferrari, & Knickel (2018) assessed specialization and economics of scale or diversification and economies of scope vis-à-vis different agricultural development pathways. They found that small farm producers, among other things, carried out their marketing functions by establishing short food chains and rebuilding supportive social and economic networks. They also observed that while small farm producers were willing to diversify, they were constrained by the lack of economic activities beyond farming. Consequently, the collective initiatives of social and economic networks and the designing of short food chains helped the producers to learn about marketing; thus, overcoming their weak marketing power.

The FAO (n.d.) analyzed agricultural and food marketing management. It stressed that small farm producers are unwilling to invest in new and specialized marketing technologies. The reason is specialized marketing technologies force them to invest their limited financial and

economic resources into unfamiliar technologies. Moreover, the FAO explained that marketing involves the expenditure of funds, and with small farm producers, funds are tight; therefore, they are not willing to spend on marketing. It suggested strategies for alternative financing and creative marketing opportunities such as farm loans and strategic partnerships that can help them to exploit marketing opportunities more efficiently than they could do on their own.

Karki, Karki, Tackie, & Harris (2019) investigated the training needs of small farm producers to minimize agricultural marketing problems and challenges. They reported three interesting findings, among others. First, 51% of the respondents had major marketing challenges that caused low profitability. Second, 77% did not maintain records or had only limited marketing records of their farm operations. Third, 55% did not have any form of training in agricultural marketing and marketing management, such as those provided by Cooperative Extension. They concluded that Cooperative Extension personnel must use creative teaching methods to make producers more efficient rather than using only traditional literacy approaches. They argued that this approach will allow producers to make informed decisions when making production, marketing, and other decisions, including recordkeeping.

Martinez & Park (2021) assessed the marketing practices and financial performance of local food producers in the U.S., focusing on beginning and experienced producers. They found that local food producers generally use different strategies to enhance marketing, such as the use of farm management records, the use of the Internet, and participation in various government programs. Specifically, beginning farmers make more use of the Internet in storing marketing records than experienced farmers; 82% of beginning farmers used the Internet to carry out marketing functions compared to 70% of experienced farmers. The producers used the Internet to purchase farm inputs and access non-USDA market information. They also used farm management tools, such as cash flow analysis, writing business and marketing plans, and accessing balance sheets and income statements.

Financial Records

Doye et al. (2000) assessed case studies of farmers' use of information systems. They found that farm information (FI) systems have facilitated the recordkeeping of detailed quantitative production data, debt repaying capacity, farm analysis, preparation of financial statements, and recording of other extensive financial records. They were of the view that FI systems help to achieve farm goals.

Doye (2004) analyzed the use of electronic technology in teaching farm recordkeeping. The results showed that 30% of farms used computers for business operations. However, the use of computers by farms with sales of over \$250,000 was 67% compared to 20% of farms

with sales of less than \$10,000. The study also found that, generally, producers of all types and sizes use computers mainly for bookkeeping and financial analysis. The reason for the latter is that educational programs on farm recordkeeping, most of the time, contain a financial curriculum, and this has increased awareness of formalized bookkeeping and/or financial analysis records. Doye also reported that most of the producers (98%) used the Internet for price tracking, data transmission to clients, and online recordkeeping. However, he reported that inadequate electronic infrastructure remains a constraint for producers in rural America using it for reliable business or recordkeeping.

Grisham & Gillepsie (2008) investigated recordkeeping technology adoption among U.S. small-scale dairy farmers in Louisiana. They found that 78% of the farmers used computers in their operations; 60% generated cash flow statements; 42% generated balance sheets; 38% generated income statements, and 20% generated owner's equity statements. Also, 68% tracked their liquidity closely; 46% tracked solvency closely; 42% tracked profitability closely; 40% tracked repayment capacity closely, and 28% tracked financial efficiency closely.

