



Western Center for Food Safety
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Date: November 4, 2013

To: Senate Committee on Agriculture

From: Michele Jay-Russell

Re: The Federal Food Safety Modernization Act: Impact of the Proposed Produce Rule on California On-Farm Agriculture Production

My name is Michele Jay-Russell and I am the Program Manager of the Western Center for Food Safety (WCFS), a Food and Drug Administration (FDA) Center of Excellence at the University of California, Davis (UC Davis). As background, my training includes a Doctor of Veterinary Medicine (DVM), a Master's of Veterinary Preventive Medicine (MPVM), and a Doctor of Philosophy (PhD) in Microbiology. I am also board certified in the American College of Veterinary Preventive Medicine. In my current position, I work actively in applied food safety research, outreach, and education. My research focuses on pre-harvest food safety of fresh produce with an emphasis on identifying and mitigating potential risk factors associated with fecal pathogen contamination of plants by domestic and wild animal intrusions, agriculture water, and animal-based soil amendments. Prior to joining UC Davis, I worked for the California Department of Public Health (CDPH) and served as a member of the CDPH-FDA California Food Emergency Response Team (CalFERT). CalFERT conducted the 2006 on-farm investigation of a nationwide *E. coli* O157:H7 outbreak linked to bagged baby spinach ultimately traced to a single ranch in San Benito County. The "spinach outbreak" was a major impetus for the implementation of industry-based voluntary on-farm food safety practices such as the Leafy Green Marketing Agreement (LGMA), as well as proposed produce safety rules in the Food Safety Modernization Act (FSMA).

Based on my expertise in food safety, I am providing testimony on three topics:

1. Current and future research investigating on-farm food safety practices

The Western Center for Food Safety (WCFS) at UC Davis is an academic Center of Excellence established in 2008 as a cooperative agreement with FDA Center for Food Safety and Applied Nutrition (CFSAN), Office of Food Safety. The center's scientists help support FDA's public health mission by conducting studies that address knowledge gaps surrounding the safe production of agricultural foods. A major goal of the center is to support FDA's implementation of the on-farm prevention oriented activities outlined in the FSMA Produce Safety Rule. WCFS



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has already played a critical role in conducting studies that have been used to inform policy, including the proposed produce safety rule being discussed today.

WCFS is co-located with the Western Institute for Food Safety and Security (WIFSS) and the Center for Produce Safety (CPS), which enhances opportunities for collaborative research. Our location in California gives FDA access to the expertise of agricultural scientists, veterinary- and human-health professionals, food scientists, ecologists, engineers, economists and others. Likewise, the proximity of UC Davis to over 50% of the U.S. fresh fruit, vegetable and tree nut production, including California's Salinas and Central Valleys, is ideal for conducting research related to on-farm food safety practices described.

The center and WIFSS also partner with the University of California Agriculture and Natural Resources (i.e., UC ANR or Cooperative Extension) throughout the state, which then links to an expansive boots-on-the-ground network of extension specialists and advisors in food and production agriculture throughout the country. The statewide presence of UC Cooperative Extension and the extensive resources of ANR create an unparalleled ability to conduct on-farm real-world research, technology transfer, and food safety training related to FSMA.

A few high impact examples of completed and ongoing research related to on-farm food safety practices include:

- Fate of *Escherichia coli* O157:H7 in field-inoculated lettuce, cilantro, and basil
- Enhancing the FDA Produce Risk Model
- Strengthening good agricultural practices (GAPS) for reducing bacterial contamination of produce
- Enhancing the safety of nuts and nut products
- Cost effectiveness analysis of Leafy Green Marketing Agreement (LGMA) water provisions.

In 2013, WCFS initiated several new projects addressing on-farm food safety practices including:

- Evaluation of treatment and disinfection protocols for agricultural water and equipment
- Determining the fate of foodborne pathogens in root crops and tree fruits
- Validation of proposed produce safety rules related to minimum application intervals for untreated biological soil amendments of animal origin



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2. The role of scientists in developing alternatives within FSMA

To address this issue, WCFS and a network of collaborators created a framework for developing a research strategy and experimental design that generates data that may be used to support an alternative or variance to sections of the proposed Produce Safety Rule related to 1) agricultural water contacting fresh produce that may be consumed raw and 2) application of untreated soil amendments of animal origin on land used to grow produce that may be consumed raw. Two peer-reviewed papers were published with open access in the Journal of Food Protection, a publication widely read by industry and other food safety professionals.

Additionally, WCFS partnered with the Center for Produce Safety to announce a 2013 Request for Proposals to provide data related to alternatives and agriculture water standards in the proposed Produce Safety Rule. Four projects have been funded, to date, with research being conducted from July 1, 2013 to June 30, 2014.

3. Education and outreach in regards to food safety practices

A major goal of our outreach, education, and extension program is to provide technical assistance to the farming community in adopting and complying with components of FSMA. FDA has acknowledged that they have a limited history with the agricultural community and seeks to use the strong relationships that academia has with the farming community to facilitate education and outreach activities. We are working actively with FDA CFSAN to develop a technical assistance network to achieve this goal. We are also partnering with Cornell University's Produce Safety Alliance (PSA) to conduct train-the-trainer and train-the-grower programs with extension educators and county agents in produce production regions of California and other western states.

Additionally, WIFSS has a cooperative agreement with the FDA Office of Regulatory Affairs (ORA) to assist in updating and redesigning courses for regulatory investigators and inspectors working in food safety. The largest effort currently pertains to a course training FDA and state employees how to conduct on-farm Produce Farm Investigations. The course has been given in California and across the United States. As part of this new curriculum, WIFSS outreach team is standardizing training material so that all investigators are up to date on current farm practices and the methods for conducting on-farm investigations. The curriculum guides investigators to think about sources and routes of potential contamination and to look for evidence of such possibilities.



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In summary, much of the FSMA-related training and outreach material related to on-farm food safety practices is based upon the research done by UC Davis scientists and their collaborators. The close alignment of WCFS, WIFSS, and allied food safety programs on campus allows new research to be immediately incorporated into training and outreach materials.

Respectfully yours,

A handwritten signature in black ink, appearing to read "Michele Jay-Russell". The signature is fluid and cursive, with a prominent initial "M" and "J".

Michele Jay-Russell