

9-21-2022

Cooperative Extension's Capacity to Address Food Insecurity by Supporting Food Recovery Organizations

H. Lester Schonberger

Virginia Polytechnic Institute and State University, hlschon@vt.edu

Lily L. Yang

Virginia Polytechnic Institute and State University, llyang@vt.edu

Melissa Chase

Virginia Polytechnic Institute and State University, mechase@vt.edu

Tiffany Drape

Virginia Polytechnic Institute and State University, tdrape@vt.edu

Sarah Misyak

Virginia Polytechnic Institute and State University, smisyak@vt.edu

See next page for additional authors



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

Recommended Citation

Schonberger, H. L., Yang, L. L., Chase, M., Drape, T., Misyak, S., & Boyer, R. (2022). Cooperative Extension's Capacity to Address Food Insecurity by Supporting Food Recovery Organizations. *The Journal of Extension*, 60(3), Article 15. <https://doi.org/10.34068/joe.60.03.15>

This Feature Article is brought to you for free and open access by the Conferences at TigerPrints. It has been accepted for inclusion in The Journal of Extension by an authorized editor of TigerPrints. For more information, please contact kokeefe@clemson.edu.

Cooperative Extension's Capacity to Address Food Insecurity by Supporting Food Recovery Organizations

Authors

H. Lester Schonberger, Lily L. Yang, Melissa Chase, Tiffany Drape, Sarah Misyak, and Renee Boyer

Cooperative Extension's Capacity to Address Food Insecurity by Supporting Food Recovery Organizations

H. LESTER SCHONBERGER¹, LILY L. YANG¹, MELISSA CHASE¹,
TIFFANY DRAPE¹, SARAH MISYAK¹, AND RENEE BOYER¹

AUTHORS: ¹Virginia Polytechnic Institute and State University.

Abstract. Virginia Cooperative Extension (VCE) educators are uniquely positioned to support the food recovery organizations (FROs) which address hunger-related needs resulting from food insecurity. Based on an online survey to measure how VCE educators have engaged with FROs and their experiences, respondents who previously supported FROs did so across multiple programming areas, and those who had not indicated an interest while also experiencing barriers. Respondents also reported the need for context- and audience-specific resources particular to the spectrum of food recovery. Addressing barriers and resource needs through a transdisciplinary eXtension Food Recovery Community of Practice may support educators in doing this work.

INTRODUCTION

In 2019, food insecurity impacted an estimated 10.5% of U.S. households (Coleman-Jensen et al., 2020). It is a “wicked problem” necessitating programming that addresses immediate needs while building positive systemic change (Hamm, 2009, p. 241). Regional and local food assistance programs (e.g., regional food banks, local pantries, meal kitchens) meet the needs of people experiencing hunger as a result of food insecurity, referred to here as food recovery organizations, or FROs (Mousa & Freeland-Graves, 2017; THRIVE: New River Valley [NRV] Food Access Network, 2019). While it is common for FROs to operate within preexisting networks, such as Feeding America, an unknown number operate independently (Chaifetz & Chapman, 2015; Craig & Baum, 2020; Feeding America, 2021b).

The purpose of this work is to measure the experiences of Virginia Cooperative Extension (VCE) educators when engaging FROs and to determine future resource needs. To our knowledge, there has not been any published research detailing the system of support offered to FROs through a state Cooperative Extension System, or the experiences and needs of Cooperative Extension educators when supporting FROs. Specialists at Virginia Tech and Virginia State University support the work of regional and local specialists, agents, program assistants, and volunteers through five program areas: agriculture and natural resources (ANR);

community viability (CV); family and consumer sciences (FCS); family nutrition program (FNP); and 4-H youth development (Virginia Cooperative Extension, 2021).

Cooperative Extension is uniquely positioned to provide technical assistance to FROs. For example, multiple state Cooperative Extension Systems and universities have published resources explicitly designed to support safe food handling within FROs, while also providing educational programs that have increased knowledge and participants' intent to positively change behaviors (Bloom & Gamble, 2017; Canto et al., 2018; Dean et al., 2008; Hamilton, 2019; Hardison-Moody et al., 2015; Nikolaus et al., 2018; Nwadike, 2018; Remley, 2017; University of Minnesota Extension, 2021). There is currently no common repository for these resources, such as through eXtension or like the Food Safety Resource Clearinghouse, thus forcing Extension educators to use already limited resources to search for and otherwise create what they need (eXtension Foundation, 2020; University of Vermont, 2021).