Doye (2016) assessed the financial recordkeeping systems available to producers in Oklahoma. He found that alternative financial recordkeeping systems available to producers were hand-kept ledgers (Farm Family Account Book) and computerized farm accounting systems. However, the hand-kept ledgers were more popular with small farmers than the computerized accounting systems. For instance, he found that over 2,000 small farmers, on average, use the Oklahoma Farm Family Account Book annually. He explained that hand-kept ledgers "easily" allow small farmers to record financial items such as farm income, expenses, cash flow, inventory, and other financial statement items. Additionally, he reported that computerized farm accounting systems were utilized more by large farmers because of their voluminous transactions, and such systems have made it easier for them to manipulate financial data and make informed farm decisions based on these data.

Gumirakiza & Kamer (2018) analyzed the use of the "Guidelines" for financial recordkeeping by small and mid-scale farmers in Kentucky. The "Guidelines" refer to the financial guidelines for agricultural producers and "were created to help farmers maintain their accounts in a more accurate way that takes the specific needs of farmers into consideration" (p. 3). They reported that 89% of the farmers were not aware of the "Guidelines" and, therefore, did not follow them, and 74% of them did not hire a professional accountant to manage their farm finances. They also reported that 75% of the producers use a single-entry cash-basis accounting system because they believe that cash-basis accounting procedures are easier to follow compared to the double-entry accrual accounting system. Only 12% used a double-entry

accrual accounting system, following the Generally Accepted Accounting Principles. The latter statistic is a sign that farmers prefer simpler accounting systems and not complex ones.

Micheels, Larson, & Erickson (2018) examined recordkeeping and management on Western Canadian farms and ranches. They observed that small farms are increasingly making use of electronic formats to keep farm records and breaking away from the traditional paper format. They found that approximately 50% of the respondents on commercial farms use both paper and electronic records to manage financial data. Microsoft Excel is the most dominant form of electronic recordkeeping (used by 50% of respondents), followed by CattleMax and Breed Association templates (each used by 10% of respondents). According to the study, electronic recordkeeping templates have made it easier for small producers to assess their financial performance.

METHODOLOGY

The producers used in this study were a preselected group of small producers from two sub-regions of the Alabama Black Belt, the West Alabama Black Belt (WABB) and the East Central Alabama Black Belt (ECABB). The producers were placed in these sub-regions based on their place of residence, and their willingness to participate in the study. There were 14 producers in WABB and 15 producers in ECABB, a total of 29 producers. This is akin to a quasi-experimental design. The Alabama Black Belt mostly occupies the South Central part of the State, and it stretches from the Georgia border in the East to the Mississippi border in the West.¹

This research derived its data from a questionnaire developed by Tackie (2021a), which comprised four sections, namely, items reflecting orderliness to the farming business, economic, recordkeeping, marketing recordkeeping, financial recordkeeping, and demographic characteristics. The researchers wanted to ascertain if participants used recordkeeping templates on economic, marketing, and financial (SPMs) [see last paragraph of Introduction] aspects of production given to them, as well as their perceptions of the usefulness of the templates developed by Tackie (2021b). Before the questionnaire was administered, it was submitted to the Institutional Review Board of the researchers' Institution for review and approval. It was administered to the preselected group of small farm producers mentioned above. In particular, the participants were from Autauga, Barbour, Butler, Dallas, Greene, Hale, Jefferson, Lowndes, Macon, Montgomery, Sumter, Talladega, and Wilcox counties. The data were collected by interviewing the producers who participated in the project and availed themselves to be interviewed. Selected members of the research team conducted the interviews in the first quarter of 2022.

The premise here is that when small producers are given specific recordkeeping templates/books, such as SPMs templates/books, and these templates are explained to them

via workshops, their understanding is enhanced, and they will use the templates/books. There were four (4) workshops each conducted, via Zoom because of the COVID-19 pandemic, in 2021 in WABB and ECABB to explain how to use the templates and the relevance of each template. The templates included an economic record book, a marketing plan, and financial record books.

The data analysis was done using descriptive statistics, specifically frequencies and percentages. The frequencies and percentages were used for all data, using SPSS 12.0[®] (MapInfo Corporation, Troy, NY). The authors used descriptive statistics because of the relatively low usage and/or response rates achieved.

