

## **Multidisciplinary Program Approach to Building Food and Business Skills for Agricultural Entrepreneurs**

### **Abstract**

Farmers involved in local food systems are seeking opportunities to expand operations and diversify their sources of income through value-added operations and access to new markets. To be successful, producers need further food safety training and business skills acquisition to mitigate potential risks. We outline and discuss a multidisciplinary program developed for Extension personnel to deliver to producers and value-added entrepreneurs participating in local and regional food systems. The program helps participants reduce risks by improving their business skills, marketing tools, market access, market channels, regulatory compliance, and food safety practices.

**Keywords:** [agriculture](#), [business](#), [entrepreneur](#), [food safety](#), [marketing](#)

### **Courtney Crist**

Assistant Extension  
Professor  
Department of Food  
Science, Nutrition, and  
Health Promotion  
[cac400@msstate.edu](mailto:cac400@msstate.edu)  
[@CourtneyACrist](#)

### **Elizabeth Canales**

Assistant Extension  
Professor  
Department of  
Agricultural Economics  
[elizabeth.canales@msstate.edu](mailto:elizabeth.canales@msstate.edu)

Mississippi State  
University  
Mississippi State,  
Mississippi

## **Introduction**

With continued increase in consumer demand for locally grown products, producers and small processors are seeking opportunities to meet this demand (Low et al., 2015). Additionally, many farmers involved in local food systems are looking to diversify their revenue streams (via value-added products, new market outlets, etc.). However, producers may lack experience with food safety parameters, food regulations, and agribusiness skills (Holland, 2016). Moreover, producers may have limited access to capital, market channels, and tools needed to comply with regulations, making them more vulnerable to financial, marketing, and food safety liability risks. These barriers and risks can limit their ability to access more profitable markets and hinder their capacity for growth. To be successful while minimizing risks, producers need a basic understanding of regulations, processing, food safety, finance, and marketing.



Here, we report on and provide an overview of a multidisciplinary program for local agricultural entrepreneurs. We discuss the program structure and evaluation results and provide recommendations for implementation.

## Program Structure

We designed, developed, and implemented a multidisciplinary program for producers delivered through a multiagency partnership. The program is focused on equipping producers with understanding of food regulatory requirements and food safety parameters and business skills that can help them mitigate various types of risks (e.g., marketing, legal, human, and financial). The program provides information and tools participants can incorporate into their business models, including information and tools related to proper business setup, marketing, and food safety principles. Figure 1 shows the subject matter topics covered in the workshops and webinars. The program is coordinated by Extension faculty in partnership with external organizations, such as federal and state agencies. Although the face-to-face workshop portion is over the course of 1 day, subject-specific complementary webinars are also developed by expert presenters. The complementary webinars are created to provide supplemental information and address gaps identified by workshop participants. Additionally, the webinars expand program reach and impact by increasing stakeholder accessibility to reliable content. Further, participants are encouraged to have individual follow-up consultation with workshop presenters for additional assistance, if needed. At the workshop, participants have an opportunity to network with other producers, thus potentially increasing their market, supply, and distribution chains.

**Figure 1.**

Summary of Workshop and Webinar Topics, Types of Risks Addressed, and Identified Partners

