

Needs Assessment Survey of Producers of Raw Agricultural Commodities in Tennessee for Meeting the

Requirements of Food Safety Modernization Act

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ABSTRACT

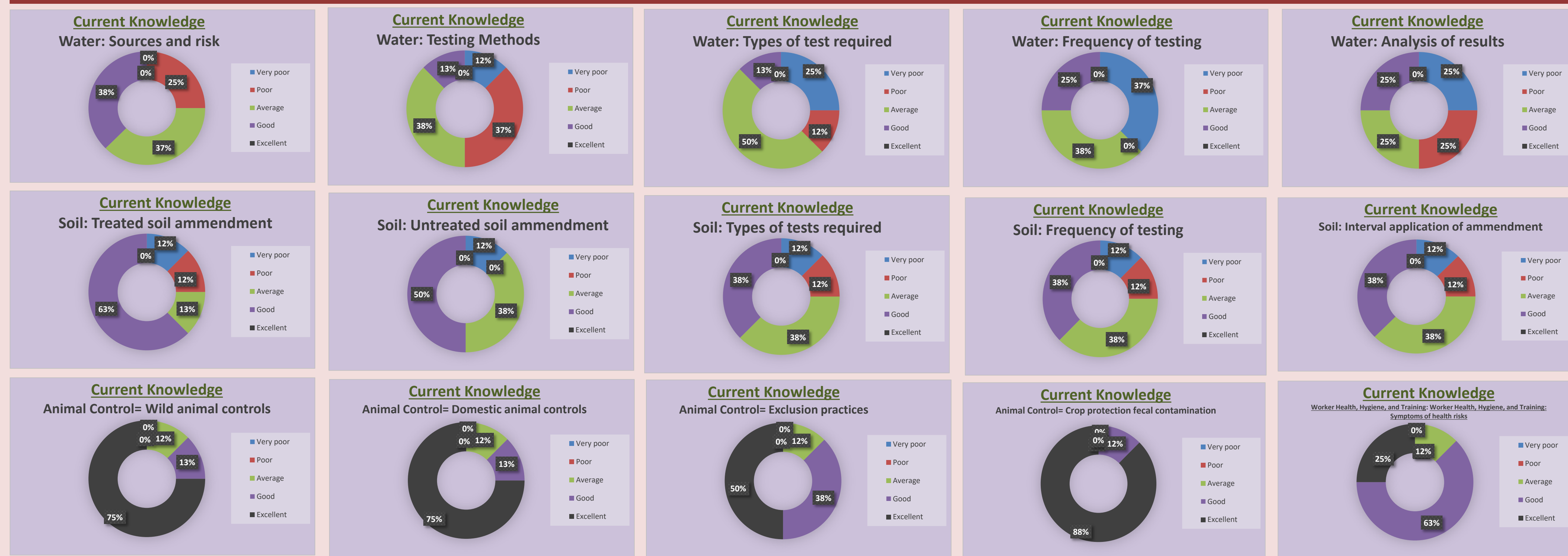
Food Safety Modernization Act is the most comprehensive legislation related to safety of the U.S. food manufacturing and agricultural production in more than 70 years. The legislation aims to ensure safety of domestic and imported foods by shifting the focus of producers, processors, and federal regulatory agencies from response to contamination to preventive measures. Although the legislation is expected to appreciably enhance the health of the public by further reducing the burden of the foodborne illness, hospitalization, and death episodes, it requires extensive regulatory compliance steps from non-exempt producers and processors. A survey with 5-point hedonic scales and demographic section was administered to producers of raw agricultural commodities in middle Tennessee to assess their existing knowledge and training needs for meeting the regulatory requirements of Produce Safety Rule of the Food Safety Modernization Act (FSMA). The content were analyzed using OpenEpi software at type one error level of 5%. Among the respondents, 38% and 63% indicated “very low” knowledge related to current regulatory requirement of water sources and treated soil amendments, respectively. In contrast, 88% and 70% indicated “excellent” knowledge for protecting crops from fecal contamination and hygiene practices for their employees, respectively. Need for educational material for water testing frequency and methods of analyses were ranked highest (P<0.05) among the participants’ responses. Information needed for training employees hygiene practices and notification practices were least needed by the participants. The respondents’ age were ranging from 53 to 77, with operations ranging from 2 to 12 acres (average 6.9 acres). They self-reported farming experience on average of 10.1 years, ranging from 4 to 25 years. Based on USDA census data, number of farming operations have been consistently in decline nation-wide and in Tennessee. The number of operations in Tennessee has declined 22% from 87,587 in 2002 to 68,050 operations in 2012, highlighting the critical role of land-grant institutions in continued rural development and assuring food security. Assimilating the needs of the producers is of particular importance for early-career labor and emerging entrepreneurs, enhancing the prospect of expanding their businesses, which otherwise would have to remain low in profit in order to stay inside the FSMA exemption “box.”

Burden of Microbial Food Safety

- Recent Epidemiological Study: (Scallan et al., 2011)**
- 47.8 million illnesses, 127,839 hospitalizations, and more than 3,037 deaths in the United States.
 - 9.4 million illnesses, 55,961 hospitalizations, and 1,351 deaths are cause by 31 known foodborne agents.
- Losses beyond Healthcare: (Fouladkhah, 2017)**
- In addition to consumer insecurity, foodborne diseases cause around \$77.7 billion for losses in productivity and economical losses.
 - Approximately 30% of population are especially “at risk” for foodborne diseases
- Contributors to Foodborne Illness & Death: (CDC, 2017)**
- Fresh produce:** 46% of illness, 23% of death
 - Meat and poultry:** 23% of illness, 29% of death
 - Dairy and eggs:** 20% of illness, 15% of death
 - Fish and shellfish:** 6.1% of illness, 6.4% of death
- Demographics:**

Adding value to fruit and vegetables?	Yes=2	No=8
Gender:	Male=9	Female=3
Primary occupation	Farmer=12	Coordinator/manager=1
Age	Mean	min max
Years of farming	10.1	4.0 25.0
Number of acres	6.9	2.0 12.0
People involved in post harvest	2.6	1.0 5.0
People work seasonally	5.3	2.0 11.0
People work year round	2.3	1.0 4.0
State of Primary market	Tennessee (n=11)	
Total response	n=12	

Current Knowledge



Needed Information



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