RESULTS AND DISCUSSION

Table 1 shows the demographic characteristics of the respondents. About 17% were full-time producers; 24% were part-time producers, and 59% did not respond to the question; 79% were male producers and 21% were female producers; 97% were Black producers and 3% were White producers. None were 34 years or less; 21% were 35-64 years; another 21% were 65 years or older, and 59% did not respond to this question. This translates to 10% being below 55 years and 31% being over 55 years. Also, 7% had either a high school education or below high school education; 21% had either a two-year college education/technical degree or some college education; 14% had either a four-year college degree or post-graduate/professional degree, and 59% did not respond to this question. Moreover, 17% earned less than \$40,000 as annual household income; 10% earned over \$40,000 as annual household income, and 62% did not respond to this question. The results on farming status, gender, and race/ethnicity are in line with those reported by Tackie et al. (2016) for Alabama small livestock producers. However, the results on age, education, and annual household income were a bit murky due to the many non-responses.

Table 1. Demographic Characteristics of Producers (N = 29)

Variable	Frequency	Percent
Farming Status		
Full-time	5	17.2
Part-time	7	24.1
No Response	17	58.6
Gender		
Male	23	79.3
Female	6	20.7

Race/Ethnicity		
Black	28	96.6
White	1	3.4
Age		
20-24 years	0	0.0
25-34 years	0	0.0
35-44 years	1	3.4
45-54 years	2	6.9
55-64 years	3	10.3
65 years or older	6	20.7
No Response	17	58.6
Educational Level		
High School or Below	2	6.9
Two-Year/Technical Degree	2	6.9
Some College	4	13.8
College Degree (4-year)	3	10.3
Post-Graduate/Professional Degree	1	3.4
No Response	17	58.6
Annual Household Income		
\$19,999 or less	1	3.4
\$20,000-29,999	3	10.3
\$30,000-39,999	1	3.4
\$40,000-49,999	1	3.4
\$50,000-59,999	1	3.4
\$60,000-69,999	0	0.0
Over \$70,000	1	3.4
No Response	18	62.1

Table 2 reflects responses to the perception of “orderliness” to farming business and participants’ understanding of and use of the economic record book. Regarding whether using the economic, marketing, and financial recordkeeping templates has brought “orderliness” into producers’ farming business, about 17% indicated strongly agree or agree, and 83% did not use the templates, and therefore they could not be thoroughly assessed. The templates were supposed to bring “orderliness”; however, a majority not using them makes it difficult to gauge orderliness. Approximately 17% strongly agreed or agreed that it was easy to record production levels using the economic record book, and 83% did not use the book. Nearly 14% strongly agreed or agreed that it was easy to record revenues using the economic record book; 3% were neutral, and 83% did not use the book. Another 14% strongly agreed or agreed that it was easy to record capital items using the economic record book; 3% were neutral, and 83% did not use the book.

Again, 14% strongly agreed or agreed that it was easy to record loan items using the economic record book; 3% strongly disagreed, and 83% did not use the book. About 14% strongly agreed or agreed that it was easy to record expenses; 3% were neutral, and 83% did not use the book. About 3% agreed that it was easy to record profit; 10% were neutral; 3% disagreed, and 83% did not use the book. Overall, the “strongly agree” to “agree” categories floated from 3 to 17%, as only 17% used the economic record book. Since 83% did not use the book, they could not respond to or answer the questions on the questionnaire. The 17% who used the book sometimes had similar answers and sometimes varied answers. There may be “hidden reasons” why most of the producers did not use the economic record book. It may be because they are mainly part-time producers, they did not have or make the time to complete or use the book.

Table 2. Responses Showing Perception of “Orderliness” to Farming Business and Participants’ Perceptions of and Usage of the Economic Farm Record Book (N = 29)

Variable	Frequency	Percent
Orderliness to Farming Business		
Strongly Agree	1	3.4
Agree	4	13.8
Neutral	0	0.0
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Production Levels		
Strongly Agree	1	3.4
Agree	4	13.8
Neutral	0	0.0
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Revenue		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Capital Items		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8

Easiness of Recording Loan Items		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	0	0.0
Disagree	0	0.0
Strongly Disagree	1	3.4
Did Not Use	24	82.8
Easiness of Recording Expenses		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	0	0.0
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Profit		
Strongly Agree	0	0.0
Agree	1	3.4
Neutral	3	10.3
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8

Table 3 shows responses to participants' understanding of and usage of the marketing plan book. About 14% agreed that it was easy to access and record other farmers' activities; 3% were neutral, and 83% did not use the book. Approximately 10% strongly agreed or agreed that it was easy to determine and record production and marketing strategy; 3% were neutral; 3% strongly disagreed, and 83% did not use the book. Again, approximately 10% strongly agreed or agreed that it was easy to determine and record product objectives; 7% were neutral, and 83% did not use the book.

