Food Safety Needs Assessment Literature Review as Part of a Larger Systematic Review

Philadelphia, PA
February 12, 2020

Hannah Doyle, Elizabeth Newbold, & Chris Callahan

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CONTEXT FOR PROJECT

LAGGER SYSTEMATIC REVIEW of NEEDS ASSESSMENTS

LITERATURE REVIEW
- Survey the landscape of needs assessments
- Avoid duplication of what’s already been done

SUMMARY OF FINDINGS
- Interpret and report back what we found
- Ask the experts (Working Group call late April 2019)
→ *NOW* report to NECAFS conference Feb 2020

MOVING FORWARD...
- Publish this work (Journal of Extension?)
- Consider unpublished needs assessments
- Make recommendations for outreach going forward

This systematic review aims to provide a complete, exhaustive summary of current literature and needs assessments (both published and unpublished) of growers and processors across the Northeast region relevant to the project’s research question.
LITERATURE REVIEW RESEARCH QUESTION:

What are the known needs identified through assessment when looking specifically at produce safety among small/medium sized producers in the Northeast US?
LIT REVIEW STRATEGY

- Kept meticulous SEARCH LOG with notes
- Established DATE RANGE: 2000 - 2019
- Started by developing SEARCH TERMS
<table>
<thead>
<tr>
<th>PROGRAM/REG/GROUP</th>
<th>CONTENT</th>
<th>TARGET</th>
<th>TOPIC</th>
<th>PRACTICES</th>
<th>LOCATION</th>
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</thead>
<tbody>
<tr>
<td>FSMA / Food Safety Modernization Act</td>
<td>Needs assessment</td>
<td>Grower</td>
<td>Produce safety</td>
<td>Raw agricultural commodity</td>
<td>Northeast</td>
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<tr>
<td>PR / PSR / Produce Rule / Produce Safety Rule</td>
<td>Survey</td>
<td>Farmer</td>
<td>Food safety</td>
<td>Microbial contamination</td>
<td>New England</td>
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<tr>
<td>GAP / GAPs / Good Agricultural Practices</td>
<td>Evaluation</td>
<td>Farmers</td>
<td>Risk</td>
<td>Employee health and hygiene</td>
<td>Mid-Atlantic</td>
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<tr>
<td>FSPCA / Food Safety Preventive Controls Alliance</td>
<td>Technical assistance</td>
<td>On-farm</td>
<td>Implementation</td>
<td>Preventive controls</td>
<td>Connecticut</td>
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<td>PSA / Produce Safety Alliance</td>
<td>Education</td>
<td>Produce</td>
<td>Practices</td>
<td>Worker training</td>
<td>Delaware</td>
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<tr>
<td>HACCP / Hazard Analysis Critical Control Points</td>
<td>Outreach</td>
<td>Producer</td>
<td>Produce safety plan</td>
<td>Wildlife</td>
<td>Massachusetts</td>
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<tr>
<td>PCHF / Preventive Controls for Human Food</td>
<td>Food safety plan</td>
<td>Soil amendments</td>
<td>Maryland</td>
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<tr>
<td>OFFS / On-farm food safety</td>
<td>Food safety practices</td>
<td>Agricultural water</td>
<td>Maine</td>
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<td></td>
<td>Compliance</td>
<td>Production water</td>
<td>Etc.</td>
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<tr>
<td></td>
<td>Risk management</td>
<td>Postharvest water</td>
<td>Washington, D.C.</td>
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<tr>
<td></td>
<td>Postharvest water</td>
<td>Cleaning</td>
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<td></td>
<td>Biological soil amendment</td>
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</table>
35 PAPERS INCLUDED

- **Food Protection Trends**: 23%
- **Food Control**: 20%
- **Government or University Report**: 14%
- **Hort Technology**: 11%
- **Journal of Extension**: 11%
- **Agriculture & Human Values**: 5%
- **Journal of Food Protection**: 5%
- **Journal of Rural Studies**: 5%
- **Foodborne Pathogens & Disease**: 5%
- **Renewable Ag & Food Systems**: 5%
- **Food Policy**: 5%
FINDINGS

METHODOLOGIES VARIED

A wide variety of sampling techniques was used in order to gauge current practices / knowledge / needs

• Surveys (mailed or emailed)
• Phone interviews
• Pre- and post-event surveys / evaluations
• In-person interviews / on-farm visits
TWO EMERGING DIMENSIONS or FRAMEWORKS

Needs
• Training
• Knowledge
• Time
• Capital
• Mindset

Factors that Influence Needs
• Farm Size
• Farm Type
• Region
• Market
**NEEDS**

**KNOWLEDGE**

Often assumed: knowledge deficit
- Specific regulations
- Best practices
- Science behind recommendations
  (pathways of contamination, etc.)
NEEDS

TRAINING

- Technical skills for management
- Orientation to rules and application of best practices
- On-the-ground assistance
- Worker/employee training
NEEDS

CAPITAL

- High cost of compliance
- Infrastructure + equipment (access, sourcing, etc.)
- Cost of labor (training and implementation)
NEEDS

TIME

- Farmers - never enough time!
- Labor issues
- Regulatory deadlines
NEEDS

MINDSET

- Motivation - Why make the change? Carrot v. stick.
- Perspective - How does it fit in big picture of farm viability?
- Prioritization / urgency
- Confidence to get it done
FACTORS THAT INFLUENCE NEED

- Geographical **REGION**
  - Practices vary by region
  - Public perceptions of food safety
  - Cultural differences amongst growers

- Farm **SIZE**
  - Scale, methods of production
  - Regulations vary by annual sales (size)

- Farm **TYPE**
  - Organic v. conventional
  - Crop mix

- **MARKET** for products
  - Wholesale, retail, direct-to-consumer, etc.
  - Buyer requirements
TWO EMERGING DIMENSIONS or FRAMEWORKS

Needs
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Factors that Influence Needs
- Farm Size
- Farm Type
- Region
- Market
HOW BEST CAN WE MEET STAKEHOLDER NEEDS?

Unique to stakeholder group

**WHAT** (the 5 needs, sensitive to the 4 factors)

&

**HOW**

(ASK stakeholders: what would be most helpful? How do you want it?)
CONSIDER **SOURCE** OF DELIVERY
- Credible (experienced) sources
- Respondents often favored ag service providers (extension professionals, researchers), NOT federal agencies

CONSIDER **METHOD** OF DELIVERY
- Format: Online? Handouts? On-farm workshops? Know your audience
- Consider literacy, numeracy and language barriers
- Creative solutions to produce growers’ problems

Future Work...
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Backup Slides
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<tbody>
<tr>
<td>* Written food safety plan ** (Ellis et al. 2005)</td>
<td>* Written food safety plan ** (Kilonzo-Nthenge et al. 2018)</td>
</tr>
<tr>
<td>* Worker training ** (Jackson et al. 2007)</td>
<td>** Worker training ** (Grover et al. 2016, Strohbehn et al. 2018)</td>
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<tr>
<td>* Pest exclusion ** (Hamilton et al. 2015)</td>
<td>* Pest exclusion ** (Nayak et al. 2015)</td>
</tr>
</tbody>
</table>
CAPITAL

- Overall farm viability?
- Connections/resources for sourcing infrastructure?
- Collective buying?

TIME

- Streamlined resources?
- On-the-ground assistance?
- Labor resources?
MINDSET

- Provide the **big picture motivation** for food safety behavioral changes
- Fit food safety into business plan
- Illustrate the financial incentives
- Foster confidence in the process by making it realistic and attainable