Water Quality And The FSMA PSR: Developing Risk Assessment And Educational Tools For Farmers And Laboratories In The Upper Midwest

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LRCC Lead Regional Coordination Center | NECAFS The Northeast Center to Advance Food Safety | SC Southern Center for Food Safety Training, Outreach and Technical Assistance | North Central Region Center for FSMA Training, Extension and Technical Assistance | WRC Western Regional Center to Enhance Food Safety | USDA United States Department of Agriculture | National Institute of Food and Agriculture

Problem Statement / Issue Definition:

- Water analysis laboratories need guidance to meet the analytical needs of produce farms, including up-to-date information about timelines and requirements in the FSMA Produce Safety Rule (PSR);
- **Producers lack understanding of how to identify and mitigate on-farm water risks beyond development of MWQP**
  - **Produce safety rule requires water is "safe and of adequate sanitary quality"**
  - **Curriculum does not provide guidance on identifying risks in real time**
- **Educators need tools that are updated to reflect final subpart E requirements**
- Collaboration between MSU and UMN to address these issues in Upper Midwest, with project outcomes shared nationally

Accomplishments to date: Water Risk Prioritization Tool

Goal is to develop resources to identify and mitigate produce safety risks associated with water use that goes beyond testing for generic *E. coli*

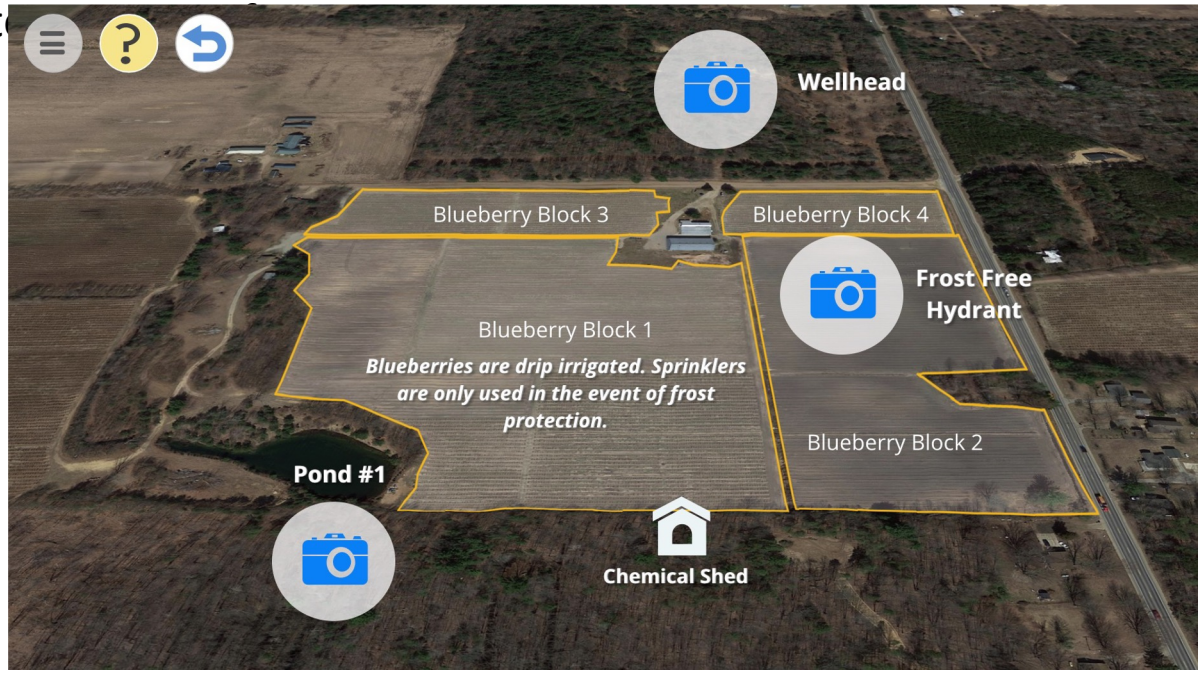
- Completed the digital tool
  - Different for wells, streams, and reservoirs
  - Reviewed with steering committee and incorporated feedback
- Converted digital tool to a paper tool for accessibility
  - Adjusted math to simplify hand calculations
  - Adjusted language for clarity in a farm audience
  - Tried to “break” the tool

Outputs:

Four educational videos to help growers understand factors affecting water quality used on their farm.

Four Scenarios (digital and print) to help growers apply the tool t

Paper risk tool for low tech/no tech use.



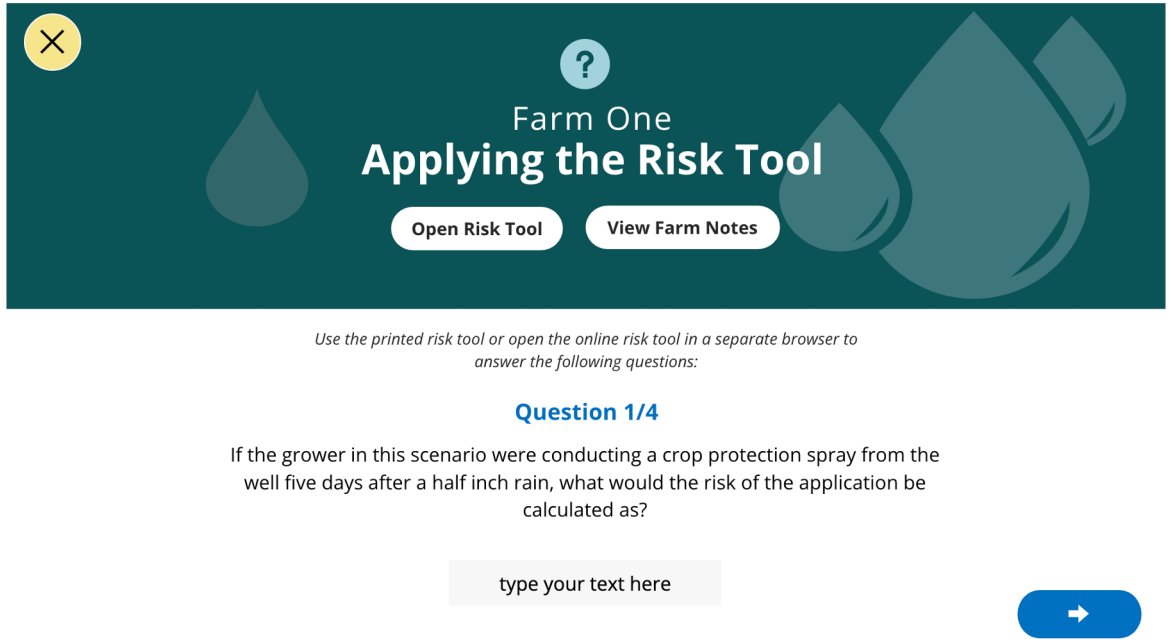
Approach / Methods:

{Describe your project approach / methods}

-Base the educational experiences in reality

-Use plain language

-Continuous stakeholder input



Future prioritization tool development work

- Ground truth the tool under field conditions
  - 'Controls' that should be low risk and high risk, and in betweeners
  - Test water for DNA signal that pathogens have been present
- Pilot scenarios and paper tool
  - Look for areas of misunderstanding
  - Possibly create teaching guide and develop marketing plan
- Develop SOPs on implementing the tool and other water related teaching
  - How to use the tool
  - Ways to use results to guide risk reduction on the farm