About 10% strongly agreed or agreed that it was easy to record the pricing of products; 7% strongly disagreed, and 83% did not use the book. Nearly 14% strongly agreed or agreed that it was easy to record sales and profit trends; 3% disagreed, and 83% did not use the book. Also, nearly 14% strongly agreed or agreed that it was easy to conduct evaluations of sales projections; 3% disagreed, and 83% did not use the book. Almost 14% strongly agreed or agreed that it was easy conducting evaluations of cost projections; 3% were neutral, and 83% did not use the book. About 14% strongly agreed or agreed that it was easy to conduct evaluations of profit projections; 3% disagreed, and 83% did not use the book. About 3% indicated that they had problems developing their marketing plans or using the marketing plan book; 14% indicated that they did not have problems, and 83% did not use the book. On the whole, the "strongly agree" to "agree" categories floated from 10 to 17%, relatively higher in

terms of the “base percentage” compared to the economic record book. Once again, only 17% used the marketing plan book and 83% did not use it. The reasons may be identical to the ones for the economic record book; that is, they did not make or have the time to complete or use the book.

Table 3. Responses Showing Participants’ Understanding of and Usage of the Marketing Plan Record Book (N = 29)

Variable	Frequency	Percent
Easiness of Accessing and Recording other Farmer’s Activities		
Strongly Agree	0	0.0
Agree	4	13.8
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Determining and Recording Production and Marketing Strategy		
Strongly Agree	1	3.4
Agree	2	6.9
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	1	3.4
Did Not Use	24	82.8
Easiness of Recording Product Objectives		
Strongly Agree	1	3.4
Agree	2	6.9
Neutral	2	6.9
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Pricing of Products		
Strongly Agree	1	3.4
Agree	2	6.9
Neutral	0	0.0
Disagree	2	6.9
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Sales and Profit Trends		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	0	0.0
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8

Easiness of Conducting Evaluations of Sales Projections		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	0	0.0
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Conducting Evaluations of Cost Projections		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Conducting Evaluations of Profit Projections		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	0	0.0
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Problems Developing or Using Marketing Plan Book/Template		
Yes	1	3.4
No	4	13.8
Did Not Use	24	82.8

Table 4 depicts responses to participants' understanding of and usage of the financial templates (cash flow budget, financial statements, and financial ratios). Nearly 14% strongly agreed or agreed that it was easy to record cash flow budget items; 3% were neutral, and 83% did not use the book. Another 14% strongly agreed or agreed that it was easy to record asset items in the balance sheet section of the financial statements book; 3% were neutral, and 83% did not use the book. Yet, another 14% agreed that it was easy to record liability items using the financial statements book; 3% were neutral, and 83% did not use the book.

Nearly 14% agreed that it was easy to record revenue items in the income statement section of the financial statements book; 3% were neutral, and 83% did not use the book. Almost 10% agreed that it was easy to record expense items in the income statement section of the financial statements book; 6% were either neutral or disagreed that it was easy to record expense items, and 83% did not use the book. About 17% agreed that it was easy to record operating items in the cash flow statement section of the financial statements book, and 83%

