Produce Safety Educator’s Call #28
January 8, 2018
Instructions

- All participants are muted.
- There will be time for questions and answers throughout the meeting.
  - We may not get around to all comments/questions, BUT you may leave additional comments in the comment box to be compiled after the session.
- This session will be recorded and notes will be shared via the listserv and on our website after the call.
Agenda

- Focus on Food Safety & Wildlife
- Dr. Paula Rivadeneira
  Assistant Professor & Extension Specialist, Food Safety and Wildlife
  University of Arizona, Yuma Agricultural Center
- PSA Updates
Module 4: Wildlife, Domesticated Animals, and Land Use
Learning Objectives

• Identify potential **routes of contamination** from wildlife, domesticated animals, and land use
• Describe **practices to mitigate risks** associated with wildlife, domesticated animals, and land use
• Describe **co-management** strategies that address conservation and food safety goals
• Describe the importance of conducting a pre-plant and pre-harvest **assessment of fields**
• Describe **corrective actions** that could be used if significant risks are present in production fields
• Identify records that should be kept to **document** any management, monitoring, or corrective actions
Animals Are A Produce Safety Concern Because They:

- Can carry human pathogens
  - e.g., *E. coli* O157:H7, *Salmonella*, *Listeria monocytogenes*

- Can spread human pathogens
  - By depositing feces in fields
  - By spreading fecal contamination as they move

- Are very difficult to control
  - Birds and small animals travel unnoticed
  - If fencing is used, even the best fence can be breached
  - Complete exclusion is not possible
Wildlife on the Farm

• Can be a natural and valuable part of the landscape and farm environment

That’s why FSMA promotes co-management
Wildlife on the Farm

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• Depending on species, management options may be limited by county, state, or federal law
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• May be resident or transient (e.g., migrating species)
Migratory Bird Treaty Act of 1918

- Protects all common birds in the US
- Exceptions
  - House sparrows
  - Starlings
  - Feral pigeons
- Unlawful to kill, capture, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, and eggs
Threatened species?
Wildlife on the Farm

• Can be a natural and valuable part of the landscape and farm environment
• Depending on species, management options may be limited by county, state, or federal law
• May be resident or transient (e.g., migrating species)
• Wildlife with close association to human activities may pose greater risks
  – e.g., seagulls feeding at dumps, starlings feeding in cattle feedlots
Assessing Risks: Wildlife

• Do you find wildlife feces in your produce fields?
  – How often? Is it widely distributed? Is it in contact with produce?
The Southwest Arizona
Track and Scat Glovebox Guide

A Field Guide to Identify Signs of Wild and Domestic Animal Intrusion

Dametreea L. Carr, Kaylee J. Renick, Elissa Malott, Paula Rivadeneira, Jean McLain, Kurt D. Nolte and Channah M. Rock
Assessing Risks: Wildlife

• Do you find wildlife feces in your produce fields?
  – How often? Is it widely distributed? Is it in contact with produce?

• Is your farm in an area that large numbers of animals visit (e.g., flocks of migrating birds, herds of deer)?

• What management practices can limit wildlife contamination of produce fields and water sources?
Co-Management: Striking a Balance

- Farmers must address food safety requirements, but should keep the conservation of natural resources in mind
- Farmers also have stewardship, aesthetic, and business objectives of their own
- **Co-management** considers both food safety and conservation of natural resources
Co-Management Considerations

• Some conservation practices support wildlife and may increase wildlife activity near produce fields

• As food safety concerns have increased, some farms have stopped or changed their conservation practices, particularly those perceived to provide habitat for wildlife (e.g., vegetation and water sources)

• Removal of conservation practices can damage natural resources (e.g., soil, water, wildlife) and may not mitigate hazards posed by domesticated and wild animals
Co-Management Considerations

- Some conservation practices support wildlife and may increase wildlife activity near produce fields.
- As food safety concerns have increased, some farms have stopped or changed their conservation practices, particularly those perceived to provide habitat for wildlife (e.g., vegetation and water sources).
- Removal of conservation practices can damage natural resources (e.g., soil, water, wildlife) and may not mitigate hazards posed by domesticated and wild animals.