Extension educators can support FROs without the duty of regulating or having perceived control over their operations. Regulations covering donated food is not currently included for adoption by state legislators through the U.S. Food and Drug Administration (USFDA) Model Food Code; however, a limited number of states have designated a regulatory authority to monitor donated food safety (Leib et al., 2018; United States Food and Drug Administration, 2017). As

part of accepting food through federal and state nutrition assistance and commodity programs, FROs agree to follow applicable food handling regulations (Donation of Food in the United States, 2016; Virginia Department of Agriculture and Consumer Services, 2007). In the absence of a consistent regulatory authority, national and regional organizations act as self-regulators within their networks and/or contract with third-party auditors (Feeding America, 2021a). This intra-network, regulatory role could create an inherent conflict in which the national and regional organizations remove barriers to food accessibility for people experiencing food insecurity while also holding FROs in their network accountable to practices that, if not met, necessitate corrective actions. An example of a corrective action could include suspending or removing operations from within its network. While suspension from the network protects clients from unsafe food, it also removes a source of food in the local community. This is not to propose that such conflict is intentional by design, but is rather an unanticipated consequence of a food system designed without including food recovery.

METHODS

This research was situated within the Communities of Practice (CoP) Theory by Lave and Wenger (1991; Wenger, 1999; Wenger et al., 2002). CoP Theory describes how social and professional networks can be developed and utilized to promote learning, resource sharing, and development. Specifically, a CoP consists of a group of individuals (the community) who share an interest in a particular topic (the domain) in which they apply through a practice (Lave & Wenger, 1991; Wenger, 1999; Wenger et al., 2002). We aimed to answer the following questions:

- How are VCE educators supporting the work of FROs through their professional role?
 - » What resources are they using? What resources do they need?
- If VCE educators are not supporting the work of FROs through their role, what do they believe is needed to facilitate it?
 - » Alternatively, why do they believe they would not support FROs through their role?

An online survey was administered to VCE educators, which allowed them to participate as their time allowed and did not require traveling to a common space for in-person data collection (Patton, 2015). All parts of the study were approved by the Virginia Tech Institutional Review Board (VT IRB 19-076).

SURVEY DEVELOPMENT

The survey was modeled after an instrument previously used to measure the structure and operations of a network of southwest Virginia FROs (THRIVE: NRV Food Access Network, 2019). Instead of measuring the network of FROs, respondents identified the various FROs they supported and their own needs when engaging with FROs. Prior to distribution, the survey was reviewed by a panel of experts to determine face validity and was tested by members of the research team who serve with VCE. The 31-item survey was administered using Qualtrics.

Skip logic was used; thus, respondents' questions differed based on self-reported previous FRO engagement, regardless of topic. Respondents who previously engaged with FROs were presented with a combination of check-all-that-apply, open-ended, and fixed-choice questions to detail their perceptions of past engagement and beliefs about future engagement with FROs.

Respondents who had not previously engaged with FROs were presented with a combination of fixed-choice and open-ended questions to detail barriers preventing engagement with FROs and describe their perceptions of future engagement.

All participants were asked a series of optional demographic questions to detail: their role within VCE, program area in which they serve, length of their service, geographic service-area(s), and contact information for any follow-up questions.

SURVEY DISTRIBUTION

The survey was distributed via e-mail listservs comprised of VCE educators organized by program area. It was available for 6 weeks. Reminder e-mails were sent after 2, 4, and 5 five weeks from the initial invitation (Dillman et al., 2014).

DATA ANALYSIS

Quantitative data were analyzed using descriptive statistics calculated in Microsoft Excel. Qualitative data were analyzed using an open, inductive approach whereby a primary coder developed an initial codebook to determine meaning from the responses to each open-ended question (Creswell, 2013; Patton, 2015). A secondary coder used the initial codebook to code the same responses. Inconsistencies were reconciled for consensus between the coders in developing the final codebook and coded responses. This process was completed using Microsoft Word and Excel. The codes were analyzed using CoP theory to determine how respondents were already operating as a CoP and how a CoP could support this work.

Addressing Food Insecurity

RESULTS

Fifty-four survey responses were received; 20 participants began and did not finish the survey. Only submitted responses are included in the analysis (n = 34). Respondents' service with VCE and other demographic information are detailed in Table 1. Twenty-six percent of respondents (n = 9) indicated that they were interested in being a part of co-creating and implementing resources for future use within the context of food recovery.