did not use the book. Also, 17% agreed that it was easy to record financing items in the cash flow statement section of the financial statements book, and 83% did not use the book. Nearly 10% agreed that it was easy to record investing items in the cash flow statement section of the financial statements book; 7% were neutral, and 83% did not use the book. Approximately 14% agreed that it was easy to calculate the appropriate financial ratios in the financial ratios book (based on the examples of financial ratio calculations); 3% were neutral, and 83% did not use the book. Here also, the “strongly agree” to “agree” categories floated from 10 to 17%. Again, only 17% used the financial templates and 83% did not use them. As mentioned earlier, the reasons for not using the template may be identical to those for the economic record book and the marketing plan book; that is, they did not have or make the time to record activities. Ultimately, they did not use the book and therefore, could not answer the questions. It is surprising that 83% did not use the economic, marketing, and financial recordkeeping templates/books although they were given monetary incentives² and there were specific workshops on each of the templates to explain the items to the producers. A possible interpretation may be due to the relatively low turnout to the workshops and the relatively bad Internet connection to pick up the workshops. As indicated earlier, all the workshops were conducted online, via Zoom, because of the COVID-19 pandemic. Further, most of the producers reside in rural areas, and Internet access can sometimes be challenging.

Table 4. Responses Showing Participants’ Understanding of Financial Templates (N = 29)

Variable	Frequency	Percent
Easiness of Recording Cash Flow Budget Items		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Asset Items on Balance Sheet		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Liability Items on Balance Sheet		
Strongly Agree	0	0.0
Agree	4	13.8

Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Revenue Items on Income Statement		
Strongly Agree	0	0.0
Agree	4	13.8
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Recording Expense Items on Income Statement		
Strongly Agree	0	0.0
Agree	3	10.3
Neutral	1	3.4
Disagree	1	3.4
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Understanding Operating Items on Cash Flow Statement		
Strongly Agree	0	0.0
Agree	5	17.2
Neutral	0	0.0
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Understanding Financing Items on Cash Flow Statement		
Strongly Agree	0	0.0
Agree	5	17.2
Neutral	0	0.0
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Investing Items on Cash Flow Statement		
Strongly Agree	0	0.0
Agree	3	10.3
Neutral	2	6.9
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8
Easiness of Calculating Appropriate Financial Ratios		
Strongly Agree	1	3.4
Agree	3	10.3
Neutral	1	3.4
Disagree	0	0.0
Strongly Disagree	0	0.0
Did Not Use	24	82.8

Table 5 reflects the recording and analysis of net income or profit items. None of the farmers recorded farm sales, farm expenses, operating income or profit, total sales, total expenses, and net income or profit in the economic record book for the year in question, 2021. Consequently, the revenue-to-expense ratio (efficiency), operating profit or profit trend, and net income or profit trend could not be calculated or generated. Once again, it is surprising that not one producer was able to generate operating income or net income based on using the economic record book. As explained earlier, it may be possible that since these are small farm producers and most of them are part-time producers, they either did not have or make the time. It is also possible that they were overwhelmed by the process and did not understand the SPMs. An allied explanation, as alluded to above, might be attributed to the poor Internet connection, in some cases, during the workshops, and that may have led to their not hearing explanations to completing the book.

Table 5. Recording and Analyzing Net Income or Profit

Variable	Yes	No
Farm Sales	0	29
Record Farm Expenses	0	29
Record Operating Income or Profit	0	29
Record Total Sales	0	29
Record Total Expenses	0	29
Record Net Income or Profit	0	29
Total	0	174

CONCLUSION

The study assessed the responses of small producers on the use of supporting production mechanisms (SPMs) in the Alabama Black Belt Counties. Particularly, it described demographic characteristics, examined orderliness to the farming business, participants' understanding of and usage of various recordkeeping templates/books, and an attempt to analyze net income. The data were collected using a questionnaire and analyzed by descriptive statistics. The results showed that a sizeable number of the respondents were part-time producers; a majority were males and Blacks. Regarding age, education, and annual household income, most of the producers did not respond. However, of those who responded, equal proportions were either middle-aged or older; about a quarter had a two-year college degree or some college education, and about one-fifth earned below \$40,000 as annual household income.

Many of them did not use the templates; the main reasons are: It may be possible that they either did not have or make the time; the COVID-19 pandemic distracted them; poor Internet connection may have affected their understanding and/or they were overwhelmed by the process and did not, overall, understand the SPMs. The findings show that it may be a challenge to get small farm producers to use economic, marketing, and financial templates/books for recordkeeping, despite the assistance given to them to achieve that via specific training sessions (workshops). The additional surprising thing is that none of them called for or requested help. Further, it is recommended that workshops assisting small producers to keep SPM records should continue in the study area, probably in a face-to-face format. It is possible that face-to-face workshops, or some combination thereof, may be the option or the answer now that the pandemic is largely over. The main contribution of this study is that it has added to the literature on small producers and SPM recordkeeping. However, the limitations are the relatively small number of small farm producers used, and the relatively low usage and/or response rates. Future studies are suggested with larger sample sizes to ascertain if the findings will replicate, or if there will be a change in the current results.