<b>Workshop and webinar topics</b>	<b>Risks</b>	<b>Partners</b>
<b>Business setup</b> <ul style="list-style-type: none"> <li>• Legal business structure, liability and tax implications</li> <li>• Licenses and permits</li> <li>• Capital requirements and financing</li> <li>• Business planning</li> </ul>	Legal Financial	Small Business Development Center
<b>Determining production costs, setting prices, and record keeping</b> <ul style="list-style-type: none"> <li>• Estimating production costs</li> <li>• Identifying the right price for products</li> <li>• Maintaining and evaluating financial records</li> </ul>	Production Marketing	Extension Service (Agricultural Economics)
<b>Food safety: Overview of produce safety rule and good agricultural practices (GAP)</b> <ul style="list-style-type: none"> <li>• State and federal regulations compliance</li> <li>• Produce safety rule</li> <li>• GAP certification</li> </ul>	Legal	Extension Service (Food Science)
<b>Food preservation safety and food regulations</b> <ul style="list-style-type: none"> <li>• Cottage food regulations and compliance</li> <li>• Food safety practices</li> <li>• Labeling and packaging best practices</li> </ul>	Legal	Extension Service (Food Science)
<b>Online marketing</b> <ul style="list-style-type: none"> <li>• Best practices in creating an online media presence</li> <li>• Marketing products and services online</li> </ul>	Marketing	Extension Service (Agricultural Economics)
<b>Statewide governmental support programs</b> <ul style="list-style-type: none"> <li>• State marketing and branding program</li> <li>• Cost-share programs</li> <li>• Agritourism liability law and signage program, farmers' markets, farm-to-school, and other programs</li> </ul>	Marketing Legal	State Department of Agriculture and Commerce
<b>Labor laws</b> <ul style="list-style-type: none"> <li>• Labor regulations compliance</li> </ul>	Human	U.S. Department of Labor
 Complementary webinars based on feedback from workshop participants <ul style="list-style-type: none"> <li>• Guidelines for business plans: Food as a business for producers</li> <li>• Home canning safety</li> <li>• Cottage food operations</li> <li>• Food as a business: Eggs</li> <li>• Farmers' market guidelines</li> <li>• Marketing principles for small specialty crop and value-added producers</li> <li>• Starting a home business selling meat: Regulations, issues, and discussion</li> <li>• Produce safety rule</li> <li>• Farm record-keeping principles for financial management</li> </ul>		
 Individual follow-up consultation <ul style="list-style-type: none"> <li>• Opportunity for individual consultation during or after workshop with program partners (product formulation, labeling, food safety certification, marketing, etc.)</li> </ul>		

The target program audience includes small-scale farmers and ranchers, limited-resource producers, and beginning producers, with an emphasis on producers in the local food system aiming to (a) expand operations, (b) expand market reach, and (c) diversify income sources through value-added products.

## Evaluation of Implementation and Program Impact

As mentioned, the objective of the program is to provide information from multiple disciplines to help producers develop, expand, and/or diversify their operations into profitable enterprises. Equally important, the program provides a forum for participants to network and engage with peers and experts representing Extension, state, and federal entities. Participants evaluate their change in knowledge resulting from the workshop using a retrospective assessment instrument (Davis, 2002). The instrument consists of seven items with 5-point Likert scale response options ranging from 1 (*very little*) to 5 (*very much*). The retrospective evaluation tool used to assess knowledge change after the workshops is shown in Figure 2. We also have assessed participants' implementation of practices via an online follow-up survey delivered via email 6 months after the workshop.

**Figure 2.**

Food as a Business Workshop Retrospective Pre-Post Evaluation Tool

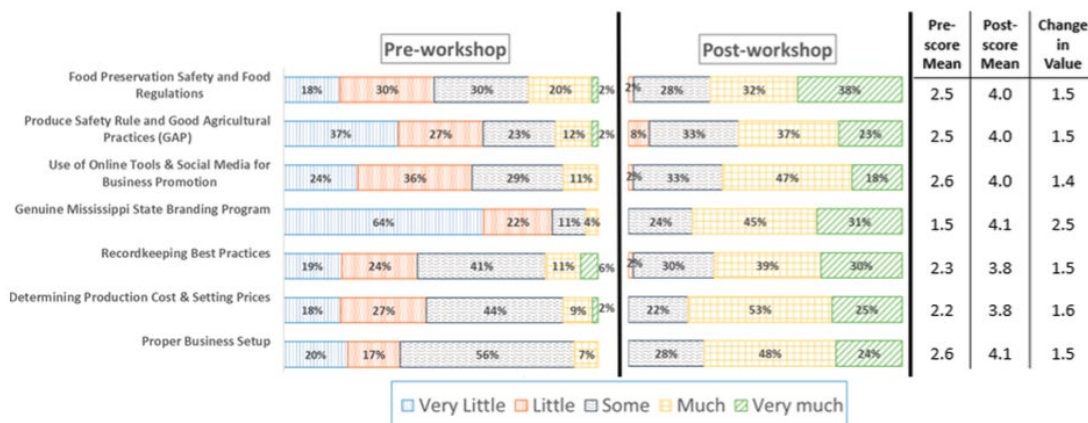
**Directions:** For each statement listed below, place an **X** in the box that indicated what you knew BEFORE and AFTER attending the workshop.