RESPONDENTS WHO HAVE ENGAGED WITH FROS

Forty-one percent (n = 14) of respondents previously supported FROs through their role with VCE. Of those, 93% (n = 13) were likely to continue supporting them in the future, and the remaining 7% (n = 1) were neither likely nor unlikely. Food pantries and gardening programs were the most common type of FRO supported by respondents; additional types of supported FROs are detailed in Table 2. Respondents delivered content to donors, FRO employees, and volunteers, as well as FRO clients. One of the themes of support offered by respondents includes the safe handling of food: for example, by providing food safety educational programs and related materials. Another theme identified includes respondents conducting or otherwise supporting evaluations of the work undertaken by FROs. Additional themes are detailed in Table 3. Respondents from the ANR program area reported providing support in the greatest number of these categories (Table 3).

For context to how respondents supported FROs, they reported experiencing altruism, with one respondent sharing that, "helping reduce food insecurity is satisfying for its own sake." Also reported was a sense of personal and professional development as a result of supporting FROs; for example, one respondent saying, "personal contact with community members allows me to better understand their specific issues and needs" (Table 4). Respondents experienced challenges such as having insufficient information and capacity (Table 5). Challenges described within FROs that limited engagement included an insufficient capacity to receive support from respondents, equipment, retention, and time (Table 5). Thirty-six percent of respondents (n = 5) reported being asked by FROs to provide education on topics they were not trained to provide (Table 3).

Respondents utilized preexisting resources from other Cooperative Extension Systems such as North Carolina State University (n = 5), governmental sources such as the USDA (n = 6), private sources such as the ServSafe® food safety education programs (n = 6), and from the media, such as Food Safety Magazine (n = 6). Respondents also reported they sometimes modified or created their own resources.

Table 1. Demographic Information of Respondents

| | Those Who Have Worked With FROs ¹ (%) | Those Who Have not Worked With FROs ¹ (%) |
|---|--|--|
| Total Respondents | 14 (41) | 20 (59) |
| <i>Program Area</i> | | |
| Family and Consumer Science (FCS) | 7 (21) | 5 (15) |
| Agriculture and Natural Resources (ANR) | 6 (18) | 10 (29) |
| Family Nutrition Program (FNP) | 1 (3) | 0 |
| 4-H | 0 | 3 (9) |
| Community Viability (CV) | 0 | 1 (3) |
| No Response | 0 | 1 (3) |
| <i>Role</i> | | |
| Agent | 12 (35) | 15 (44) |
| Specialist | 0 | 1 (3) |
| Program Assistant | 1 (3) | 1 (3) |
| Other | 0 | 2 (6) |
| No Response | 1 (3) | 1 (3) |
| <i>Length of Service</i> | | |
| < 1 year | 0 | 1 (3) |
| 1–3 years | 0 | 4 (12) |
| 3–5 years | 5 (15) | 1 (3) |
| 5–10 years | 3 (9) | 7 (21) |
| 10–15 years | 3 (9) | 1 (3) |
| 15+ years | 3 (9) | 5 (15) |
| No Response | 0 | 1 (3) |

¹Food Recovery Organizations.

Table 2. Types of Food Recovery Organizations (FROs) Previously Supported by Respondents

| Type of FRO | Number of Respondents (%) |
|--------------------------|---------------------------|
| Food pantry | 11 (79) |
| Gardening program | 10 (71) |
| Food bank | 8 (57) |
| Backpack program | 7 (50) |
| Older adult meal program | 5 (36) |
| Meal kitchen | 3 (21) |
| Home delivery program | 3 (21) |

Table 3. Themes of Support Offered and Requested of Virginia Cooperative Extension Within the Context of Food Recovery Organizations (FROs)

