

# Tools of the Trade:

## Regional Food Preservation Evaluation Using Standardized Evaluation Tools: Phase 2 Process and Results



Julie Garden-Robinson, North Dakota State University  
Susan Mills-Gray, University of Missouri  
Atina Rozhon, Purdue University

# Outline

- The Team
- Process
- Tool and curricula
- Communicating impact



# The Team

Julie Garden-Robinson, Ph.D., R.D., L.R.D., F.A.N.D.  
Professor/Food and Nutrition Specialist  
North Dakota State University

Susan Mills-Gray, M.A.  
Extension Professor  
Educational Director for Nutrition and Health  
University of Missouri

Atina Rozhon, M.S.  
County Extension Director  
Purdue University

Londa Nwadike, Ph.D.  
Assistant Professor and State Extension Consumer  
Food Safety Specialist  
Kansas State University and  
the University of Missouri

Barbara Ingham, Ph.D.  
Professor and Food Safety Extension Specialist  
University of Wisconsin-Madison

Eileen Haraminac  
Extension Educator — Food Safety  
Michigan State University

Jeannie Nichols  
Senior Extension Educator — Food Safety  
Michigan State University

Shannon M. Coleman, Ph.D.  
Assistant Professor and Food Safety Extension State  
Specialist  
Iowa State University



# Assessing the Team

- Interviews with 11 team members (out of 17)
- 18 questions to assess where we have been and where we are headed
- Interviews were 27 to 52 minutes in length
- Quotes are sprinkled in this presentation

# In Extension...Impact Matters

- Sharing individual results is great.
- Sharing Collective Data is IMPACT.
- The North Central Region Team has achieved IMPACT.
  - Data Impact AND Networking Impact

**“We’ve got some amazing evaluation data...the hope is that...we could demonstrate greater impact as a north central region group, a team, than we could at the individual state level.”**

*NCR Food Safety Team Member*

# North Central Region

- Unique Opportunity in 2016
- Program Leader Support
- Several Focus Teams Formed
  - Food Safety
  - Financial Resource Management
  - Aging
  - Early Childhood
  - Rural Families
  - etc.

# States in the North Central Region (NCR)

- North Dakota
- South Dakota
- Nebraska
- Kansas
- Minnesota
- Iowa
- Missouri
- Wisconsin
- Illinois
- Michigan
- Indiana
- Ohio



States that were part of the initial NCR Food Safety Team are listed in red.

# NCR Food Safety Team

- Starting Point: Foster regional communication and collaboration on food safety
- Meetings 1 and 2 (in person)
  - Created goals and logic model
  - Food Preservation → initial focus
- All subsequent monthly meetings via Zoom
- Some months have special guests (e.g. Newell Brands, Partnership for Food Safety Education)

## North Central Region Food Safety Team

Eileen Haraminac, *Michigan State University*  
Shannon Coleman, *Iowa State University*  
Barbara Ingham, *University of Wisconsin*  
Katherine Brandt, *University of Minnesota*  
Julie Garden-Robinson, *North Dakota State University*  
Londa Nwadike, *Kansas State & Missouri State University*

Jeannie Nichols, *Michigan State University*  
Angela Shaw, *Iowa State University*  
Atina Rozhon, *Purdue University*  
Georgia Jones, *University of Nebraska-Lincoln*

The North Central Region Food Safety Team was formed at the April 2016 meeting in Chicago. It has been expanded to represent a more inclusive number of North Central region staff/educators.

### Goal # 1

The North Central Region (NCR) food safety team will develop home food preservation (canning) evaluation questions that all NCR state work teams will utilize so that regional program impacts can be revealed.

### Goal # 2

The group, currently representing 8 states in the NCR, will develop a directory of the North Central Region Food Safety colleagues. The directory will include specialists and educators' names, their specific area of expertise and contact information for the intended purpose of reaching colleagues when grants and research projects are eminent.

### Goal #3:

Food Pantry AFRI Grant (introduced to the NCR team by Barb Ingham)  
Framework for the project –

- Current work is led by Barb Ingham, Wisconsin along with Michigan State and the Ohio State collaborators
- Safety of fresh fruit and vegetables in pantries
- Designed to look at the distribution system
- Lab research
- Survey work – where produce is coming from, how much, photo mapping project
- Foundational/training materials
- Grower/gardener information – food safety steps
- At the end of the initial project period, work through 2017 will involve finishing up with project materials.

