

Cover Page

Food Safety Education for New Jersey's Direct Market Produce Growers

Author 1 - Meredith Melendez, Rutgers Cooperative Extension of Mercer County
609-989-6830 melendez@aesop.rutgers.edu

Author 2 - Wesley Kline, Rutgers Cooperative Extension of Cumberland County
856-451-2800 wkline@aesop.rutgers.edu

Abstract:

The pending implementation of the Food Safety Modernization Act (FSMA) has the potential to impact the operations of New Jersey's direct market produce growers. Regulations focusing on water use, animal manures, packing facilities, and worker requirements will cause direct market producers to change their standard farm practices. Prior to 2012 food safety education in New Jersey focused on wholesale producers required to comply with third party audits with limited focus on direct producer growers. To prepare New Jersey growers for regulatory changes due to the FSMA which is critical for maintaining the strength of the New Jersey vegetable industry a series of educational workshops were developed, conducted and evaluated to assess learning outcomes.

The Food Safety course content included the FSMA and potential points of product contamination in varying types of produce operations. Participants were guided through the process of creating their food safety plan including writing risk assessments, writing standard operating procedures, developing farm policies, and determining which activities require written documentation.

Nearly all participants indicated the workshops met or exceeded their expectations and that the information was useful to them. More than 85% of participants indicated the FSMA will impact the operation of their farms. Participants indicated that they were most likely to modify sanitation practices, implement traceability procedures and improve management of domestic and wild animals on their farms as a result of the workshops. The Rutgers direct market food safety workshops can be used as a model for food safety education programs for vegetable producers.

Introduction

The Food Safety Modernization Act (FSMA) proposed produce rule will potentially impact a large number of New Jersey farms. According to the 2007 USDA NASS Agricultural Census 46% of NJ vegetable farms and 43% of NJ fruit farms exceeded FSMA compliance food sales dollar values. Increased government regulations without educational training and technical support will have a negative impact on the New Jersey agricultural industry, agricultural acreage and farm families. Educating growers on the realities of FSMA compliance and Good Agricultural Practices (GAPs) in advance of the regulation is critical to keep agriculture thriving in New Jersey. The Rutgers Farm Food Safety Team recognized the importance of educating the many types of farming operations within New Jersey and is strengthened by its partnerships with local county boards of agriculture, the New Jersey Department of Agriculture, the New Jersey State Board of Agriculture, the Northeast Organic Farming Association of New Jersey, the New Jersey Direct Farm Market Association and others.

Program Background

Farm food safety education for New Jersey produce growers began in 1999 as a result of grower's requests due to third party food safety inspections mandated by wholesale buyers. Since 1999 the number of farms required to comply with third party audits has increased due to buyer requirements. In 2012 the Rutgers Farm Food Safety team added educational programs for direct market producers to its outreach objectives. The increase in third party audit requirements, the impending Food Safety Modernization Act and recent high profile produce related human illness outbreaks have increased the number of farms interested in food safety education. To address these needs farm food safety workshops were developed and offered to vegetable producers.

Educational Approach

Program Design

Three direct market food safety workshops were held regionally in northern, central and southern New Jersey at Rutgers Cooperative Extension office and farm locations. Sessions were team taught by Dr. Wesley Kline and Meredith Melendez, both Rutgers Cooperative Extension county based educators. Workshops were divided into morning and afternoon sessions. PowerPoint presentations were used during the morning session focusing on GAPs. New Jersey on-farm sampling results and farm pictures were used in PowerPoint presentations to illustrate correct and incorrect farm food safety practices relating to food safety issues. During the morning session participants were given handouts related to FSMA, an information sheet on risk assessments and how they should be written, and the course binder which details GAPs for both field operations and post-harvest operations. Session topics included:

1. Overview of current and pending food safety regulations (30 min)
2. Developing a risk assessment of farm activities and history (30 minutes)
3. Good agricultural practices for field operations (1 hour)
4. Good agricultural practices for post-harvest operations (1 hour)

The afternoon session focused on writing the farm food safety plan.