How much did you/do you know about these topics?	BEFORE the workshop I knew:					NOW I know:				
	Very little	Little	Some	Much	Very much	Very little	Little	Some	Much	Very much
1. Proper business setup										
2. Determining production cost and setting prices										
3. Recordkeeping best practices										
4. State branding program										
5. Use of online tools and social media for business promotion										
6. Produce safety rule and good agricultural practices (GAP)										
7. Food preservation safety and food regulations										

As evidence of program success, we present here results from five workshops ( $n = 72$  participants) held in regional locations within our state. Mean scores across program subject areas indicate that participants had on average "little" knowledge before the workshop and "much" knowledge after the workshop ( $n = 59$ ; 82% response rate) (Figure 3). Using a Wilcoxon signed-rank test (Snedecor & Cochran, 1989) to evaluate change in knowledge perception ( $\alpha = .05$ ), we determined that participants had knowledge gains ( $p < .01$ ), indicating workshop effectiveness. With regard to financial benefits, 46% of the attendees indicated that they expected the practices they were going to adopt as a result of the workshops to save them money. Fifty-nine percent also indicated that practice adoption would result in higher sales, approximately 38% higher on average. Results from the 6-month follow-up survey ( $n = 22$ ; 29% response rate) revealed that 77% to 91% of the participants had adopted (to different degrees) the program practices. Also, of the 6-month follow-up survey respondents, 14 participants indicated that implementing the practices had resulted in cost reductions and/or increased sales. The multidisciplinary workshops were successful at increasing knowledge and practice implementation related to business management, marketing, financial record

keeping, and food safety.

**Figure 3.**  
Change in Knowledge After Food as a Business Workshop



## Conclusions, Recommendations, and Implications for Extension

Creating and cultivating strong statewide and community partnerships for delivery of Extension education are crucial to the efforts to support agricultural producers, including those involved in value-added enterprises. Programs such as the one described in this article are needed to help producers navigate regulations successfully (e.g., food safety, cottage food law, packaging, and labeling), avoid common mistakes, and acquire business skills to start or expand their agricultural operations. Feedback from the retrospective evaluation demonstrated that many producers lack awareness of and/or knowledge in product marketing, entrance into new market channels, food regulations, and food safety. Given that the public can access a plethora of information from sources with varied credibility, producers need reliable and trustworthy information and guidance from credible entities. Further, to accomplish effective knowledge change and increase opportunities for participants, fostering strong partnerships is critical. Important partners include, but are not limited to, Extension, researchers, regulatory agencies, trade associations, and state and local government. Producers reviewed the integrated multiagency expert workshop positively. An important component of the program is incorporating workshop attendees' feedback into educational materials (e.g., webinars and Extension publications) to provide additional supplemental information, clarification, and/or specific commodity guidance. In addition to the educational webinars, providing the opportunity for individual follow-up consultation allows for a more successful implementation, producer confidence, and reinforcement of the program initiatives.

### Acknowledgments

This material is based on work supported by the Southern Extension Risk Management Education Center, U.S. Department of Agriculture/National Institute of Food and Agriculture under Award Number 2015-49200-24228. We thank all partners involved in the program, including the Mississippi Department of Agriculture and Commerce; the Mississippi Small Business Development Center; the U.S. Department of Labor, Wage and Hour Division; and the Mississippi State University Extension Service.

### References

Davis, G. A. (2002). Using a retrospective pre-post questionnaire to determine program impact. *Journal of Extension*, 41(4), Article 4TOT4. Available at: <https://www.joe.org/joe/2003august/tt4.php>

Holland, H. (2016). Examining capacity within the local food economy: Lessons learned from the Appalachian region in Mississippi. *Journal of Appalachian Studies*, 22(2016), 31–44.

Low, S. L., Adalja, A., Beaulieu, E., Key, N., Martinez, S., Melton, A., . . . Jablonski, B. B. R. (2015). Trends in U.S. local and regional food systems (Report No. AP-068), U.S. Department of Agriculture Economic Research Service. Retrieved from [https://www.ers.usda.gov/webdocs/publications/42805/51173\\_ap068.pdf?v=0](https://www.ers.usda.gov/webdocs/publications/42805/51173_ap068.pdf?v=0)

Snedecor, G. W., & Cochran, W. G. (1989). *Singed-rank test in statistical methods* (8th ed.). Ames, IA: Iowa State University Press.

---

*Copyright* © by *Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the *Journal Editorial Office*, [joe-ed@joe.org](mailto:joe-ed@joe.org).

If you have difficulties viewing or printing this page, please contact [JOE Technical Support](#)