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Editor: Linda Chalker-Scott

Frelier, J.¹, Bampasidou, M.², Motsenbocker, C.³, Coleman, M.⁴

¹Extension Associate, Former Louisiana Farm to School Program Manager, Louisiana State University Agricultural Center, Louisiana, 70803

²Associate Professor, Agricultural Economics and Agribusiness, Louisiana State University Agricultural Center, Louisiana, 70803

³Professor, School of Plant, Environmental and Soil Sciences, Louisiana State University Agricultural Center, Louisiana, 70803

⁴Professor of Practice, Economics, Tulane University, Louisiana, 70118

Short-Term Financial and Marketing Impact Assessment of COVID-19: Opportunities for Extension-based Support

Abstract

The COVID-19 pandemic economically impacted many farm and food businesses across Louisiana. The intent of this study was to provide Extension educators and food system support organizations with a synopsis of farmer-identified support and resource needs, along with strategies for training and resource prioritization related to business planning and market development to assist farmers to navigate the aftermath of COVID-19. To do so, a statewide survey of Louisiana's farmers was employed to gauge the economic impact of COVID-19 as well areas of business support. The continued need for financial and marketing training and support are highlighted as key areas of focus for educators.

Keywords: farmers, COVID-19 pandemic, needs assessment, Extension professionals, local food system

Introduction

The COVID-19 pandemic has permanently altered communities, economic activity, and food systems across the U.S. By May 2021, the U.S. suffered over 32 million COVID-19 cases resulting in over 500,000 deaths (Johns Hopkins University, 2021). Louisiana reported almost half a million cases since early 2020, resulting in over 10,000 deaths (Johns Hopkins University, 2021). COVID-19 created many obstacles for Louisiana farmers to continue selling food to consumers, due in part to market uncertainty and new safety protocols, which caused broader shocks to the local food system throughout the state.

The COVID-19 pandemic impacted food producers in broad, critical ways. Upon onset, food system stressors included panic buying, food shortages, price spikes, and mass food waste, identifying a fragile and unprepared food system (Boyacı-Gündüz et al., 2021). The closure of restaurants, schools, and farmers' markets eliminated important market channels for local farmers. This was coupled with national seed shortages, reduced operations at critical processing plants, and other unprecedented supply chain shifts (OECD, 2020). Moreover, social distancing policies, stay-at-home mandates, and other health and safety protocols impacted not only sales, but also labor needs (Thilmany et al., 2020).

Despite market and policy challenges created by the pandemic, innovative solutions were employed, such as online ordering, drive-thru pick-up, and expanded delivery options, highlighting opportunities for sustainable and resilient business and marketing strategies for producers (CSA Innovation Network, 2020). Such business shifts by producers may have resulted in local food systems having shorter supply chains, which could allow them to adapt quickly to market shocks (Thilmany et al., 2020). Considering the unique characteristics of local food systems, needs and responses will vary by region and state, as well when compared with a national response to food supply chain disruptions. Despite these geographic differences, Extension educators have an important role in local food system recovery efforts.

The purpose of this study is to provide Extension educators and food system support organizations with a synopsis of farmer-identified support and resource needs, along with strategies for Extension education and resource prioritization related to business planning and market development in helping farmers to navigate the aftermath of COVID-19. This information can assist in farm business recovery and market channel development efforts across Louisiana, with an emphasis on continued feedback from farmers in the local food system.

Methods

A one-time statewide survey was distributed electronically via Qualtrics online survey software and completed by Louisiana farmers producing and selling food products during the COVID-19 pandemic. The assessment was distributed six months after the onset of the pandemic in Louisiana. The survey was also distributed to 147 farms and 14 farmers' markets confirmed as selling food products during COVID-19 as listed in a directory of local farm fresh food on the Louisiana Department of Agriculture and Forestry's website. Additionally, the survey was distributed to 221 producers listed on the Louisiana MarketMaker online platform.

The 25-question survey was open from October to December 2020 and included questions related to farm production, market channels, and finances before and after the onset of the COVID-19 pandemic in Louisiana in March 2020. The survey also collected information on farm characteristics and requested sociodemographic information from respondents. Some survey questions were adapted from other state and national surveys of farmers during the COVID-19 pandemic (Beginning Farmer Resource Network of Maine, 2020; National Young Farmers Coalition, 2020). The selected survey questions were reviewed for content validity by the research team. This paper focuses on the support Louisiana farmers received up to that point during the pandemic and asked for specific feedback on future assistance needed.

Quantitative data were analyzed using STATA (Version 16.1). The research team calculated relative frequencies and percentages for each question, using total

respondents as the denominator. This study was approved by the Louisiana State University Agricultural Center Institutional Review Board (IRBAG-20-0018).