If you stop the practice of maintaining wild habitat, and remove it instead, animals will increasingly seek food, water, shelter, and mates IN the field!
Skills to Support Co-Management

• Review the risks and benefits of practices as they relate to food safety and conservation
  – e.g., bare ground buffer and hedgerow vegetation

• Consider impact on conservation when implementing produce safety practices
  – Unintended consequences
  – Direct conflicts between produce safety and conservation
Monitoring Wildlife Activity

• **During the growing season:**
  – Monitor for feces and evidence of intrusion
  – Evaluate the risk of fecal contamination on produce (e.g., tree vs. root crop)
  – Consider past observations and wildlife attractants

• **Immediately prior to harvest**
  – Monitor for fecal contamination, signs of animal activity (e.g., trampling, rooting, feeding, tracks)
  – Assess risks and decide if the crop or a portion of the crop can be safely harvested
Deterring Wildlife
Deterring Wildlife

Decoys
Deterring Wildlife

Decoys

Fencing & Netting
Deterring Wildlife

Noise Deterrents

- Sound cannons
- Screamers
- Injured bird calls
Deterring Wildlife

Visual Deterrents

Noise Deterrents

- Lasers
- Floppy guys
- Mylar
Deterring Wildlife

Visual Deterrents

Noise Deterrents  Tactile Repellent
Risks Associated with Wildlife-Livestock Interactions

2-3% of birds and rodents in the Yuma growing region carry *Salmonella* and/or shiga toxin-producing *E. coli*.
Domesticated Animals on the Farm

• Domesticated animals, such as livestock and pets, may harbor human pathogens

• Domesticated animals are sometimes used in fields
  – As draft animals
  – As wildlife management (i.e., dogs)
  – To graze crop residues/culls

• Assess the risk if animals are allowed or are likely to enter your production fields
Assessing Risks: Domesticated Animals

• Are domesticated animals allowed in the field while the crop is present as part of the production process?
  – Are they working animals?

• Are workers aware of cross-contamination risks from fecal contamination of hands, clothing, shoes, and equipment after handling animals or fecal material?

• Are production fields rotated into grazing land?
  – If manure is present on the ground, one recommendation is to extend the period of time between when animals were grazed and when produce can be planted.
Assess Risks BEFORE Planting

• Assess the field location
  – Topography, wind patterns, water movement
  – Previous uses (e.g., grazing, landfills, manure applications)
  – Impact of domesticated animals

• Assess adjacent land uses
  – Animal production, compost, or manure storage
  – Residential, commercial, or other land uses

• Assess wildlife risks
  – Number, movement, likelihood of fecal contamination
• Trail cameras
• Rodent traps
• Bird counts
Working Animals

• The best way to minimize risk is to not allow working animals in the field when the edible portion of the crop is present.

• If working animals need to be used close to harvest:
  – Establish paths to minimize contact with growing areas.
  – Have an SOP that outlines practices to take if an animal defecates (poops) in the field near or on produce.

• Anyone working with the animals should understand risks and be trained to minimize risks.

• Develop SOPs for animal and manure handling:
  – e.g., handwashing, cleaning and sanitizing tools, practices to complete after handling animals.
Pets and Produce
Don’t Mix
Pets

• Should be excluded from produce fields

• Visitors to the farm should be instructed to leave their pets at home

• Farms with petting zoos should have handwashing sinks available and signage instructing visitors of the food safety policies
Pre-Harvest Assessment

A process to assess fields before harvest to help determine if:

– Fecal contamination is present, or signs indicate a risk (e.g., tracks, trampling, rooting, feeding)
– Fresh produce has been contaminated and cannot be harvested
– Corrective actions, such as no-harvest buffer zones, are necessary
– Harvest can safely proceed
Pre-Harvest Assessment is NOT Enough
Corrective Actions: What To Do If There’s Contamination