| Theme | Example(s) | Program Areas That Offered This Support | Program Areas Requested to Provide This Support |
|--------------------------|--|--|---|
| Behavior Change | Training on “nudges” | | FNP ¹ |
| Farming and Gardening | Technical horticultural/agronomic support (e.g., how to grow food, caring for a garden, harvesting from a garden) | ANR ² | |
| | Supporting specific programs that engage with FROs (e.g., Master Gardeners, “Plant-a-Row for the Hungry”) | | |
| | Training school and community garden leaders | | |
| Financial Planning | Training FRO volunteers in Master Financial Education curriculum to share with their clients | FCS ³ | FCS ³ |
| | Money management | | |
| | Avoiding scams | | |
| Food Distribution | Helping FROs find materials to aid in the distribution of food among their networks and to clients | ANR ² | CV ⁴ |
| Food Preparation | Providing food demonstrations | ANR ² , FCS ³ , FNP ¹ | ANR ² , FCS ³ |
| | Meal preparation (e.g., menu planning, providing healthy recipes, cooking and eating in-season) | | |
| Food Preservation | Proper food preservation techniques (e.g., freezing, water bath canning, pressure canning, etc.) | ANR ² | |
| Food Safety | Providing physical materials (e.g., time/temperature fact sheets, hand washing posters, temperature magnets) | ANR ² , FCS ³ , FNP ¹ , Other | ANR ² |
| | Providing food safety education (e.g., ServSafe® Food Handler Manager certification, labels, sell-by dates, refrigeration) | | |
| Food Storage | Offering training on how to set-up a food pantry | ANR ² | CV ⁴ , FNP ¹ |
| | Portion control | | |
| | Supporting SNAP ⁵ educators who work with FROs | | |
| Organization Evaluations | Formal evaluations and studies of FROs and their networks (data collection, network studies of relationships, etc.) | ANR ² , FNP ¹ | |
| Organization Networking | Connecting FROs with other FROs, potential sources of food, clients, and other resources | ANR ² | ANR ² |

¹Family Nutrition Program. ²Agriculture and Natural Resources. ³Family and Consumer Sciences. ⁴Community Viability.

⁵Supplemental Nutrition Assistance Program.

Respondents expressed needing accessible fact sheets and access to already developed Educational programs designed for FROs and their clients on topics detailed in Table 3.

RESPONDENTS NOT ENGAGED WITH FROS

Fifty-nine percent (n = 20) of total respondents reported they had not previously supported FROs in their role. Fifty-five percent (n = 11) of them were interested in supporting FROs in the future, 20% (n = 4) were neither interested or

uninterested, another 20% (n = 4) were uninterested, and 5% (n = 1) did not provide an answer (Table 5). Barriers included insufficient capacity, information, and time to offer FROs support, with FROs also having insufficient capacity and equipment to receive meaningful support across program areas (Tables 3, 5). Fifteen percent (n = 3) did not believe it was in their job description to support FROs.

Addressing Food Insecurity

Table 4. The Useful, Beneficial, and Enjoyable Aspects to Working With Food Recovery Organizations (FROs) by Those Who Have Previously Supported Them

| Theme | Examples |
|---------------------------------------|--|
| Altruism | “Helping my community” |
| | “Helping reduce food insecurity is satisfying for its own sake” |
| | Seeing the work and improvements they are making in their communities |
| Personal and Professional Development | “Personal contact with community members allows me to better understand their specific issues and needs” |
| | Meeting and connecting with non-traditional clients, communities, and residents |
| Organization Networking | “Having somewhere to refer citizens that are struggling with food access” |
| | Training and being able to share volunteers from the food bank |
| | Identifying other community groups to help distribute food |

Table 5. Challenges and Barriers Experiences by Respondents When Offering Support or Being Requested to Provide Support in Food Recovery Organizations (FROs)

| Theme | Example(s) |
|-----------------------------------|--|
| Client Motivations | “Some of the clientele want to use the programs due to laziness” |
| | “Only looking for free handouts” |
| Insufficient Capacity | Not having the ability to work with all FROs in their service area |
| Insufficient Information | Respondents being unsure of what FROs are, the need they are addressing, and how they can support them |
| Insufficient Time “Not my job” | “I do not have time right now” |
| | Supporting FROs is not explicitly in their job description Supporting FROs is a hobby outside of their job |
| Organizational Capacity | Lack of coordination within the FRO to facilitate the support |
| Organizational Equipment | Organizations having limited access to water and other utilities |
| | Organizations having insufficient cold-storage space |
| Organizational Retention | Organizations relying on short-term/one-time volunteers and the need to constantly train them |
| Organization Time | Organizations only being open and available to be supported at limited times that do not align with the respondent |

DISCUSSION

There are VCE educators who engage FROs and their clients similarly to other Cooperative Extension Systems within the program themes of food safety, food preparation, nutrition, and organization evaluation (Dean et al., 2008; Hardison-Moody et al., 2015; Remley et al., 2006; Rublee et al., 2019). Along with the VCE educators who have not previously engaged with FROs, there are various barriers challenging or preventing them from offering future support. We offer the following suggestions in developing additional resources

and professional networks that could improve Cooperative Extension educators’ future engagement with FROs.