Results

Descriptive statistics

The survey received a total of 133 responses, of which nine incomplete responses were excluded. The descriptive statistics for the remaining 124 responses are summarized in Table 1.

Table 1. Respondent demographics.

Variable	<i>n</i>	%
Region of Louisiana ^a (124 responses)		
Southeast	40	32.3
Southwest	29	23.4
Central	25	20.2
Northwest	18	14.5
Northeast	12	9.7
Farm Acreage (124 responses)		
< 1 acre	21	16.9
1-5 acres	32	25.8
6-10 acres	10	8.1
11-50 acres	16	12.9
51-100 acres	11	8.9
101-200 acres	9	7.3
201-500 acres	7	5.7
501-1,000 acres	9	7.3
> 1,000 acres	9	7.3
Farming Method (124 responses)		
Conventional	70	56.5
Practicing Organic (not certified) or Regenerative	39	31.5
Certified Organic	2	1.6
Other	13	10.5
Farm Certifications (124 responses)		
<i>National Programs</i>		
GAP and GHP ^b	11	8.9

Certified Naturally Grown	4	3.2
Certified Organic	3	2.4
American Grassfed Association	1	0.8
<i>State Programs</i>		
Certified Louisiana	38	30.7
Certified Farm to Table	19	15.3
Certified Louisiana Seafood	3	2.4
Farm Food Products ^c (124 responses)		
Vegetables	49	39.5
Fruits	37	29.8
Meat	35	28.2
Honey	26	21.0
Eggs	21	16.9
Value-added	15	12.1
Seafood	8	6.5
Grain	8	6.5
Nuts	5	4.0
Dairy	2	1.6
Mushrooms	1	0.8
Other	4	3.2
Farm Role (124 responses)		
Farm Owner or Co-owner	118	95.2
Farm Manager	6	4.8
Agricultural Experience (124 responses)		
< 5 years	21	16.9
5-10 years	27	21.8
11-20 years	16	12.9
21-30 years	18	14.5
31-40 years	21	16.9
41-50 years	7	5.7
> 50 years	14	11.3
Age Group (123 responses)		
26-35 years	24	19.5
36-45 years	23	18.7
46-55 years	22	17.9
56-65 years	25	20.3
> 65 years	29	23.6
Gender (123 responses)		
Male	78	63.4

Female	44	35.8
Non-binary/Other	1	0.8
Race/Ethnicity (114 responses)		
White	100	87.7
Black or African American	4	3.5
American Indian or Alaska Native	3	2.6
Hispanic or Latinx	1	0.9
More than one race	4	3.5
Other	2	1.8

^a Parishes were grouped according to the Louisiana State University AgCenter regions which can be found here: https://www.lsuagcenter.com/portals/our_offices/regions

^b Good Agricultural Practices (GAP) and Good Handling Practices (GHP)

^c Respondents could select more than one answer, so total number of responses is greater than 124.

The data show similar response rates in the southwest and central regions of Louisiana, with the highest response rate coming from farmers in southeast Louisiana (which includes Orleans and East Baton Rouge parishes), and the lowest response rate in the northern region of the state. Most respondents were farm owners or co-owners (95.2%); half reported farming on 10 or fewer acres (50.8%), and primarily farmed conventionally (56.5%) or practiced organic (not certified) or regenerative (31.5%) agricultural methods. Primary food production among respondents included vegetables (39.5%), fruits (29.8%), and meat (28.2%). Few farmers reported national farm certifications (15.3%), while almost half reported having a state-specific farm certification (48.4%). The respondents were majority male (62.9%), older (56+ years, 43.6%), and White/Caucasian (80.7%). There was also a good representation of new and beginning farmers with 10 or less years of experience (38.7%).

Needs assessment

Table 2 provides farmer responses (n=124) to six suggested areas of assistance needed to navigate COVID-19. Almost half of respondents reported a need for financial, accounting, or business support (42.7%), followed by one-third requesting marketing assistance (33.9%). Only a small number of respondents expressed no concerns at the time of the survey (10.5%).

Table 2. Assistance needed from farmers impacted by the COVID-19 pandemic.

