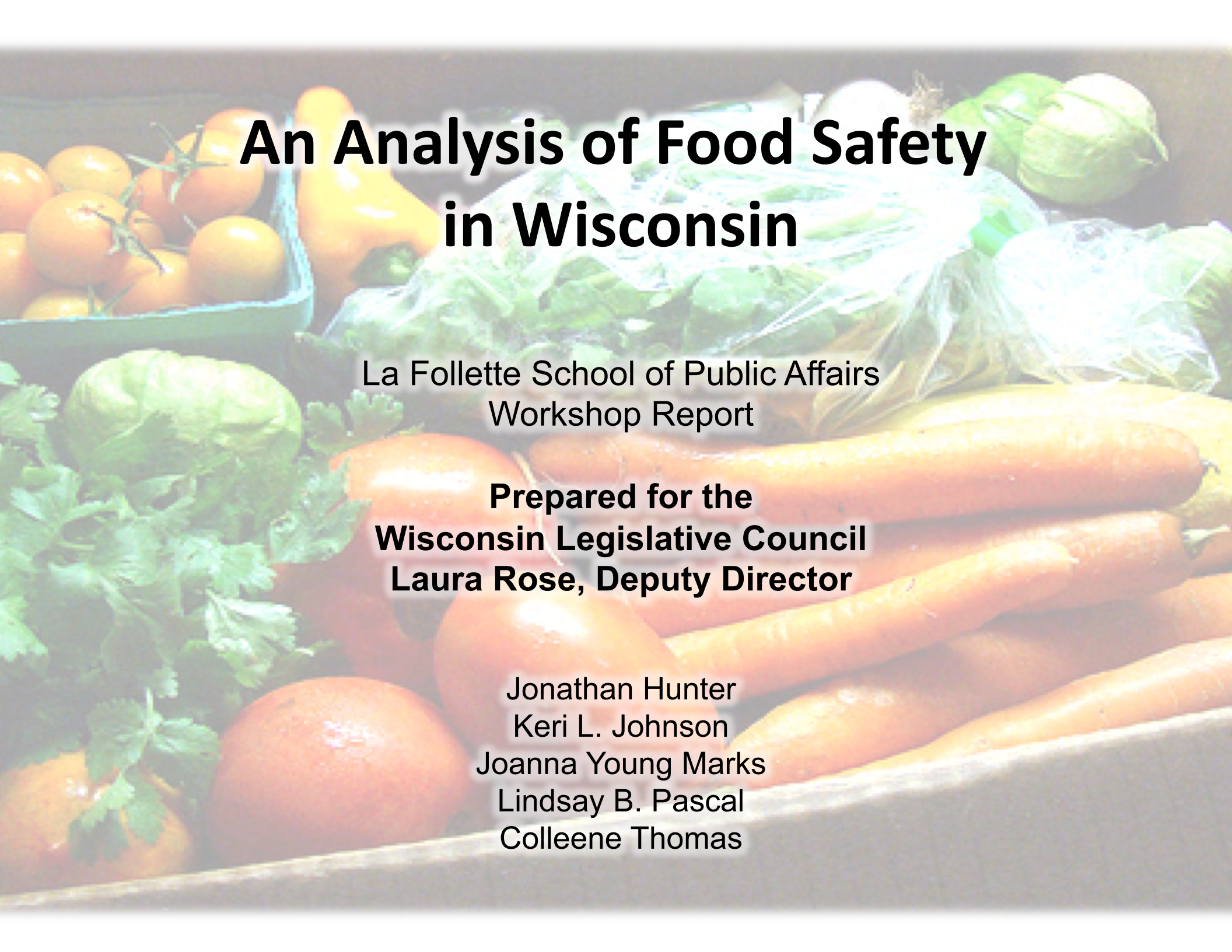

An Analysis of Food Safety in Wisconsin

La Follette School of Public Affairs
Workshop Report

Prepared for the
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Introduction

- High costs of food-borne illness in Wisconsin
  - $2.9 billion in 2009
  - $516 per resident

    (Scharff, 2010)

- Threats to food safety compromise Wisconsin's agricultural industry (2007)
  - $60 billion to the state economy
  - 12.5% of total state production

    (Deller & Williams, 2009)

Research Question

How can Wisconsin minimize farm-level contamination that causes food-borne illness outbreaks and health threats?

Why this question? To…

- *Reduce the occurrence of contamination*
- *Decrease the chance that contamination spreads*
- *Improve the healthiness of food by focusing on inputs*

Presentation Overview

- Risks to food safety
- Background on regulatory structure

- Proposal 1: Addressing Production Standards for Fruits and Vegetables

- Proposal 2: Reducing High Levels of Antibiotic Use in Food-Animal Production

Risks to Food Safety

Short-term Risks

People become sick from consuming food contaminated by microbial pathogens

- 76 million people become sick annually in the U.S.
- 325,000 are hospitalized
- 5,000 die

Long-term Risks

People face health risks from inputs, such as chemicals or antibiotics

- For example, regular use of antibiotics can increase chances that bacteria become resistant to drugs
- Threatens human and animal health

Federal and State Food Safety Regulation

- U.S. Food and Drug Administration (FDA)
- U.S. Department of Agriculture (USDA)
  - Food Safety Inspection Service (FSIS)

- Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP)

Proposal 1: Addressing Production Standards for Fruits and Vegetables

Current Practices in Wisconsin

Fruit and Vegetable Production Standards

- Hazard Analysis and Critical Control Points (HACCP)
  - Packaging, processing
  - Potential federal regulatory requirements (S.510)
- Good Agricultural and Handling Practices (GAP/GHP)
  - Developed by FDA in 1997
  - Currently administrated as a voluntary program by USDA