DEVELOPMENT AND VALIDATION OF CONTEXT-SPECIFIC RESOURCES

VCE educators support multiple types of FROs and do not have the adequate resources specific to food handling in these organizations to support them all. Respondents expressed a need for detailed guidelines for incorporating food safety into the operations of a meal kitchen, and in the absence of specific information, for the ability to apply guidance given

to other food handling environments. This is analogous to a restaurant using safe food handling information designed for a grocery store (Food Marketing Institute, 2021; National Restaurant Association Educational Foundation, 2017). Furthermore, preexisting resources created for food handlers in restaurants cannot be directly applied to those in meal kitchens. A similar distinction is being addressed in the context of food banks through the ServSafe *Food Handler Guide for Food Banking*, which is an adapted version of the ServSafe *Food Handler* guide designed in collaboration with Feeding America that provides specific examples of how the information from the original guide applies to food banks (Dixon, 2017; National Restaurant Association Educational Foundation, 2014, 2017). There are resources that have been created to inform the safe donation to food banks, pantries, and soup kitchens, as well as for food pantry or other volunteer food handlers; however, these resources would need to be adapted for a food handler in a meal kitchen due to their unique circumstances (Canto et al., 2018; Christian & Levine, 2020; Nwadike, 2015, 2018; Remley et al., 2019).

DEVELOPMENT AND VALIDATION OF AUDIENCE-SPECIFIC RESOURCES

Respondents detailed engagement with three distinct audiences in the food recovery system: 1) donors, 2) FRO employees and volunteers, and 3) clients. Each audience requires unique support. Resources applicable to donors should address what foods are and are not acceptable for the FRO and how to maintain the safety and quality of the product prior to donation and during transportation (Nwadike, 2018). Employees and volunteers of FROs may need to know how to safely accept, store, and display the items to nudge their clients toward selecting produce and other healthful foods (Cadario & Chandon, 2019; Campbell-Arvai et al., 2014; Higgins et al., 2017). This is analogous to farmers going through the Produce Safety Alliance (PSA) Grower Training, or retailers going through ServSafe or SafeMark trainings (Cornell University, 2017; Food Marketing Institute, 2021; National Restaurant Association Educational Foundation, 2017).

OPERATIONAL SUPPORT FOR FROS THROUGH COOPERATIVE EXTENSION

Cooperative Extension has participated in asset-based development to address challenges local communities face (Beaulieu & Cordes, 2014; Gallardo et al., 2018; Rebori, 2001). Within the context of food recovery, educators could organize networks designed to connect FROs and serve with councils that measure, and address, FRO-related needs (Fitzgerald & Morgan, 2014; Morgan & Fitzgerald, 2014; Mulangu & Clark, 2012; Remley et al., 2006). VCE educators have achieved this through the New River Valley Food Access Network and the Fairfax County Food Council (*New River Valley [NRV]*

Food Access Report, 2019; Partnership for a Healthier Fairfax, 2021; THRIVE: NRV Food Access Network, 2019).

VCE educators can support FROs by identifying needs, making educational materials available, and advocating for additional resources. For example, respondents indicated physical challenges (e.g., having inadequate equipment) as a barrier to engaging with FROs, while also being requested to provide information related to how to set-up a FRO. In addition to indicating that they cannot offer additional support, the educator could offer the best practices that are currently available, describe the areas in which additional resources would facilitate collaborating, and connect FROs with the previously mentioned networks and councils to address any needs.

EDUCATING THE EDUCATORS

Respondents expressed having insufficient information, time, and capacity to support FROs, with some being unsure if FROs existed in their community or how their program area would intersect. Increasing Cooperative Extension educators' awareness and knowledge of food recovery could address this challenge. Materials could be modeled after other "train-the-trainer" programs, such as those available through the PSA, which are documented to be successful at increasing the knowledge and capacity of participants and are correlated with use of resources (Cornell University, 2017; Imani Fields et al., 2012; Martin et al., 1999; Mutchler et al., 2006; Richards et al., 2012). While the resources needed to develop and validate such a program would be intensive, the time that would otherwise be spent creating and validating resources can be spent delivering and updating them once the program was complete.

CREATION OF A FOOD RECOVERY COMMUNITY OF PRACTICE

VCE educators engage as a quasi-CoP in the context of supporting FROs (Wenger, 1999; Wenger et al., 2002). Some VCE educators have provided support to FROs, their donors, and their clients (the domain) by delivering programs and resources (the practice). The "community" appears to be unconnected, lacking formal or informal pathways through which educators can share experiences and learn with each other. Respondents serving with FCS reported delivering and being unable to provide food preparation-related programming, which could be addressed through shared evaluation and discussion with other educators who have learned how to overcome similar barriers or who regularly engage with this audience, or who want to do so in the future.