ENDNOTES

1. The description is identical to the one used in Tackie et al. (2023). Relationships Regarding Incentives, Recordkeeping Propensity, and Selected Factors Small Producers in the Alabama Black Belt and Surrounding Counties. *Professional Agricultural Workers Journal*, 9(2), because they were derived from the same group of producers.
2. The incentive effect or influence is the subject of the study in the *Professional Agricultural Workers Journal*, 9(2).

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REFERENCES

- Amoako, K. O., Marfo, E. O., Gyabaah, E. N., & Gyamfi, O. (2014). Accounting records keeping practices of SMEs in Ghana: Evidence from Sunyani Municipality. *British Journal of Economics, Finance, and Management Sciences*, 9(1), 120-132.
- Cryan, R., Nigh, V., Myers, S., & Munch, D. (2022). *Market issues to track for 2022*. American Farm Bureau Federation - The Voice of Agriculturepage. Retrieved May 14, 2022, from <https://www.fb.org/market-intel/market-issues-to-track-for-2022>

- De Roest, K., Ferrari, P., & Knickel, K. (2018). Specialization and economies of scale or diversification and economies of scope? Assessing different agricultural development pathways. *Journal of Rural Studies*, 59(April), 222-231.
- Doye, D., Jolly, R., Hornbaker, R., Cross, T., King, R. P., Lazarus, W. F., & Yeboah, A. (2000). Case studies of farmers' use of information systems. *Applied Economic Perspectives and Policy*, 22(2), 566-585.
- Doye, D. (2004). The use of electronic technology in teaching farm record keeping. *American Journal of Agricultural Economics*, 86(3), 762-766.
- Doye, D. (2016). *Information systems for Oklahoma farmers*. Oklahoma Cooperative Extension Service, Stillwater, Oklahoma.
- Ernest, N. (2018). The role of bookkeeping in the survival of the very small business in the Kumba Municipality. *International Journal of Advanced Engineering, Management, and Science*, 4(10), 713-723.
- FAO. (n.d.). *Agricultural and food marketing management*. Retrieved August 29, 2022, from <https://www.fao.org/3/w3240e/W3240E01.htm>
- Grisham, E., & Gillespie, J. (2008). Record-keeping technology adoption among dairy farmers. *Journal of ASFMRA*, 16-27. <https://www.jstor.org/stable/jasfmra.2008.16>
- Growth Energy. (2018, March 20). *The challenges facing American farmers*. Retrieved October 29, 2022, from <https://growthenergy.org/2018/03/20/challenges-facing-american-farmers/>
- Gumirakiza, J. D., & Kamer, M. C. (2018). Use of "the Guidelines" for Financial Record Keeping by Kentucky Small- and Mid-Scale Farmers. *Journal of Extension*, 56(6), Article 7.
- Karki, L. B., Karki, U., Tackie, D. N. O., & Harris, G. (2019). Training needs for small producers to minimize agricultural marketing problems and challenges: How Cooperative Extension can fill the gap. 2019 Annual Meeting of the Agricultural and Applied Economics Association Abstracts, July 21-23, Atlanta, Georgia.
- Key, N. (2017, February 21). *Farms that sell directly to consumers may stay in business longer*. USDA. Retrieved November 22, 2022, from <https://www.usda.gov/media/blog/2016/04/28/farms-sell-directly-consumers-may-stay-business-longer>
- Khadim, M. E. H., & Choudhury, S. R. D. (2019). Impact of recordkeeping on the growth of micro- and small-scale enterprises: An analytical study, SEDME (*Small Enterprises Development, Management, and Extension Journal*), 46(2), 70-81.
- Martinez, S. W., & Park, T. (2021). *Marketing Practices and Financial Performance of Local Food Producers: A Comparison of Beginning and Experienced Farmers*, Economic Information Bulletin Number 225, USDA ERS, Retrieved March 28, 2023, from <https://www.ers.usda.gov/publications/pub-details/?pubid=101785>
- Micheels, E., Larson, K., & Erickson, N. (2018). Record keeping and management on Western Canadian farms and ranches. Retrieved August 19, 2022, from <https://www.beefresearch.ca/fact-sheets/record-keepingand-management-on-western-canadian-farms-and-ranches/>
- Mintah, C., Gabir, M., Aloo, F., & Ofori, E.K. (2022). Do business records management affect business growth? *PLOS ONE*, 17(3), eo264135 <https://doi.org/10.1371/journal.pone.0264135>
- Musah, A., & Ibrahim, M. (2014). Records keeping and the bottom line: Exploring the relationship between record keeping and business performance among small and medium enterprises (SMEs) in the Tamale Metropolis of Ghana. *Research Journal of Finance and Accounting*, 5(2), 107-117.
- Quednau, R. (2018, June 21). *Modern small-scale farming - Could it sustain us? Could we sustain it?* Strong Towns. Retrieved October 3, 2022, <https://www.strongtowns.org/journal/2017/8/8/modern-smallscale-farming-can-it-sustain-us-can-we-sustain-it>
- Samuels, A. (2019). *'They're trying to wipe us off the map.'* Why independent farming in America is close to extinction. Retrieved June 9, 2023, from <https://time.com/5736789/small-american-farmers-debt-crisis-extinction/>
- Tackie, D.N.O., Bartlett, J.R., Adu-Gyamfi, A., Quarcoo, F.A., & Jahan, M.N. (2016). The impact of socioeconomic factors on selected practices by small livestock producers in Alabama. *Journal of Economics and Sustainable Development*, 7(3), 109-121.
- Tackie, D.N.O., McKenzie-Jakes, A. Bartlett, J.R., Adu-Gyamfi, A., & Perry, B.J. (2018). The impact of socioeconomic factors on selected practices by small livestock producers in Florida." *Journal of Economics and Sustainable Development*, 9(16), 190-204.

