

Developing a Coordinated Effort within Iowa to Implement an Infrastructure, Education, Technical Assistance, and Inventory Program in Alignment with the FDA's Produce Safety Rule

Section A - Cover page

Section B – Accomplishments

Section B.1. What are the major goals and objectives of the project?

The main goals of Iowa State University portion of this project are: (1) Establish a sustainable communication network connecting educators and growers through Iowa to facilitate collaboration for FSMA compliance training and build training capacity; (2) Conduct a needs assessment and identify the gaps in knowledge for growers and incorporate these gaps in knowledge into curriculum for educators; (3) Conduct on-farm inventory assessments and follow ups to ensure the growers are in compliance with the FSMA Produce Rule; (3) Teach the FDA Produce Safety Alliance curriculum and develop specialized technical assistant sessions for growers to ensure knowledge is transferred and (4) Use continuous evaluation of the impact of the proposed training and technical assistance as feedback to improve training and other services. Achieving these objectives will meet the goal of the project. The initial steps and goals for the first year are to: (1) Design a website with information for the Iowa public, train 7 educators to be lead trainers of the FDA Produce Safety Alliance curriculum, and schedule 12 meetings amongst extension educators and 2 meetings between team members and IDALS; (2) Develop an Iowa based on farm self-assessment tool; (3) Conduct 10 on-farm inventory assessments; (4) Schedule 10 FDA Produce Safety Alliance Trainings (for year 2) and 10 Technical Assistance sessions (for year 2); (5) Schedule and conduct 2 meetings with the entire team and finalize the annual report summary.

Section B.2. What was accomplished under these goals?

In Year 1 accomplishments listed below have been completed:

Under objective 1(Establishment of a Sustainable Communication Network and Infrastructure Development) our team completed many activities. Linda Naeve and Joe Hannan have identified organizations and agencies with direct contact to growers and/or processors within Iowa. We developed a list of farmers with contact information to reach for trainings. We designed a website that provides information to the public of Iowa with materials on FSMA compliance. Dr. Angela Shaw, project director, developed an internal communication web portal (Box) where the team can exchange and hold grant documents for grant team members with log in privileges given for privacy (<https://iastate.app.box.com/folder/11412010806> . A public/external website <http://www.safeproduce.cals.iastate.edu> was also created. A document was developed to ensure all grant team members had access to the web portal. We have divided the state into the Iowa State University Extension and Outreach 20 regions. We will be able to work with local county offices for conducting the FDA Produce Safety Alliance

trainings and work with local county agents to determine which farms/hubs should be focused upon their region.

We have scheduled and attended 2 team meetings on October 5th 2016 and April 18th, 2017 and 9 monthly Extension educators meetings (Oct. 5th, Oct. 24th, Dec. 8th, 2016 and Jan. 9th, Feb. 7th, Mar. 7th, May 2nd and June 18th, 2017). Six educators have been trained to become lead trainers for the FDA Produce Safety Alliance Curriculum. Smaranda Andrews (¾ lecturer position) was hired to assist specially with this grant. Train the Trainer FDA Produce Safety alliance took place on October 12 and 13, 2016: Angela Shaw, Joe Hannan, Shannon Coleman, Theresa Wiemerslage, Lakshman Rajagopal, and Paul Ovrom were in attendance. Linda Naeve has attended in January 2017 in Chicago. Smaranda Andrews has attended the training in April in New Orleans. Manreet Bhullar (PhD), Jacques Overdiep (masters), and Bridget Perry (PhD) will attend a PSA lead trainer meeting at Cornell University on May 16th in Geneva NY. They will assist with the On-Farm Readiness Reviews, field days and PSA trainings.

Under objective 2 (Conduct a Self-Assessment for Growers), our goal was to collect 100 self-assessment surveys and develop a list of 10 priority educational needs for Iowa. A self-assessment survey, developed for the entire North Central Regional center, was modified to be specific for Iowa. Dr. Catherine Strohbehn (member of the On Farm Food Safety Team but not on this proposal) led the development and validation of the needs-assessment survey for growers and processors for the entire region. An Iowa specific needs assessment was sent to Iowa farmers and processors in the fall of 2016, however, since the response was too low, a second one was sent spring 2017. Once the second survey is completed, we will use the data from both surveys to complete the list of ten educational needs specifically for Iowa growers. So far, based on the first survey, we identified that the top six educational needs are: water testing methods, type of water tests required, analysis of water test results, frequency of water testing, frequency of soil testing, and exclusion of animals practices.

Under objective 3 (Conducting on-farm inventory assessments and follow-ups), we planned to conduct reviews and follow-ups in all 20 regions of Iowa. However, we are pushing the on-farm inventory assessment to year two when we will perform 20 on-farm inventory assessments. For delays and actions on how we plan to resolve this issue please refer to Section F – Changes/Problems.