Response	<i>n</i>	%
Financial, accounting, or business support	53	42.7
Marketing assistance	42	33.9
Labor support	15	12.1
Software or other technological support	10	8.1
Access to healthcare, mental health support	9	7.3
Food safety response planning assistance	7	5.7
Other	8	6.5
No concerns	13	10.5

Further examining the financial needs of local food producers at the time of this survey, nearly half (49%) of respondents had not received any financial support to cope with unforeseen financial challenges due to the COVID-19 pandemic. The Coronavirus Food Assistance Program (17.7%), Paycheck Protection Program (16.1%), Economic Injury Disaster Loan (12.1%), Unemployment (8.9%) and FSA loans (5.6%) were the most reported sources of financial support. Other sources of funding included family, small grants, SBA loans, and lender deferrals of monthly payments. Over one-quarter (28%) of the respondents received support from more than two sources.

Respondents also indicated specific needs that could be met by Extension educators and others. These responses (n=46) were grouped into the three main themes of need: financial aid, training, and processing. Table 3 presents respondent quotes with examples of specific assistance needs. There were many requests for training and financial aid opportunities because of the COVID-19 pandemic. Many meat producers also expressed dissatisfaction with state processing plants. The impact of COVID-19 on processing plants (e.g., labor shortage, disease outbreak, and safety regulations) caused delays and financial loss for farmers, along with a critical decrease in the food supply.

Table 3. Assistance needed by Louisiana farmers during the COVID-19 pandemic.

Themes	Quotes from Farmers
Financial Aid	<ul style="list-style-type: none"> • “We are a small farm. To the [Small Business Administration] we [were] not a business therefore we did not qualify for loans at first. To the [Department] of Agriculture, we are such a small operation. Billions went to all the large commodity business, not for the small farmers. There should be focus on assistance to the small farmers.” • “Financial assistance, loans, grants.” • “Grants to keep operating. [Equipment] grants to solidify and grow the farm for the future.” • “Funds to offset the financial burden incurred.”
Training	<ul style="list-style-type: none"> • “Training to access nontraditional markets such as farm to school.” • “Marketing assistance.” • “Connecting food programs with local growers.” • “Guidance on new crop selection.” • “Louisiana certifications.” • “Bookkeeping.” • “Vocational program at high school level with emphasis on agriculture.”
Processing	<ul style="list-style-type: none"> • “For grass fed beef we’re tied to one plant we’re permitted to and there are only 5 in the state. More capacity for processing is what we need.” • “More access to state inspected slaughter facilities that do 3rd party labels for retail sales. A USDA inspected beef slaughter facility as well.”

Solutions

Table 4 highlights solutions implemented by farmers (n=59) to combat market challenges brought on by the COVID-19 pandemic and are summarized under five topic areas: financial, market, processing, production, and sustainability. In response to many of the themes of assistance identified in Table 3, many farmers reported solutions. The quotes presented in Table 4 highlight specific solutions that farmers implemented to navigate the pandemic, along with farm characteristics for context. Some meat producers built private meat processing plants as a solution to barriers caused by state processing plants during the pandemic. Many farmers with diversified crops created innovative market opportunities and adjusted production plans to foster compliance with new safety regulations while meeting consumer demand.

Table 4. Solutions implemented by Louisiana farmers six months into the COVID-19 pandemic.

Solution	Examples from Farmer Responses	Farm Food Product(s)	Farm Acreage
Financial	<ul style="list-style-type: none"> “I took out a commercial loan to add a greenhouse where I can grow tomatoes and cucumbers year-round. I will be able to serve more restaurant clients, grocery stores, and the public.” 	Vegetables, Fruits	< 1 acre
	<ul style="list-style-type: none"> “Searching for a second job to make up for decreased cash flow.” 	Meat	101-200 acres
Market	<ul style="list-style-type: none"> “Changed to offering \$25 veggie box instead of individual items along with online preordering; restaurants...allowed us to offer pick up at their locations. This saved us from losing all of our May/June prime season sales, but we took a hit on price and on cost. We also had added pressure of growing unplanned short-term crops for variety in the veggie box.” 	Vegetables, Fruits, Eggs, Honey, Value-added	1-5 acres
	<ul style="list-style-type: none"> “Sold cooperatively with other growers to meet market demand.” 	Vegetables	< 1 acre
	<ul style="list-style-type: none"> “Almost all sales are now through our contactless online customizable Farm Share ordering system.” 	Vegetables	1-5 acres
Processing	<ul style="list-style-type: none"> “We are building a small meat plant processing on the farm facility commercial kitchen. We could not process our animals therefore almost all our sales loss where from not able to have our product (meats) processed.” 	Meat, Eggs, Honey, Value-added	6-10 acres
	<ul style="list-style-type: none"> “Building a poultry slaughter facility since LaTech was backed up and short staffed due to COVID-19. Added ducks as an additional revenue stream to offset the cost.” 	Vegetables, Fruit, Meat, Eggs	11-50 acres
Production	<ul style="list-style-type: none"> “Increased production significantly, added contract laborers, added a farmer’s market, began delivering.” 	Meat	201-500 acres
	<ul style="list-style-type: none"> “Sold cooperatively with other growers to meet market demand.” 	Vegetables, Other	< 1 acre
	<ul style="list-style-type: none"> “Reduced herd size.” 	Meat	101-200 acres

