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National Food Safety: Training, Education, Extension, Outreach, and Technical Assistance Program and the National Curriculum Stand for Food Protection Professionals

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NATIONAL FOOD SAFETY: TRAINING, EDUCATION, EXTENSION, OUTREACH, AND TECHNICAL ASSISTANCE PROGRAM AND THE NATIONAL CURRICULUM STANDARD FOR FOOD PROTECTION PROFESSIONALS

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Good morning, it is an honor to be speaking with you at this 73rd Annual Professional Agricultural Workers Conference. I am the Executive Director of the International Food Protection Training Institute (IFPTI) and the National Coordination Center for Food Safety Training, Education, Extension, Outreach, and Technical Assistance. IFPTI is based in Battle Creek, Michigan. What do you think of when you hear "Battle Creek?" That is right – cereal. That is where cereal was invented and many cereal companies began in Battle Creek. After touring the Tuskegee campus yesterday, I was awestruck by the richness of all the history here – it is truly inspiring. For those students of history here today, I have a quiz: Who can tell me the name of a major, historic American figure who lived in Battle Creek and is buried there? I will give you a hint: she was an outspoken abolitionist and women's rights activist in the 1800s. Correct – it was Sojourner Truth who was an orchestrator of the Underground Railroad and fought her whole life for human rights. I invite anyone here who comes to Battle Creek for a visit to stop by IFPTI and I will take you to see the monuments throughout the city honoring Sojourner Truth.

I noticed that all three of our previous speakers talked about "opportunity." And the title of my presentation really should read "Emerging *Opportunities*" rather than "Issues" since that is what I hope you take away from what I am about the present. I am first going to update you on the opportunities to become involved with the efforts to provide training, outreach, and technical assistance to producers as a result of the new Produce Safety regulations. Then I will share a competency-based training curriculum that has been developed for regulatory officials in the U.S. that can serve as a model for an open-source curriculum for producers and small businesses seeking to meet the new food safety requirements.

First let us look at the new regulations that the Food and Drug Administration (FDA) is required to write under the Food Safety Modernization Act (FSMA). Five of the seven new rules have already been released: Preventive Controls for Human Food, Preventive Controls for Animal Food, Produce Safety, Foreign Supplier Verification Program, and Third Party Accreditation. That leaves the other two - Sanitary Transport of Food and Intentional Adulteration – to be released in 2016. All the rules represent a major shift in regulatory thinking in that they introduce the concept of *prevention* and place a significant burden on the regulated party to implement controls that will prevent food safety problems. This shift in philosophy creates an opportunity to

help educate and train the food industry – especially producers and small manufacturers – to implement new food safety controls.

Let us focus on the Produce Safety Rule. Of all the rules, this one will likely be the most challenging to implement due to the fact that historically there has been very little food safety regulation on the farm. So producers are not accustomed to government officials visiting their farming operations in a regulatory capacity – whether an FDA investigator or a state inspector. One thing that may help prepare producers get used to the idea of regulatory oversight is the growing pressure in recent years placed by buyers on the farming community involving third-party, Good Agricultural Practices (GAP) inspections. An infrastructure is already in place to support third-party audits of farms and this mechanism could be used as a supplement (or possibly a replacement) for regulatory inspections in some instances. So, farmers have already been adopting food safety practice on the farm to meet buyer demands.

The Produce Safety Alliance (PSA), centered at Cornell University, is developing a curriculum to help the farming community gain an awareness of practices that can impact the safety of their crops. All the new alliances (Produce Safety, Sprout Safety, and Preventive Controls) represent true public-private partnerships as they are made up of those in government, industry, academia, and consumer groups. The PSA has developed a standardized set of training modules – or curriculum – that will be disseminated throughout the US and other countries that ship produce into the US.

The PSA has hired four regionally-based staff to supplement four FDA regional staff to collaborate on training and technical assistance for producers. Add to this a new network of Land Grant universities who have come together under Regional Coordination Centers for produce safety. The goal of this new network is to provide needed training and technical assistance to farmers. Ultimately, a national curriculum will need to be developed so consistent training can be disseminated throughout the US using new and existing avenues. This is the role of the National Coordination Center – to help identify producer competencies that can be attained through training and education. So here is another opportunity: to engage partners like the Land Grant universities here today to help identify these competencies and build a national curriculum as well as develop and disseminate training and technical assistance to farmers using a competency-based system.

