



# INTERNATIONAL FOOD PROTECTION TRAINING INSTITUTE

49 W. Michigan Ave. Suite 300  
Battle Creek, MI 49017  
269.441.2995



## IFPTI Fellowship Cohort IV: Research Presentation Bryan Buchwald 2014-2015



# *Awareness of Food Safety Risks in Production of Produce on Oklahoma Farms*

Bryan Buchwald  
IFPTI 2014-2015 Fellow  
Oklahoma Department of Agriculture,  
Food & Forestry

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## Background

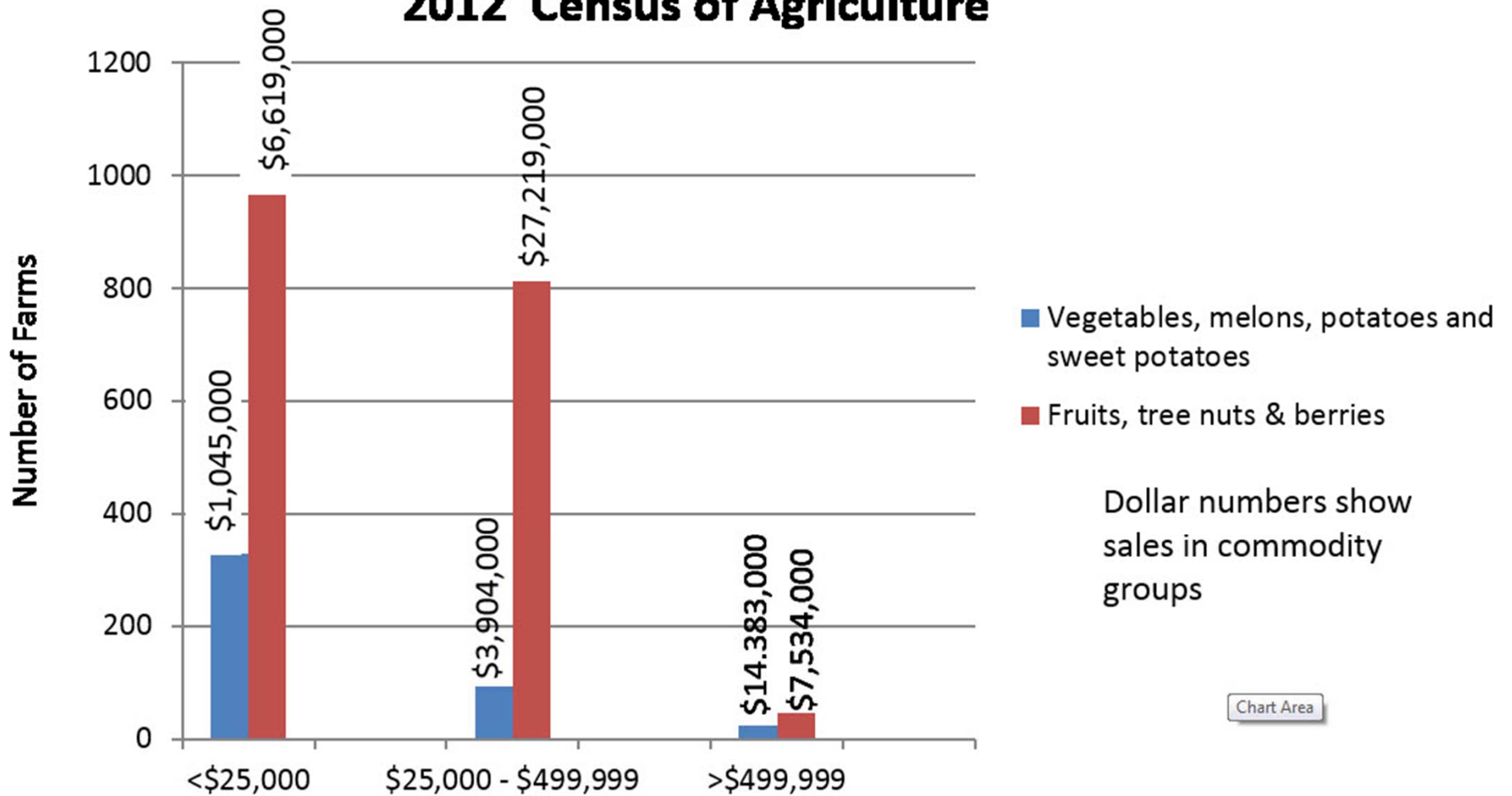
- Untreated animal manure:
  - Traditional fertilizer for farms.
  - Excellent source for crop nutrients.
  - Maintains or improves soil's organic matter content.
- The use of untreated animal manure does come with food safety risks:
  - Contamination of crops and soil through pathogenic organisms.
  - Foodborne illnesses linked to produce harvested from land where this practice has been used.