Sustainability	<ul style="list-style-type: none"> “Switched to single use paper and compostable packaging for Farm to Door CSA deliveries, instead of more sustainable fabric bags that used to be collected and re-used...” 	Vegetables, Fruits, Meat, Eggs, Dairy, Honey, Value-added	11-50 acres
	<ul style="list-style-type: none"> “Changes in markets. Diversify as much as possible.” 	Vegetables	1-5 acres

Discussion

Despite a relatively small sample size, and the state-specific nature of the data, these results provide valuable insight into the impacts of the COVID-19 pandemic on farmers and local food systems. The demographic data of survey respondents is generally representative of Louisiana’s agricultural producers according to the 2017 USDA Census of Agriculture (USDA, 2017). The census population and survey sample were both mostly male (65% census vs. 63% survey), white (91% vs. 88%), and roughly between the ages of 35 to 64 years old (59% vs. 57%). By assessing the COVID-19 related needs of these farm businesses, Extension educators, government agencies, and community organizations can work to provide relevant and timely assistance to producers in the future related to unforeseen market shifts and challenges. These results also provide key insight that can be used for the development or expansion of new and beginning farmer programs that focus on farm business development and local food system expansion.

In June 2021, the USDA announced plans to strengthen the food system through the Build Back Better Initiative (USDA Press, 2021). Investing more than \$4 billion, the USDA is focused on four main areas of the food system: production, processing, aggregation/distribution, and markets/consumers (USDA Press, 2021). These areas for national funding and improvements are closely related to the themes identified in this Louisiana-based study. Financial and marketing support were the most common areas for assistance expressed by respondents in this study. This suggests that Louisiana farms supplying food products during the first seven to nine months of the pandemic

experienced market channel disruptions and financial impacts that demand attention and support. The results of this study also suggest the prioritization of small-scale farms that need financial assistance as they may not have qualified for previous relief opportunities but are valuable components of the local food system. Extension educators can provide support by working with farmers and food system support organizations to provide grant assistance, training, and technical and business assistance.

Another priority area is meat producers who have limited access to processing plants or are using processing plants that are unable to support the demand for local products. This bottleneck in meat processing was a national issue highlighted by the pandemic and disproportionately affected small and midsize farmers. The distance and related costs for transportation to processing plants is also an issue. Extension educators can serve as a liaison between entities at the national (e.g., USDA) and state (e.g., Louisiana Department of Agriculture and Forestry) levels that are responsible for supporting new regional processing plants or expanding the capacity of current plants. These financial and food system challenges require collaboration across local, state, and national organizations to not only rebuild local and regional food systems, but also strengthen them.

Despite many challenges Louisiana's farmers faced as a result of the COVID-19 pandemic and a long road to economic recovery faced by many, Louisiana's farmers described marketing innovations, adaptation to new safety protocols, investing in farm infrastructure, and sustainable supply changes to reduce dependency on a weakened food system. These stories of resiliency highlight the need for Extension educators and local food system support organizations to support these new market efforts and assist in the dissemination of innovative farm practices to all producers. Many farmers expanded to online market platforms which comes with unique challenges that could be addressed in virtual trainings and technical support from Extension personnel.

Future research and Extension programs should focus on identifying successful food system recovery efforts that promote resiliency and are responsive to the short and

long-term needs of local farmers. There is also an opportunity to research and to assess the ability and capacity of Extension educators and other local food system support organizations to meet the needs of small and midsize farmers and provide the resources and support necessary to foster farm business success.

Conclusions

The COVID-19 pandemic disrupted and altered the local food system across Louisiana, negatively impacting many farm and food businesses. This assessment provides Louisiana's Extension educators and food system organizations the opportunity to tailor their recovery and support efforts to the expressed needs of farmers. Many of these needs and proposed solutions will resonate across the country, notably the need for continued financial assistance, training, and technical support. In particular, it would be beneficial for Extension educators to provide information and assistance on grants where possible, as well as production, technical, and business assistance and training. A focus on small-scale farms, who may have missed out on previous assistance, is warranted. The resounding theme in this statewide assessment is that of resiliency, revealing itself in the form of innovative marketing and production solutions during an unprecedented pandemic, and hopefully continuing throughout the recovery process. Extension educators should continue to adapt and develop trainings with a focus on strengthening the local food system in long term.

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