New technical assistance tools are being developed to aid both the farming community and extension specialists. Figure 1 shows a diagram depicting the “FDA FSMA Technical Assistance Networks.” FDA “subject matter experts” will interface with both the Food Safety Preventive Controls Alliance Technical Assistance Network and the Produce Safety Technical Assistance Network. FDA experts will answer questions received via a web form regarding FSMA regulation **interpretation**, **policy**, and **implementation**. KMS in the center of the diagram stands for Knowledge Management System and is an IT system FDA has put into place to track and trend FSMA queries and serve as a repository for Questions & Answers. The other two networks of “food safety experts” will come mostly from Land Grant universities and will be available to answer **scientific** and **technical** questions from the human and animal food industry. Here is another opportunity for the experts in the room today: to participate in the networks in a scientific and technical capacity. As an expert, you will be able to access the systems to:

- Provide answers to questions posed by producers and manufacturers,
- Collaborate with peers and discuss technical and scientific issues, and
- View topical questions and answers already addressed and archived within the networks.

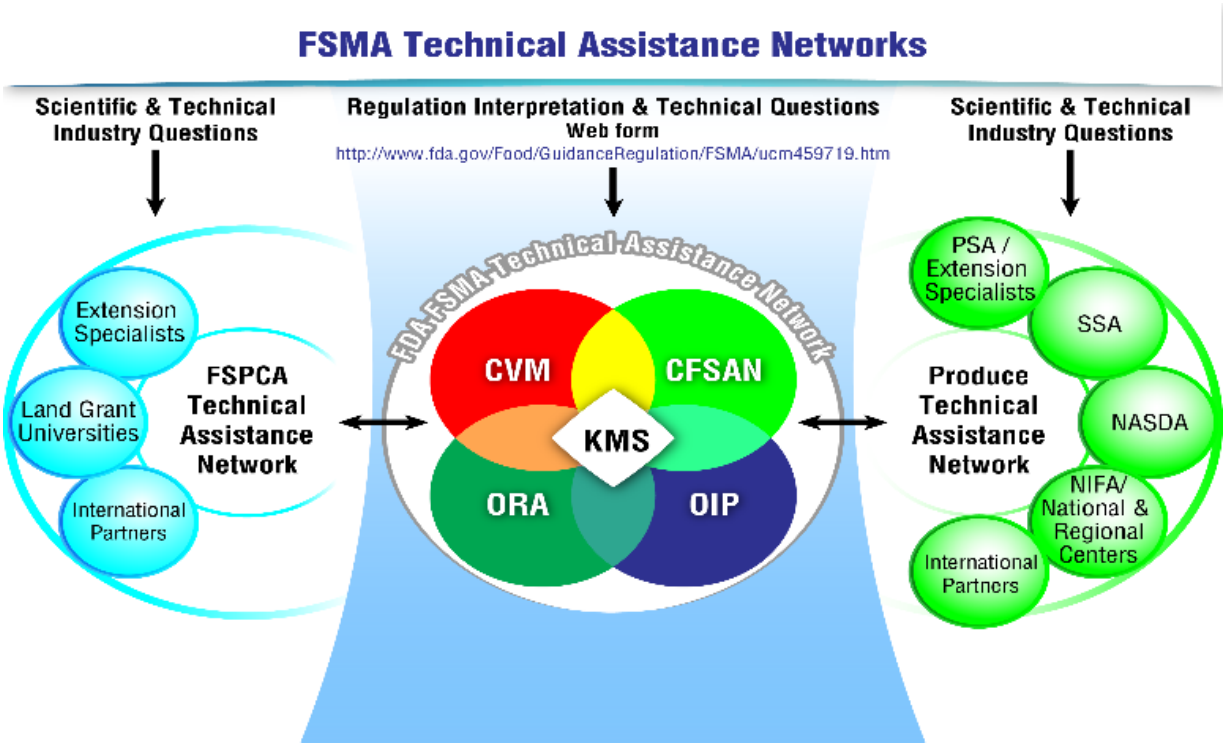

Figure 1. FSMA Technical Assistance Networks

While the PSA is developing a standardized course that will form a base for food safety training for producers, there is much more work to be done. Figure 2 is a high level framework that FDA has put together to show their approach to funding entities who will play a role in the development and dissemination of food safety training for producers and businesses.