Tackie, D.N.O., Bartlett, J.R., Perry, B.J., Adu-Gyamfi, A., De-heer, S.M., & Quarcoo, F.A. (2018). Impact of socioeconomic factors on selected practices by small livestock producers in Georgia. *International Journal of Economics, Commerce & Management*, 6(8), 257-277.

Tackie, D. N. O. (2020). Supporting production mechanisms (SPMs). Contained in Project Proposal to USDA NIFA. The George Washington Carver Agricultural Experiment Station and the Cooperative Extension Program, College of Agriculture, Environment, and Nutrition Sciences. Tuskegee University, Tuskegee, Alabama.

Tackie, D. N. O. (2021a). Questionnaire Regarding Small Producers' Use and Understanding of Supporting Production Mechanisms. The George Washington Carver Agricultural Experiment Station and the Cooperative Extension Program, College of Agriculture, Environment, and Nutrition Sciences. Tuskegee, Alabama: Tuskegee University.

Tackie, D. N. O. (2021b). Economic, Marketing, and Financial Recordkeeping Templates. The George Washington Carver Agricultural Experiment Station and the Cooperative Extension Program, College of Agriculture, Environment, and Nutrition Sciences. Tuskegee, Alabama: Tuskegee University.

Ullah, R., Shivakoti, G. P., Zulfiqar, F., & Kamran, M. A. (2016). Farm risks and uncertainties: Sources, impacts and management. *Outlook on Agriculture*, 45(3), 199-205.

USDA ERS. (2017, March 6). *Large family farms continue to dominate U.S. agricultural production*. Retrieved August 10, 2022, from <https://www.ers.usda.gov/amber-waves/2017/march/large-family-farms-continue-to-dominate-us-agricultural-production/>

Vanderlin, J. (n.d.). *Collecting and organizing your farm records*. Farm Management-Division of Extension. Retrieved May 2, 2022, from <https://farms.extension.wisc.edu/articles/collecting-and-organizing-records/>