Under objective 4 (Conducting extension education, outreach and technical assistance), we are planning on partnering with Iowa organizations that have already scheduled field days within the state to offer introductory workshops on FDA Produce Rule. We have sent two press releases seeking training locations from the 20 Iowa Extension Regions, as well as other interested farmer groups and organizations. We have also developed 4 handouts/information sheets on: water testing, soil amendments, animals on the farm and workers health and hygiene to be distributed to Iowa growers. The following trainings and workshops have been completed by team members: Linda Naeve and Smaranda Andrews conducted a workshop on Food Safety at the Farmer's Markets in Mason City on March 24th, 2017. Teresa Wiemerslage conducted workshops and meetings on December 2nd, 2016, January 27th, February 10th, March 9th, and April 18th. She also consulted with 17 individuals on GAP, Group GAP and FSMA throughout the

growing season. She became a Produce Safety Alliance Lead instructor on April 6th, 2017 and conducted a PSA grower training on April 24th, 2017.

Under objective 5 (Multi-Year Planning), we had eight team meetings to discuss the progress of the research project and plan for activities. These occurred virtually on Oct. 5th, Oct. 24th, Dec. 8th, 2016 and Jan. 9th, Feb. 7th, Mar. 7th, May 2nd and June 18th, 2017.

Section B.3. Competitive Revisions/Administrative Supplements.

None

Section B.4. What opportunities for training and professional development has the project provided?

Train the Trainer FDA Produce Safety Alliance took place on October 12 and 13, 2016. Team members who participated in this training: Angela Shaw, Joe Hannan, Shannon Coleman, Teresa Wiemerslage, Lakshman Rajagopal, and Paul Ovrom. Linda Naeve has attended in January 2017 in Chicago. Smaranda Andrews has attended the training in April in New Orleans. Paul Ovrom and Joe Hannan attended the NASDA/FDA Consortium for Produce Safety Program Development in Orlando, Florida on February 2017. Manreet Bhullar (PhD), Jacques Overdiep (masters), and Bridget Perry (PhD) will attend a PSA lead trainer meeting at Cornell University May 16th in Geneva, NY. They will assist with the On-Farm Readiness Reviews, field days, and PSA trainings. Teresa Wiemerslage attended a USDA GroupGAP auditor training in Oregon on April 25-28th and June 21st-23rd, 2017 in Detroit, Michigan and Preventive Control Human Food Training in May 8-10th, 2017 in Ames, Iowa. Dr. Angela Shaw provided education at beginning farmer working group meetings, a sweet corn group meeting, the annual greenhouse growers conference, the annual organic conference, the annual horticulture field day, and the annual aquaponics conference in 2016 (reach to ~200). Team members developed online trainings on Good Agricultural Practices that covered pre-harvest, post-harvest, and a general introduction to food safety concerns and maintained a web portal at www.safeproduce.cals.iastate.edu or www.iowafoodsafety.org.

Section B.5. How have results been disseminated to community of interest?

Linda Naeve and Joe Hannan developed a database which includes, food and farming systems groups, specialty crop grower's associations, organic producer associations, farmer NGOs, food hubs and produce auctions, extension agents, university and community college faculty, immigrant and tribal farming groups and agencies who serve them. Nine Iowa primary organizations involved in the produce industry and seventeen secondary contacts within the state were added to the list. We have also developed a list of major Iowa growers that need to be in compliance with FSMA and a list of medium and small growers that will need food safety training. Most farmers growing covered produce in the state received communications from 4 major producer organizations: Practical Farmers of Iowa, Iowa Fruit and Vegetable Growers Association, Regional Food System Working Groups, and Iowa State University Extension and Outreach. Team members developed online trainings on Good Agricultural Practices that covered pre-harvest, post-harvest, and a general introduction to food safety concerns and

maintained a web portal at www.safeproduce.cals.iastate.edu or www.iowafoodsafety.org . Team members also created postcards with the state of Iowa map divided into 20 regions which corresponds to the Iowa State University Extension Outreach 20 regions. The extension offices in each region will be able to help us conduct FDA Produce Safety Alliance training. The postcards are announcements of future trainings in each region. Two press releases announcing training opportunities were sent to Extension offices, grower groups, farmer associations and other farm organizations. Four handouts/information sheets were also created and will be distributed at trainings.

Section B.6. What do you plan to do during the next reporting period to accomplish the goals and objectives?

Our central hypothesis is that Iowa-specific on-farm inventory assessments, FSMA education and access to technical assistance will provide the crucial tools for growers to facilitate compliance with FSMA Produce Rule regulations of growers. We will build a sustainable educational infrastructure specific to Iowa that will leverage existing relationships and extant curricula while developing the identified missing tools to meet FSMA requirements.