We are unaware of any formally organized food recovery-related Extension CoP through which teams of interdisciplinary, multi-institution collaborators could convene to educate each other and advance methods to support FROs and their guests. CoPs have been established and supported through eXtension to facilitate topic-

Addressing Food Insecurity

specific work across state Cooperative Extension Systems; there is not one currently dedicated to food recovery work (eXtension Foundation, 2020). Creating a recognized Food Recovery Community of Practice (FRCoP) to exist alongside other eXtension CoPs will promote a transdisciplinary and coordinated effort toward supporting FROs and their clients (Kelsey et al., 2011; Pankow & O'Neil, 2008; Raison et al., 2014; Stafne et al., 2012). The FRCoP could provide a venue for Extension educators to learn about the food recovery process and the proper methods of support in order to become a repository of resources.

LIMITATIONS AND FUTURE WORK

The results from this study detail the ways VCE educators engage with FROs: it is not meant to be representative of all Cooperative Extension Systems. We are unable to report the response rate for this survey due to the e-mail listservs' inclusion of individuals ineligible to participate (e.g., VCE administrators and administrative support staff), as well as how employment records are managed and accessed. The number of responses could have been limited by having one person who served with a specific program area share the recruitment message through VCE listservs; because of the nature of our listserv and recruitment methods, potential respondents possibly assumed the project was not relevant to them.

The implementation of any newly developed or modified resources should be evaluated to measure their impact and inform additional development. To determine the viability of a FRCoP, Cooperative Extension educators and additional stakeholders should be surveyed to assess their capacity and level of interest in its development.

REFERENCES

- Beaulieu, L. J., & Cordes, S. (2014). Extension community development: Building strong, vibrant communities. *Journal of Extension*, 52(5). <https://tigerprints.clemson.edu/joe/vol52/iss5/23>
- Bloom, D., & Gamble, E. (2017). *Farm to food bank resource guide for North Carolina local foods*. <https://content.ces.ncsu.edu/farm-to-food-bank-resource-guide>
- Cadario, R., & Chandon, P. (2019). Which healthy eating nudges work best? A meta-analysis of field experiments. *Marketing Science*. <https://doi.org/10.1287/mksc.2018.1128>
- Campbell-Arvai, V., Arvai, J., & Kalof, L. (2014). Motivating sustainable food choices: The role of nudges, value orientation, and information provision. *Environment and Behavior*, 46(4), 453–475. <https://doi.org/10.1177/0013916512469099>
- Canto, A., Ingham, B., Larson, S., Park-Mroch, J., & Gauley, J. (2018). *Safe and healthy food pantries project*. <http://fyi.uwex.edu/safehealthypantries>
- Chaifetz, A., & Chapman, B. (2015). Evaluating North Carolina food pantry food safety-related operating procedures. *Journal of Food Protection*, 78(11), 2033–2042. <https://doi.org/10.4315/0362-028X.JFP-15-084>
- Christian, C., & Levine, K. (2020). *Food pantries and food banks*. <https://foodsafety.ces.ncsu.edu/community-food-safety-resources/food-pantries-and-food-banks/>
- Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2020). *Household food security in the United States in 2019*. <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=2985.8>
- Cornell University. (2017). *Produce safety alliance train-the-trainer*. E. A. Binh (Ed.).
- Craig, S., & Baum, M. (2020). *Food recovery committee report*. Conference for Food Protection Biennial Meeting. http://www.foodprotect.org/issues/packets/2020Packet/issues/I_001.html
- Creswell, J. W. (2013). *Qualitative inquiry and research design* (3rd ed.). SAGE Publications.
- Dean, K. W., Reames, E. S., Tuuri, G., & Keenan, M. J. (2008). Improved knowledge and adoption of recommended food safety practices by food recovery agency personnel and volunteers participating in the serving food safely program. *Journal of Extension*, 46(4). <https://archives.joe.org/joe/2008august/rb4.php>
- Dillman, D. A., Smyth, J. D., Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. John Wiley & Sons.
- Dixon, A. (2017, January). Now is the time to ensure safety in food donations. *Full Service Restaurant News*. <https://www.fsrmagazine.com/fsr/food-safety/now-time-ensure-safety-food-donations>
- Donation of Food in the United States, Its Territories and Possessions, and Areas Under Its Jurisdiction, 7 C.F.R. § 250 (2016).
- eXtension Foundation. (2022). *National extension projects*. <https://extension.org/national-cooperative-extension-projects/>
- Feeding America. (2021a). *Ensuring food safety*. <http://www.feedingamerica.org/our-work/our-approach/ensure-food-safety.html>
- Feeding America. (2021b). *Our work*. <http://www.feedingamerica.org/our-work/>
- Fitzgerald, N., & Morgan, K. (2014). A food policy council guide for Extension professionals. *Journal of Extension*, 52(2). <https://tigerprints.clemson.edu/joe/vol52/iss2/23/>