## Background (continued)

- Government agencies with regulations in place on the issue:
  - Some have regulations in place at this time.
  - Some have guidance in place.
  - Others have drafted proposed rules to address this issue.
- Producers regulated and producers not regulated on the use of untreated animal manure:
  - Producers currently regulated.
  - Producers not currently regulated.
  - Some producers will not be regulated due to regulatory exemptions.



## 2012 Census of Agriculture



## Problem Statement

- The Oklahoma Department of Agriculture, Food & Forestry (ODAFF) lacks comprehensive knowledge of the extent to which raw animal manure is used by ready-to-eat produce farmers, the degree of risk posed by the use of raw animal manure by these producers, and the typical level of producer knowledge regarding food safety risks, GAPs, and regulations associated with the use of raw animal manure in the production of ready-to-eat produce.

## Research Questions

1. How common is raw animal manure use among producers of ready-to-eat produce?
2. What is the degree of risk in the use of raw animal manure based on the method and time of application?
3. What is the typical level of knowledge regarding raw animal manure good agricultural practices and raw animal manure regulation?

## Methodology

- Data Collection
  - Survey sent via email (SurveyMonkey®)
  - Ten questions
  - Multiple choice with comment areas
  - Response rate 17/85 (20%)
  - A follow-up mail inquiry (9 additional responses)
  - Phone calls to set up in-person interviews (15 interviews were conducted)
- Tabulation of survey results
- Comparative analysis



## Study Population

- Oklahoma producers were selected from directories from a public database available through the Oklahoma Department of Agriculture, Food & Forestry.
- 85 producers in Oklahoma were sent the survey electronically.
- Interviews conducted with 3 people with extensive regulatory experience.