GAP/GHP

Seven-part audit system addresses:

1. Water
2. Manure And Municipal Biosolids
3. Worker Health and Hygiene
4. Sanitary Facilities
5. Field Sanitation
6. Packing Facility Sanitation
7. Transportation

Shortcomings of Current State Practices

- Voluntary compliance means less accountability, barriers to entrance
  - If a farm fails a food safety audit they are not held accountable to make changes
  - Larger wholesale markets are demanding a GAP/ GHP audit and smaller farms are unable to enter
- A burden on small farms
  - Diversified crops make it difficult and time consuming for smaller farms to develop a food safety plan for each specific crop

Proposal: A Tiered Approach

Tier	Annual Sales	Estimated Number of Farms in Wisconsin	Requirement for Development of Production Standards
1	+ $1 Million	80-100	Follow GAP/GHP
2	$100k – $1 Million	800-1,100	Develop a food safety plan for their entire farm that is not crop specific. Incorporate water testing and sanitary hygiene regulations on the farm.
3	$1k-100k	3,000-3,500	Attend a food safety workshop each year

Proposal Impacts

- Increases accountability for Tier 1 farms where the greatest chance of microbial contamination threats may occur
- Increases food safety protocols for smaller farms
- Opens new markets for small farms
- Increased work load for smaller farms
- Cost increases to install sanitary equipment

Proposal 2: Addressing Antibiotic Use in Agriculture

Addressing Antibiotic Use in Meat Production

- Antibiotics are used for growth promotion, disease prevention, and disease treatment
  - Cattle, Poultry, Hogs
  - Use is associated with lower costs of production
- Focus: Subtherapeutic (Preventative) Use
  - Over 83% of U.S. feedlots administer subtherapeutic levels of antibiotics in feed

  (USDA, 2000)

Uses of Antibiotics

Subject	Use
Humans	Therapeutic (i.e. medical, treatment of disease)
Livestock (cattle, hogs, poultry, goats, etc)	**Subtherapeutic (i.e. growth promotion, disease prevention)**
	Therapeutic (i.e. medical treatment)

Addressing Antimicrobial Use in Agriculture

- Development of antibiotic resistance due to subtherapeutic antibiotic administration
  - In both animals and humans (WHO, 2002)
    - Development of resistant *E.coli* documented on Wisconsin farms (Shere et al. 1998)

- Public health is at risk (U.S. GAO, 2004)
  - Antibiotic-resistant bacteria
    - Lead to more severe illness and higher mortality rates
    - Resistant food-borne infections are increasing

Shortcomings of Antibiotic Use in Agriculture

- Subtherapeutic use in food-animals is a significant source of antibiotic-resistant bacteria (Silbergeld et al., 2008; World Health Organization, 2002)

- Who is responsible for monitoring antibiotic use in agriculture and food-animal production?
  - Few regulations in place for monitoring
  - Food and Drug Administration's (FDA) Role

Prospects for Legislation

- U.S. House and Senate have considered bans
  - Preservation of Antibiotics for Medical Treatment Act (PAMTA) 2009
- Other entities also advocate decreased use
- Subtherapeutic antibiotic bans in other countries
- **Potential role for state legislation**

Meat-Purchasing Preference Proposal

- Policy would require state institutions to purchase meat produced without subtherapeutic levels of antibiotics

- Political precedents
  - Wisconsin Assembly Bill 837 (2005)
  - Other states

- Enacting legislation similar to AB 837 could reduce prevalence of resistant bacteria at the farm level

Analysis of Meat-Purchasing Preference Proposal

Costs Incurred by State Institutions

- Purchase price costs for UW-System for meat could increase 20-50% (Fiscal Note for AB 837, 2005)
- Ex: UW-Madison residence halls
  - 42,000 pounds hamburger/year at $2.87. Antibiotic-free hamburger patties cost $3.94 (37% price increase)
  - Similar price increases for pork and chicken
- Ex: Public Schools, Chilton School District
  - Purchases 720 pounds beef/month at $2.05. Antibiotic-free ground beef costs around $3.75

Analysis of Meat-Purchasing Preference Proposal

Costs Incurred by Producers

- Antibiotic use is related to reduced production costs
- Estimated production cost increases after subtherapeutic antibiotic ban in hogs
  - Total increase of 2% for hog production. Short run costs greater than long run (Brorsen et al., 2002)
  - Other studies estimate a 1% increase (WHO, 2003)
- Limiting antibiotic use may reduce costs associated with management of animal waste

Analysis of Meat-Purchasing Preference Proposal

Impacts On Consumers

- Higher production costs passed to consumers
  - Reducing antibiotic use may cause the price meat to rise 1 to 8 cents per pound (NRC, 1999)
  - Higher costs for UW dining may be passed on to students

Impacts On Other Industries

- Feed additives are a large pharmaceutical industry
  - 90% of antibiotics used as prophylactics or growth promoters; $600 million industry (USDA, 2001)
  - Some veterinarians derive income from sales

Analysis of Meat-Purchasing Preference Proposal

Other Considerations

- Not enough supply to meet state agency demand
  (Fiscal Note for AB 837, 2005)

- Would Wisconsin producers have a competitive disadvantage?

- Some meat producers could still use subtherapeutic antibiotics and sell to out-of-state or non-state agency buyers

Conclusion

Improve food safety

- Reduce incidence of bacterial contamination in food production
- Maintain health of both human and animal populations
- Increase demand for meat produced without subtherapeutic levels of antibiotics

Maintain high quality agricultural products

- Preserve Wisconsin's position as national model; continue a legacy of growing high quality fruit and vegetables
- Improve the value of Wisconsin products

What questions do you have?