- Food Marketing Institute. (2021). *SafeMark*. <https://www.fmi.org/safemark>
- Gallardo, R., Collins, A., & Gregory North, E. (2018). Community development in the digital age: Role of Extension. *Journal of Extension*, 56(4). <https://tigerprints.clemson.edu/joe/vol56/iss4/26/>
- Hamilton, A. (2019). 8 tips for donating food to food banks and pantries. *University of New Hampshire Extension*. <https://extension.unh.edu/resource/8-tips-donating-food-food-banks-and-pantries>
- Hamm, M. W. (2009). Principles for framing a healthy food system. *Journal of Hunger and Environmental Nutrition*, 4(3–4), 241–250. <https://doi.org/10.1080/19320240903321219>
- Hardison-Moody, A., Bowen, S., Bloom, J. D., Sheldon, M., Jones, L., & Leach, B. (2015). Incorporating nutrition education classes into food pantry settings: Lessons learned in design and implementation. *Journal of Extension*, 53(6). <https://tigerprints.clemson.edu/joe/vol53/iss6/22/>
- Higgins, N. A., Talone, A. B., Fraulini, N. W., & Smither, J. A. (2017). Human factors and ergonomics assessment of food pantry work: A case study. *Work*, 56(3), 455–462. <https://doi.org/10.3233/WOR-172511>
- Imani Fields, N., Brown, M., Peichocinski, A., & Wells, K. (2012). A statewide train-the-trainer model for effective entrepreneurship and workforce readiness programming. *Journal of Extension*, 50(5). <https://tigerprints.clemson.edu/joe/vol50/iss5/36/>
- Kelsey, K. D., Stafne, E. T., & Greer, L. (2011). Land-grant university employee perceptions of eXtension: A baseline descriptive study. *Journal of Extension*, 49(6). <https://tigerprints.clemson.edu/joe/vol49/iss6/3/>
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Leib, E., Chan, A., Hua, A., Nielsen, A., & Sandson, K. (2018). *Food safety regulations and guidance for food donations: A fifty-state survey of state practices*. https://www.chlpi.org/wp-content/uploads/2013/12/50-State-Food-Regs_March-2018_V2.pdf
- Martin, K. E., Knabel, S., & Mendenhall, V. (1999). A model train-the-trainer program for HACCP-based food safety training in the retail/food service industry: An evaluation. *Journal of Extension*, 37(3). <https://archives.joe.org/joe/1999june/a1.php>
- Morgan, K. T., & Fitzgerald, N. (2014). Thinking collectively: Using a food systems approach to improve public health. *Journal of Extension*, 52(3). <https://tigerprints.clemson.edu/joe/vol52/iss3/25/>
- Mousa, T. Y., & Freeland-Graves, J. H. (2017). Organizations of food redistribution and rescue. *Public Health*, 152, 117–122. <https://doi.org/10.1016/j.puhe.2017.07.031>
- Mulangu, F., & Clark, J. (2012). Identifying and measuring food deserts in rural Ohio. *Journal of Extension*, 50(3). <https://tigerprints.clemson.edu/joe/vol50/iss3/41/>
- Mutchler, M. S., Anderson, S. A., Taylor, U. R., Hamilton, W., & Mangle, H. (2006). Bridging the digital divide: An evaluation of a train-the-trainer, community computer education program for low-income youth and adults. *Journal of Extension*, 44(3). <https://archives.joe.org/joe/2006june/a2.php>
- National Restaurant Association Educational Foundation. (2014). *ServSafe food handler guide for good banking* (1st ed.). National Restaurant Association Educational Foundation.
- National Restaurant Association Educational Foundation. (2017). *ServSafe manager* (7th ed.). National Restaurant Association Educational Foundation.
- New River Valley Food Access Report. (2019). https://cfnr.org/wp-content/uploads/NRV-Food-Access-Report_Oct-2019.pdf
- Nikolaus, C. J., Laurent, E., Loehmer, E., An, R., Khan, N., & McCaffrey, J. (2018). Nutrition environment food pantry assessment tool (NEFPAT): Development and evaluation. *Journal of Nutrition Education and Behavior*, 50(7), 724–728. <https://doi.org/10.1016/j.jneb.2018.03.011>
- Nwadike, L. (2015). *Volunteer quantity cooking safety*. <https://bookstore.ksre.ksu.edu/pubs/MF3213.pdf>
- Nwadike, L. (2018). *Donating safe and nutritious food to food pantries and soup kitchens*. <https://bookstore.ksre.ksu.edu/pubs/MF3352.pdf>
- Pankow, D., & O'Neil, B. (2008). eXtension financial security for all: A community of practice to increase financial literacy. *Journal of Extension*, 46(3). <https://archives.joe.org/joe/2008june/a3.php>
- Partnership for a Healthier Fairfax. (2021). *Fairfax food council*. <https://www.fairfaxcounty.gov/food-council/>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). SAGE Publications.
- Raison, B., Fox, J. M., & D'Adamo-Damery, P. (2014). Crowdsourcing eXtension: Communities of practice provide rapid response. *Journal of Extension*, 52(6). <https://tigerprints.clemson.edu/joe/vol52/iss6/32/>
- Rebori, M. K. (2001). Learning how to connect the dots: An assessment of a community development Program. *Journal of Extension*, 39(4). <https://archives.joe.org/joe/2001august/rb2.php>
- Remley, D. (2017). A conversation tool for assessing a food pantry's readiness to address diet-related chronic diseases. *Journal of Extension*, 55(3). <https://tigerprints.clemson.edu/joe/vol55/iss3/3/>
- Remley, D., Gallagher, T., McDowell, J., Kershaw, M., & Lambea, M. (2006). Extension's role in developing