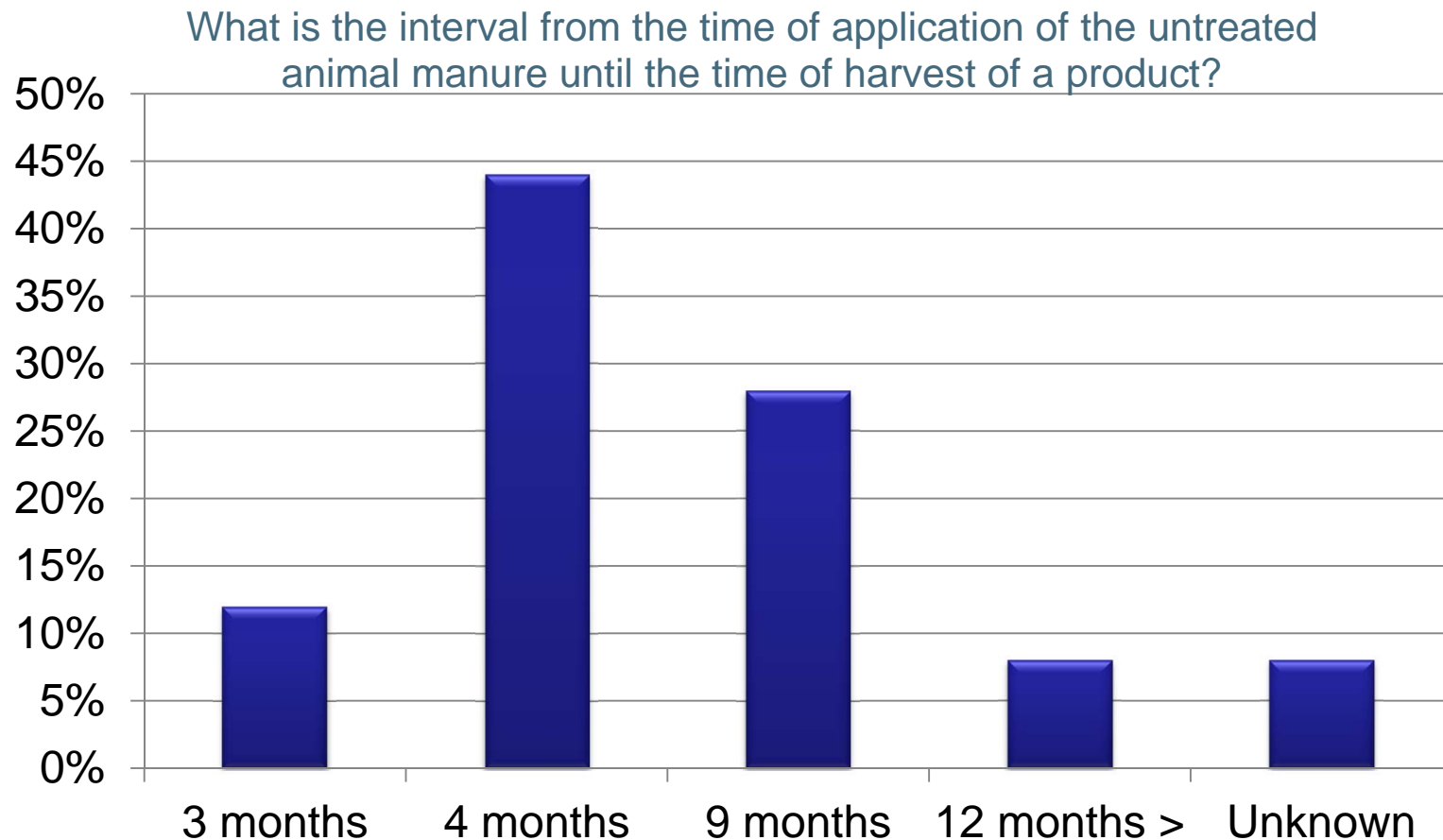
## Results

- A total of 41 produce growers responded.
- 90% market directly to the consumer (farmers' markets).
- 61% use untreated raw animal manure.
- 64% of the producers use raw animal manure apply in the fall, with 80% of those incorporating it into the soil in some manner.
- Producers testing produce for pathogens: none.



## Results (continued)

56% apply raw animal manure 4 months or less prior to harvest.



## Conclusions

- Untreated animal manure is being used cautiously by some producers.
- Other producers are unaware of the potential risks.
- 56% percent of producers surveyed apply raw animal manure 120 days or less prior to harvest.
- A portion of producers are using the 90/120 day rule.
  - A rule that does not have a direct food safety objective; these standards are meant to maximize soil fertility.

## Recommendations

1. Conduct a larger, more rigorous study that measures the potential risk throughout the state.
2. Develop awareness training and better education of produce farmers regarding raw animal manure use:
  - Federal, state, local, and tribal collaboration.
  - Industry and academia input.
3. Outreach to those producers:
  - Identifying the intended audience.
  - Effective methods of outreach.

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# Questions?

Bryan Buchwald  
IFPTI 2014-2015 Fellow  
Oklahoma Department of Agriculture,  
Food & Forestry  
[Bryan.Buchwald@ag.ok.gov](mailto:Bryan.Buchwald@ag.ok.gov)