November 2016



# Initial Project – Common Evaluation Tool

- No way to show collective impact on a regional level
- Develop end-of-session and follow-up home food preservation evaluation tools
  - Piloted / Administered to a wide audience
- Use tools to measure participant confidence and understanding of training content
- Improve food preservation behavior
- Increase use of extension home food preservation materials

## North Central Region Food Preservation Workshop Evaluation

1. State where program was held: \_\_\_\_\_ 2. Date: \_\_\_\_\_

3. Workshop topic (Mark all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Jams, jellies    | <input type="checkbox"/> Boiling water canning |
| <input type="checkbox"/> Pickling         | <input type="checkbox"/> Steam canning         |
| <input type="checkbox"/> Drying           | <input type="checkbox"/> Freezing              |
| <input type="checkbox"/> Fermentation     | <input type="checkbox"/> Other _____           |
| <input type="checkbox"/> Pressure canning |  |

4. Format of training? (circle one)

In-person                      Online                      Combination

5. Length of presentation (approximate):

- ☐ Less than 1 hour                      ☐ More than 3 hours  
☐ 1 to 3 hours

6. What did you learn in this workshop? (Mark an X in the box that reflects your answer for “after” and “before” the workshop)

NOW, After the Workshop					(Please flip over page to see remaining questions)	BEFORE the Workshop				
1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree		1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
					I am confident in my ability to safely preserve food at home					
					I understand the importance of following up-to-date, research-tested recipes					
					I will seek Extension resources if I have questions about safely preserving food at home.					
					I am confident I can find and share research-based food preservation recommendations with friends/family					

# The Evaluation Tool

- Standardized
- Used with **any** type or length of food preservation training
- Four distinct, five-point Likert-type items
  - Participants rate their level of agreement
  - Both before and after the workshop
- A five-item, follow-up online evaluation
  - For participants who provided contact information
  - Administered three months or more after training

**“One of our big creations for this group was the development of a uniform survey.”**

*NCR Food Safety Team Member*

# Learning Opportunities

- Evaluation tools and pilot tested
  - By specialists and state, regional or county extension educators and agents
- Institutional Review Board approval in multiple states
- Online data-gathering system using Qualtrics
- Staff training in states
- “Training” clients on a new type of evaluation experience



Source: National Center Home Food Preservation



# 2017-18 Participation

## Initial State Participation

- Indiana — 62
- Kansas — 210
- Michigan — 915
- Missouri — 455
- North Dakota — 78

**I think it's helped us see that we're not just our state, that we can function on a much higher level as a group."**

*NCR Food Safety Team Member*

# Improvements and Expansion

- South Dakota joined in 2018
- Revisions were made to the evaluation tool
- Participants increased to 3,381
  - 99% workshop participants would recommend the program to others
- New projects added
  - Safe Produce For Food Pantries



Source: National Center Home Food Preservation

# Results

- 2017-2019: 4,487 participants in the evaluation process
  - 80% planned to use the resources
  - 74% planned to preserve food at home more often
  - 66% planned to share what they learned with others
  - 59% planned to check if the food preservation resources they have used at home are up-to-date





# Safe Produce for Food Pantries Project

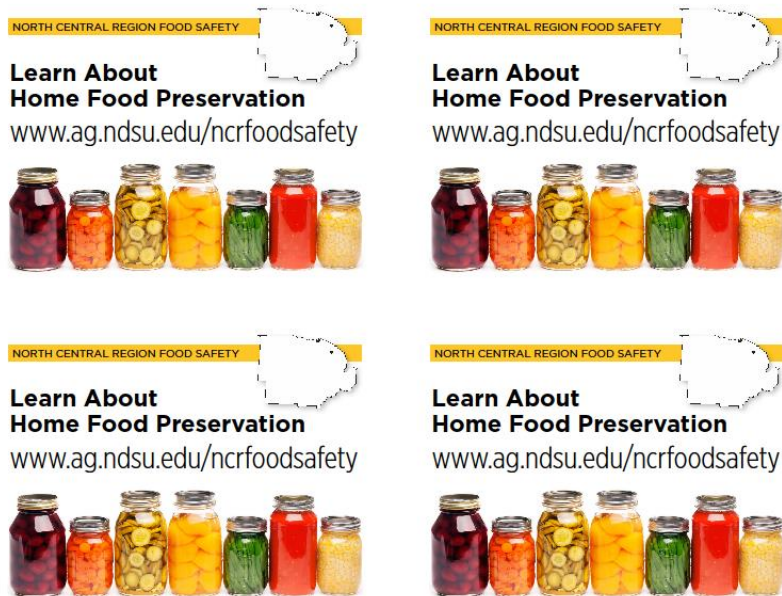
- 2017: University of Wisconsin and Michigan State piloted
- 2018: Iowa and North Dakota
- 167 evaluations
  - 94% understood the steps to ensure safe produce is available to food pantry guests