Objective #1: Establishment of a Sustainable Communication Network and Infrastructure Development. The website we designed in the first year www.safeproduce.cals.iastate.edu will allow in the second year for Iowa growers to interact with the team members. We are also planning 12 meetings amongst extension educators and two meetings amongst team members and IDALS; some of the meetings have already been scheduled.

Objective #2: Conduct a Self-Assessment for Growers. To accomplish this objective, Dr. Catherine Strohbehn led the development and validation of a needs assessment survey for growers and processors for the entire North Central Region which includes Iowa. An audit checklist is being developed for processors of fruits and vegetables based on the Preventive Control Human Food Rule. It was piloted by two sets of five fruit and vegetable processor companies in the NCR in February and April of 2017, respectively. In year two data entry will be analyzed to determine compliance level amongst growers. Base on the data we will compile a list of 10 priority educational needs for Iowa and we will start a list of research gaps that needed to be addressed.

Objective #3: Conducting on-farm inventory assessments and follow-ups Due to the National Association of State Departments of Agriculture (NASDA) delay in providing the outlines for the Farm Readiness Reviews we have deferred all the on-farm inventory assessments into year two (see Section F Changes/Problems). We will conduct 20 regional on-farm inventory assessments in year 2 (cover the entire state) and the conduct follow up on-farm inventory assessments in years 3 and 4 on the same farms.

Objective #4: Conducting extension education, outreach and technical assistance. We plan to conduct in year 2, 10 FDA Produce Safety Alliance Trainings and 10 Technical Assistance sessions covering the whole state on Iowa. We will also identify and participate in continuing education trainings for our all team members. The results from the trainings with Iowa farmers will be disseminated in oral and poster forms at state and national conferences.

Objective #5: Multi-Year Planning. Team members are in constant contact with each other determining additional activities and keeping each other posted with the

team's progress. Year two will give us the opportunity to evaluate what went well and also the changes we need to implement to move our work forward. We are planning two meetings with the entire team and we will work cooperatively on the end of the year report/summary.

Section C - Products

Iowa State University Website for Local Foods:

Handouts/Information sheets on: Water Testing, Animals on the Farm and Land Use, Workers Health and Hygiene, and Soil Amendments.

Information Flier and Agenda for Produce Safety Alliance Trainings, also for short training on FSMA Produce Safety Rule.

Section D – Participants

Angela Shaw, PhD Project Director. Assistant Professor, ISU Food Science and Nutrition

Shannon Coleman, PhD Assistant Professor, ISU Food Science and Nutrition

Lakshman Rajagopal, PhD Associate Professor ISU Dept. of Apparel, Events and Hospitality Management.

Catherine Strohbehn, PhD Adjunct Professor, ISU Apparel, Events and Hospitality

Paul Ovrom, State Horticulturist. Iowa Department of Agriculture and Land Stewardship

Joe Hannan, Commercial Horticulture Field Specialist, ISU Extension and Outreach

Linda Naeve, ISU Extension Program Specialist, Value Added Agriculture

Teresa Wiemerslage, ISU Extension Specialist, Local Foods

Smaranda Andrews, PhD, ISU Extension Program Specialist

Manreet Bhullar, Graduate Student, ISU Food Science and Nutrition

Bridget Perry, Graduate Student, ISU Food Science and Nutrition

Jacques Overdiep, Graduate Student, ISU Food Science and Nutrition

Section E. Impact

We have formed an Iowa On Farm Food Safety Team. The Team is contributing to forming a network of food safety professionals in Iowa, which has already led to new projects and new collaborations. In the coming year, we intend to continue providing opportunities for the team members to get to know one another on a deeper level to build trust and foster new collaborative work.

Section F – Changes/Problems

Section F.2. Actual or anticipated challenges or delays and actions or plans to resolve them.

We have planned, for year one, 10 on farm inventory assessments. However, due to the delay in FDA On Farm Readiness Reviews (OFRRs) guidelines we are pushing the farm inventory assessments into year two. The goal of the OFRRs is to provide effective, uniform and consistent application of the FSMA Produce Rule.

Without the guidelines, we are not able to effectively complete Objectives 2 and 3.

Nevertheless, we have taken the following steps to ensure that we will be ready for the guidelines when they become available. (1) We are planning additional trainings for Iowa growers and we have taken the appropriate measures to schedule them. (2) We

have identified that many Iowa growers need additional Good Agricultural Practices trainings (GAPs). For example, two groups of growers, associated with produce auctions in Lamoni and Elma, have requested GAPs education opportunities. We have scheduled meetings with them at the end of April. (3) We are actively requesting, through press releases and Team members connections, on demand education opportunities for Iowa growers.

F.3. Significant changes to human subjects
IRB under review at Iowa State University