Participants were given an information sheet on SOPs and how they should be written, a listing of what should be included on the farm maps, and an outline of how to write their food safety plan. PowerPoint presentations were used to educate growers about the proper components of a food safety plan. Topics included:

1. Writing standard operating procedures (SOP) (15 minutes)
2. Creating farm maps (10 minutes)
3. Writing your food safety plan (15 minutes)

The course binder was used as a guide for writing the details of their food safety plan. Laptops were provided for participants who need them. All participants receive a USB drive loaded with the course presentations, handout materials, additional GAPs information and the Cornell sample food safety plan template modified for direct market producers. Each of the resources was designed to aid the grower in writing a complete food safety plan specific to their farm. The presenters explained each of the resources and describe how each can be used. The group then began using the Cornell Food Safety Plan template to write their farm food safety plan. The presenters worked with the participants to write their food safety plans and answer questions that the participants had. Participants paid \$45.00 for the one day program which included all materials, breakfast, lunch and a certificate of completion. Additional funding for the workshops and food safety outreach was sourced through USDA Specialty Crop Block grants.

Program Materials

Participants in the direct market food safety workshops were provided with the following materials to use during the workshop and to take home with them.

Three ring binders titled “Food Safety for Retail Marketers” with the following chapters:

- Worker Hygiene and Training
- Toilet and Hand Washing Facilities
- Harvest and Field Sanitation
- Direct Marketing
- Postharvest Handling
- U-Pick Operations
- Petting Zoos and Farm Animals
- Equipment and Supplies
- Resource Information

Handouts – Produced by the Rutgers Food Safety Team:

- Food Safety Modernization Act – Proposed Produce Rule
- Risk Assessment Cheat Sheet
- How to Write A Risk Assessment
- SOP Cheat Sheet

- How to Write A SOP
- How to Write Your Food Safety Plan

Handouts- Produced by the Cornell GAPs Program:

- Food Safety Begins on the Farm
- Le Seguridad de los Alimentos Empieza en el Campo
- In the Field there is a Need for Hygiene Too!
- En el Campo Tambien se Necesita Higiene!
- Good Hygiene Protects Everyone
- La Buena Higiene Protégé a Todos!
- Your Kitchen Could Be a Source of Illness
- Hand washing signage
- Proper toilet use sign
- Proper toilet paper disposal sign

USB Flash Drive Containing:

- GAPs Direct Market Food Safety Plan, adapted from the Cornell GAPs Program
- Water documents specific to irrigation and post-harvest water quality
- Risk assessment development tools
- Sample logs
- Sample policies
- Sample standard operating procedures
- Workshop PowerPoint presentations

Evaluation Methods

Participants were surveyed at the beginning of the workshop to assess current food safety knowledge and needs, and surveyed at the end of the workshop to assess knowledge gain and additional food safety assistance needs. The post workshop survey consisted of a series of yes/no, fill-in, and numerical grading questions regarding the content of the workshop.

Program Results

Responses below are from food safety workshops held in 2014 that focused only on direct market producers.

Survey Question	Participant Response
Were the objectives of this workshop clearly explained?	Yes- 100% No- 0%
To what degree did the workshop meet your expectations? (1= did not meet; 5= exceeded)	1- 0% 2-0% 3-0% 4-30% 5-65%

	No response-5%
Was the information shared useful to you?	Yes-100% No-0%
Please list three workshop topics or activities that you liked best.	Ranked #1 - Writing the food safety plan Ranked #2 - Overview of GAPs Ranked #3 - Sanitation specifics
Do you think FSMA will affect your farm?	Yes- 85% No-5% No response-10%
Participant demographics	Fruit grower-50% Vegetable grower-90% Food retailer-15% Farm owner-80% Farm Manager- 20%

Program Impacts

The responses below were from the workshops held in 2014 that focused only on direct market producers.

Survey Question	Participant Response
What specific practices will you modify as a result of your participation in this program?	Ranked #1-Improve sanitation practices Ranked #2- Implement a traceability procedure Ranked #3-Domestic and wild animal management (including manure)
Additional Comments	"A very worthwhile day for me." "I thought this was well done and the thumb drive was a great asset to receive." "There is a lot of information that is going to take time to digest."
Would you recommend the workshop to other people?	Yes-100% No-0%

Discussion/Conclusions

The majority of participants thought the workshops were useful, met or exceeded their expectations and had direct implications for their farms. All participants indicated the workshop objectives were clearly explained. Participants indicated they were most likely to improve sanitation practices, implemented traceability procedures and implement better animal management practices. Participants from both wholesale and direct market categories indicated a need for information on rodent control programs, composting to reduce human pathogens and sanitation measures. Participants also

showed interest in iPad/tablet based resources for food safety documentation. Subsequent workshops will follow the same format as previous workshops. Two direct market focused regional workshops and two direct market/wholesale market workshops will be held during the winter months. Presentations will include more information on rodent control, composting and sanitation measures. The training program as developed can be used as a template for conducting Food safety Education in other states in order to ensure compliance with the FSMA.