**“(Food Safety Education) was not looked at as...a real issue, but it is now because we’re working with that elite group of people (and) we’ve shown so much output and so much impact that it has now, I believe, come to be an important issue that we need to keep in the forefront.”**

*NCR Food Safety Team Member*

# Outreach – Telling our story

## Website advertising cards



Links to NCR Extension websites and National Center for Home Food Preservation are included



# Outreach – Regional Impact Reports



## THE ISSUE

Home food preservation education has been implemented through the Extension system for more than 100 years. Extension uses research-tested recipes and information to convey safe food practices. Following United States Department of Agriculture (USDA) approved home food preservation practices, including canning, freezing and drying, can help ensure safe, high-quality preserved foods. Consumers who use untested or outdated home food preservation techniques or recipes put the health of families at risk.

## NORTH CENTRAL REGION EXTENSION ACTION

A multistate team created survey tools that were used to evaluate home food preservation programs covering a variety of topics and delivered in different formats. Five North Central Region states (Indiana, Kansas Michigan, Missouri and North Dakota) participated in the initial year of this effort. In 2017, a total of 1,620 participants enrolled in home food preservation classes that used the common survey tool.

Topics covered at the workshops included boiling-water canning (28 percent of respondents);

# Outreach – Social Media



NORTH CENTRAL REGION FOOD SAFETY

Reasons for...

## LIQUID LOSS DURING PROCESSING

After removing  
canner lid, wait 5  
minutes before  
removing jars

- Heat processing fluctuations
- Overfilling jars
- Not removing air bubbles
- Poor seal

[www.ag.ndsu.edu/ncrfoodsafety](http://www.ag.ndsu.edu/ncrfoodsafety)



NORTH CENTRAL REGION FOOD SAFETY

TEST YOUR GAUGE ANNUALLY

## How accurate is your dial gauge?

Contact your local Extension office for gauge testing information

[www.ag.ndsu.edu/ncrfoodsafety](http://www.ag.ndsu.edu/ncrfoodsafety)

# Poster Presentation at the National Food Safety Outreach Conference 2019

## Enhanced Food Safety Program Impact Using a Regional Approach to Program Evaluation

### Introduction:

In 2016, a group of extension food safety specialists and educators from several North Central states joined forces to form a regional Extension Food Safety Team. This regional team has created and implemented an evaluation program for home food preservation training as one of its first projects. Because most home food preservation programs are developed and evaluated at the state level using unique tools, little data exists on their effectiveness across a region.

### Authors:

Julie Garden-Robinson, PhD  
North Dakota State University

Londa Nwadike, PhD  
Kansas State University and the University of Missouri

Barbara Ingham, PhD  
University of Wisconsin-Madison

Eileen Haraminac, MS  
Michigan State University

Jeannie Nichols, MS  
Michigan State University

Susan Mills-Gray, MS  
University of Missouri

Atina Rozhon, MS  
Purdue University

Shannon M. Coleman, PhD  
Iowa State University

NDSU EXTENSION

K-STATE  
Research and Extension

Extension  
University of Illinois

WISCONSIN  
UNIVERSITY OF WISCONSIN-MADISON

MICHIGAN STATE  
UNIVERSITY

PURDUE  
UNIVERSITY

IOWA STATE  
UNIVERSITY

### Methods:

- Studied existing home food preservation education evaluation tools used in team member states
- Consulted with extension evaluation experts
- Team developed:
  - A regional post-workshop evaluation tool
  - A three- to six-month follow-up survey
  - An evaluation protocol
- New tool characteristics:
  - Cover a variety of home food preservation education topics
  - Apply to various teaching methods — in-person, online, hybrid
  - Capture information on the county and state where training held, so data can be used at local, state and regional levels
- Extensive user review by state extension food safety specialists and regional/county extension educators/agents for:
  - Understandability
  - Usefulness of impact data
- Received Institutional Review Board approval in each pilot state
- Piloted in five states in 2017
  - Home food preservation educators in each state trained in evaluation tool use
  - Obtained workshop participant contact information for follow-up
- All data from post-workshop evaluations entered into an online survey platform (Qualtrics, Provo, UT)
- Participants emailed a link to follow-up evaluation form three to six months after workshop
- Regional team developed a website to which survey participants were directed. Website includes:
  - Project materials
  - State resources (See Figure 1)