Addressing Food Insecurity

- “choice” food pantries in Southwest Ohio. *Journal of Extension*, 44(6). <https://archives.joe.org/joe/2006december/iw5.php>
- Remley, D., Rapp, B., Contreras, D., Duitsman, P., Moore, L., Rauch, J., & Franzen-Castle, L. (2019). *Voices for food: Pantry toolkit*. <https://extension.sdstate.edu/sites/default/files/2019-11/P-00106-02.pdf>
- Richards, J., Pratt, C., Skolits, G. J., & Burney, J. (2012). Developing and evaluating the impact of an extension-based train-the-trainer model for effectively disseminating food safety education to middle school students. *Journal of Extension*, 50(4). <https://tigerprints.clemson.edu/joe/vol50/iss4/7/>
- Rublee, M., Yerxa, K., White, A., Bolton, J., & Savoie, K. (2019). Providing nutrition education at a food pantry affects food-related behavior of participants. *Journal of Extension*, 57(2). <https://tigerprints.clemson.edu/joe/vol57/iss2/10/>
- Stafne, E. T., Hellman, E. W., Striegler, R. K., Wolpert, J. A., & Peltier, J.-M. (2012). Industry involvement in the creation and funding of the eXtension grape community of practice. *HortTechnology*, 22(5), 580–582.
- THRIVE: New River Valley Food Access Network. (2019). *The NRV food assistance directory*. <https://cfnrv.org/wp-content/uploads/NRV-Food-Assistance-Directory-Print-10.15.19.pdf>
- United States Food and Drug Administration. (2017). *Food code*. <https://www.fda.gov/media/110822/download>
- University of Minnesota Extension. (2021). *Building better food shelves*. <https://extension.umn.edu/nutrition-and-healthy-eating/building-better-food-shelves>
- University of Vermont. (2021). *Food safety resource clearinghouse*. <https://www.uvm.edu/extension/necafs/clearinghouse/home>
- Virginia Cooperative Extension. (2021). *About Virginia Cooperative Extension*. <https://ext.vt.edu/about.html>
- Virginia Department of Agriculture and Consumer Services. (2007). *Solicitation narrative*. <https://www.vdacs.virginia.gov/pdf/ifb98dist.pdf>
- Washington State University Extension. (2016). *Healthy food pantry guide*. <https://www.doh.wa.gov/Portals/1/Documents/8100/940-029-HealthyPantryGuideE16L-en-L.pdf>
- Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity* (1st ed.). Cambridge University Press.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating communities of practice* (1st ed.). Harvard Business School Publishing.