Note that the overall curriculum development and dissemination of training will be accomplished through cooperative agreements to multiple collaborators including the Alliances as well as Land Grant universities who participate through the Regional Centers. FDA uses the term Alternate Curricula to identify training that may be specific to certain audiences or based on certain commodities. The curricula developed by the collaborators will be officially recognized by FDA. This recognition will help drive successful dissemination of the training – again using multiple collaborators.

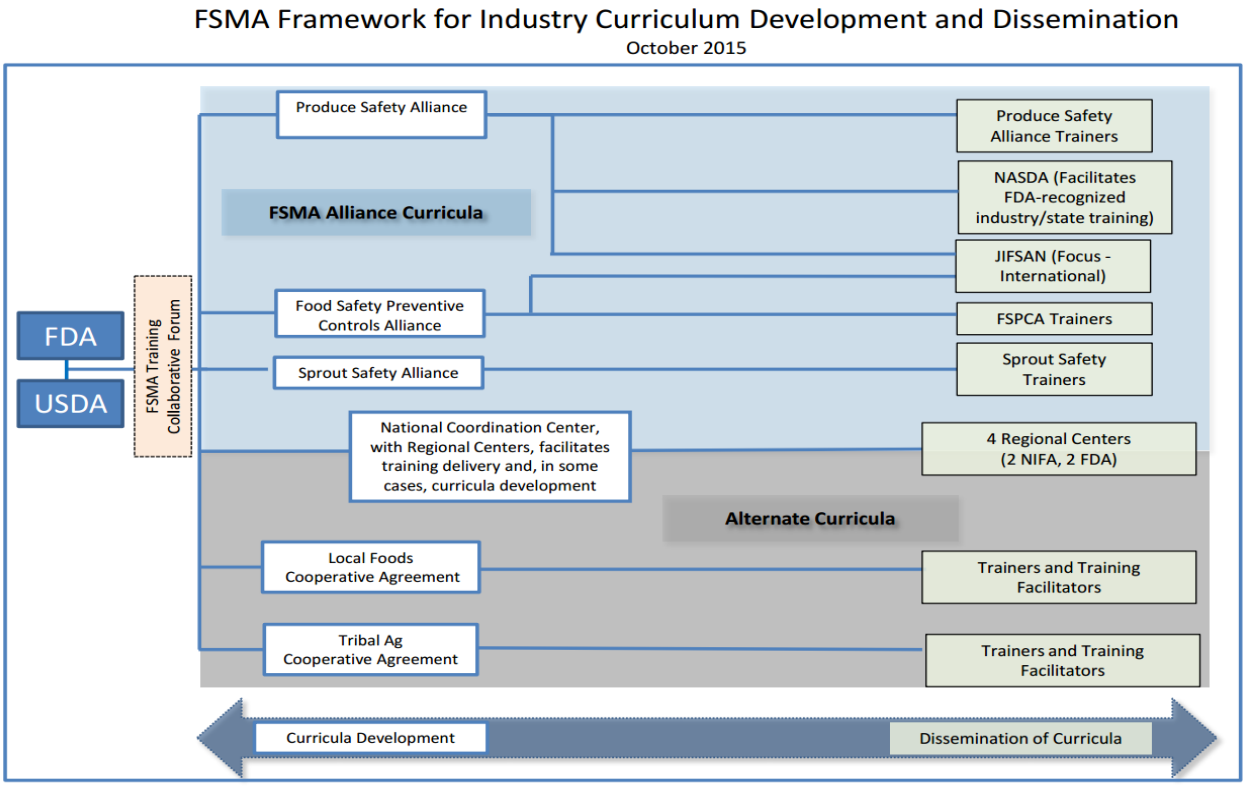

Figure 2. FDA Training Infographic (found at: http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm461513.htm)

It should be noted that FDA has stated it will designate new funds for university and Extension partners to help producers to comply with the new FSMA requirements. USDA's National Institute for Food and Agriculture will be tapped by FDA to help university partners to access new funding. So the new FDA regulations will create many new funding opportunities for research, education, training, outreach, and technical assistance.