1. Do not harvest any produce that may be contaminated

2. Determine if no-harvest buffer zones around the contamination are sufficient to reduce risk to allow harvest of the uncontaminated produce
   - Suggested no-harvest buffer zones vary from a 0-25 foot radius, depending on the crop, climate, contamination event, and harvest equipment
Corrective Actions:
What To Do If There’s Contamination

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3. Consider other corrective actions that could reduce contamination risks
Corrective Actions Continued

4. Make a decision about what to do with the contamination
   • Remove, leave, bury, or use other strategies
   • Consider risks that could result from these actions (e.g., cross-contamination of equipment with feces)

5. Document all actions
   • Monitoring, deterrence, and corrective actions
Worker Training: Establishing Your Front Lines of Defense

Workers must receive training to:

- Recognize and not harvest contaminated produce
- Inspect and correct problems with harvest containers and equipment or report issues to a supervisor, so they do not become a contamination source

Workers must:

- Take measures to not harvest contaminated produce
- Wash hands after handling animal feces or any time hands may be contaminated

Workers should:

- Report food safety concerns to a supervisor
Tracks
Recordkeeping

Records must be kept for:

• Worker training

Records should be kept for:

• Pre-plant land assessments
• Monitoring for animal activity
• Actions taken to reduce the risks related to animal intrusion into crop (domesticated animals and wildlife)
• Pre-harvest risk assessments
• Intrusion and contamination events
• All corrective actions taken
Summary

- Feces and urine from domesticated and wild animals can contaminate produce fields and water sources
- Conduct pre-planting and pre-harvest assessments
- Presence of animals in the environment does not necessarily mean that produce is contaminated
- If animal intrusion occurs, fields must be monitored during the growing season for evidence of contamination
- Steps should be taken to reduce risks from animals
- Co-management should be used to balance food safety and conservation goals
- Document all actions taken to reduce risks from animals and adjacent land uses
Questions & Discussion
Summits

- **Additional Soil Summit**
  - Southeastern: Jan. 21-22, 2018 – Atlanta, GA

- **Water Summit**
  - Attendance will be capped at 100, remote options available, more details coming
  - Feb 27-28, 2018
  - Covington, KY
  - Registration coming soon
  - Working with FDA on details and scope
PSA Materials

- V 1.1 Available
- Updates include:
  - Correction of typos
  - Clarification of PSR requirements or section symbols
  - New resources & references
- Can continue to use V 1.0 since changes are not significantly different
- All changes between V 1.0 and V 1.1 documented: https://producesafetyalliance.cornell.edu/sites/producesafetyalliance.cornell.edu/files/shared/documents/ChangeLog.pdf
- Bookstore Link: https://producesafetyalliance.cornell.edu/resources/grower-and-train-trainer-manual-order-request-form
- Public download: https://producesafetyalliance.cornell.edu/resources/grower-training-manual-links
New Teaching Materials

- New OPTIONAL activities and PowerPoints have been developed for inclusion into the PSA curriculum
- Available on the PSA website > Resources > Trainer Resources
  - https://producesafetyalliance.cornell.edu/resources/trainer-resources
- "Name that Zone" Activity (PowerPoint & Printable Photos)
  - For use in Module 6
- "Is this agricultural water?" Activity (PowerPoint)
  - For use in Module 5.1
- Supplemental Slides for Agricultural Water (PowerPoint)
  - For use in Module 5.1
Next Meeting

- **Tentative**: Monday Feb. 5, 2018, 2 PM EST
- Meeting info to be sent out via the listserv closer to the time of the call
- Submit other topics for discussion to Gretchen (glw53@cornell.edu)
The PSA Website
http://producemafetyalliance.cornell.edu/

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- Or Follow us on Twitter!

Join the listserv

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