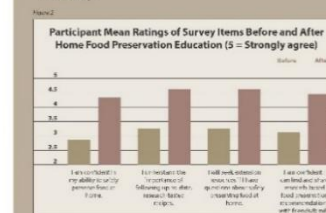
Figure 1. Screenshot of regional team website (https://extensionfoodsaferesources.org/)

### Results:

- In 2017, more than 1,600 participants across five states completed the evaluation tool:
  - Indiana — 62
  - Kansas — 210
  - Michigan — 915
  - Missouri — 455
  - North Dakota — 78
- Workshop participants learned about:
  - Boiling water canning — 28% of respondents
  - Pressure canning — 17%
  - Jams, jellies and sweet spreads — 13%
  - Pickling — 11%
- Participants attended workshops that lasted:
  - One–three hours — 89%
  - More than three hours — 7%
  - Less than one hour — 5%
- Most participants in the evaluated workshops — 96% — said they learned new information and indicated significant increases in confidence in many areas (See Figure 2)
- Workshop participants with the least self-reported experience in home food preservation indicated the greatest benefit from workshops
- A subset of workshop participants completed a three-month follow-up evaluation (n=201) and strongly agreed or agreed that:
  - I have changed my food preservation practices to ensure food safety — 84%
  - I have used extension home food preservation resources — 89%
  - I always practice safe food preservation skills at home — 97%
  - I am more confident in my ability to preserve safe food — 95%
  - I have shared research-based home food preservation information with family and friends — 82%

### Conclusions:

- Common evaluation tools allowed demonstration of impacts across multiple states in region
- After collecting 2017 data, decided to continue collecting regional data due to value of impact reports
- Revised post-workshop evaluation tool for better comprehension
- Used updated tools during 2018 home food preservation workshops



### Tips for regional program evaluation success:

- Involve a mix of state-level food safety specialists and regional/county extension agents or educators
- Represent a number of different states on the team
- Involve both extension evaluation experts and food safety personnel in early development discussions and tool review
- Extensively pilot test evaluation tools
- Provide detailed and clear instructions to evaluation tool administrators
- Use an online data collection and analysis system



Figure 3. A collection of preserved food items.



Figure 4. Sharing home food preservation knowledge.



# Teamwork Honors

- Presentations:
  - National Food Safety Education Conference (2019)
  - National Extension Association of Family and Consumer Sciences (2019)
  - Article in the Journal of NEAFCS (2019)
- Awards
  - NEAFCS National Multistate Collaboration Award NEAFCS (2019)
  - NEAFCS Central Region Food Safety Award (2<sup>nd</sup> Place) (2020)



# North Central Region Food Safety Team Growth

- North Dakota
- South Dakota
- Nebraska
- Kansas
- Minnesota
- Iowa
- Missouri
- Wisconsin
- Illinois
- Michigan
- Indiana
- Ohio



Current participating states in Red.

# The Future

- Build a funding base to support development and maintenance
- Increase participation
- Food safety education development
- Look for new audiences and new methods of instruction
- Maintain industry relationships
- Continue to tell the story
- And most importantly, support the strong network of food safety educators in the North Central Region

**“We’ve done something that maybe hasn’t been done effectively in the past without a lot of funding, so we have kept going despite not having a lot of funds.”**

NCR Food Safety Team Member

# Benefits

- Establish trusting relationship and open communication with Newell Brands
- Interact regularly with National Center for Home Food Preservation
- Share programs
- Seek technical support from each other for cottage food industry and small businesses

**“It has been monumental, the amount of information that I have been able to bring back to the (state) group that I work within, the amount of people I can go back to.”**

*NCR Food Safety Team Member*

# Maintaining and Moving Forward

We have had some members retire and new members join. Maintaining state participation is key to the team's success.