Now let us turn our attention to something I mentioned earlier – a national, competency-based curriculum for producers. Although that does not exist presently, to illustrate how such a curriculum could be built we can look at a model that is already in place. In this case, it is a model for government food regulatory officials that IFPTI has built in cooperation with FDA. In fact, the model goes beyond just a curriculum and encompasses a whole system that has become known as the National Curriculum Standard (NCS). See Figure 3 for the high-level view of the curriculum framework.

The NCS identifies the knowledge, skills, and abilities (or attitudes) with expected levels of performance for food safety officials to be able to conduct specific job activities or tasks. It identifies the training content that needs to be addressed, what it needs to accomplish, and under what conditions it can assure successful job performance. The NCS is comprised of both a national competency – and curriculum-framework which, together, define the performance expectations of the profession. The NCS establishes the quality and proficiency standards for national training. This creates the opportunity for "open-source" training - that which has been reviewed for quality and alignment to the standard but that has been developed or delivered by

multiple stakeholders. A benefit of this approach is speed and efficiency in meeting the training needs of the community. Applied to working producers, who may not have the luxury of attending many hours of training, this model could focus multiple modalities of delivery on the essential competencies and practices needed to produce safe food – even for specific commodities.

You can take an interactive tour of the National Curriculum Standard on the IFPTI website at: www.ifpti.org/incs. As you will see, you can drill into the high-level competencies when you interact with the competency framework on the left side of the page. There is much more you can do once you click on the curriculum framework to the right of the competency framework. The Main Curriculum Framework is a color-coded, visual grid that demonstrates the relationship between Professional Levels, Level-Spanning Topics, Content Areas, Level-Specific Core Content Areas and Professional Tracks, as well as Program Areas that are part of those tracks. Level-Spanning Topics are depicted vertically on the right-hand side of the Framework. These are content areas or subjects that apply to multiple professional levels. For example, Professionalism is applicable to all levels.

Content Areas are represented by each "box" on the Framework. These are topics or subjects in which a regulatory official should be competent, depending on his or her Professional Level. For example, Entry Level regulatory officials should be competent in Jurisdiction and Labeling, among others. For each Professional Level, there are common, core content areas applicable to ALL regulatory officials. These Level-Specific Core Content areas are often referred to as the "Gen Eds" (or General Education) for that particular Professional Level (Entry Level, Advanced Level, Technical Specialist Level, and Leadership Level). Since these Gen Eds are mostly knowledge components of competencies, they tend to be online, self-paced training courses.

Professional Tracks are areas of specialization, such as Unprocessed, Manufactured, and Retail found at 3 of the professional levels – Entry, Advanced, and Technical Specialist. Each professional track has specific Program Areas. For example, Entry Level regulatory officials within the Unprocessed Track may specialize in specific Program Areas such as Dairy (on farm), Shell Eggs, Produce, and Shellfish Growing Areas.

Now that I have introduced you to the Main Curriculum Framework, let us look a little closer. Within the Main Curriculum Framework, there are Program Areas that open up entirely new Curriculum Frameworks that cover content areas specific to that Program Area and not found in the Main Framework. Animal Feed is one of these Program Areas - it is part of the Manufactured Food Track at the Entry, Advanced, and Technical Specialist Levels. These Animal Feed Program Area boxes open up the Animal Feed Curriculum Framework. Other embedded frameworks include Retail Food and Manufactured Food. A framework for regulators who deal with Produce is currently being built. A separate framework has also been built for food and feed laboratory professionals.

When you drill into any content area, you will see the applicable, specific competencies identified for that topic as well as professional level. These low-level competencies become the "blueprint" for developing content-specific training. By utilizing these blueprints, training development can be distributed to multiple developers who can use a parallel, rather than a linear process for fleshing out the curriculum content. A centralized review of completed content

assures that all competencies have been addressed and quality has been met before the training (or learning in some cases) is placed within the curriculum.

It is important to consider the fact that many competencies required to function as a food safety professional are attained prior to the job – from higher education. This is another area of opportunity to begin to align professional competencies with university curricula in order to prepare students for careers in food safety.

Note the links within the interactive NCS that allow stakeholders to submit training for review and placement within the curriculum. Also note the links that will house self- and supervisor-assessments. Targeted professionals or their supervisors can assess the level of meeting the competencies, identify gaps, and develop specific training regimens to meet professional growth plans.

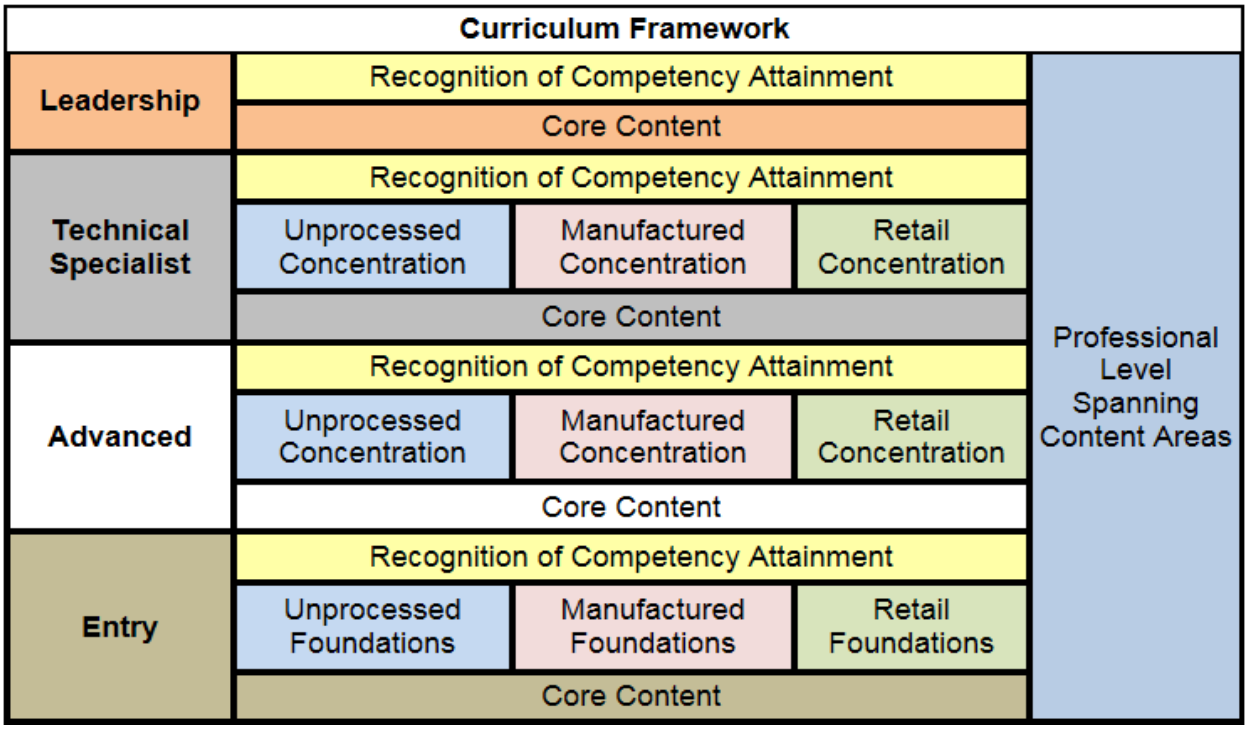

Figure 3. High-level view of the Interactive National Curriculum Standard for Regulatory Food Safety Professional

Keep in mind that we have just explored the model specific to the food safety regulatory community. The same approach can be used to identify competencies and build a curriculum framework for producers. So here is another opportunity to bring to your attention. The development of a competency-based curriculum framework can be the first step in building out comprehensive curricula to address producer education and training. The universities represented here today at the conference can collaborate in a number of ways to participate within the funding framework that FDA has laid out as well as through the food safety funding provided through the National Institute for Food and Agriculture. I hope you take advantage of the opportunities we have discussed this morning. Thank you for your invitation to be with you at the Annual PAWC.