Produce Safety Alliance Educators Call (#28)
January 8, 2018 2-3 pm EDT
Meeting Summary

Total Attendance: 54

Meeting Recording Available at:
https://vod.video.cornell.edu/media/Produce+Safety+Educator%27s+Call+28/1_t53ba43m

Topic: Focus on Food Safety & Wildlife
Special guest speaker: Dr. Paula Rivadeneira, Assistant Professor & Extension Specialist in the Department of Soil, Water, & Environmental Science at the University of Arizona - Yuma Agricultural Center. Dr. Rivadeneira is a wildlife biologist specializing in produce safety research and extension work.

Summary of Session
Dr. Rivadeneira was asked to walk through Module 4 and present practical information and challenges on wildlife and Good Agricultural Practices. This presentation uses the standardized Module 4 presentation (Wildlife, Domesticated Animals, and Land Use) as a background to put Paula’s additional slides, information, research, and anecdotes into perspective.

January 8, 2018 Meeting Notes

Module 4: Wildlife, Domesticated Animals, and Land Use with additional slides from Paula
Key take-home messages from Paula’s presentation

- Wildlife is difficult to control
  - Keeping birds from the field
  - Fencing will not always work for javelina (peccaries), feral pigs, and deer
    - To be most effective, fences should be specific for certain animals – javelina need solid wall, deer need a tall fence. More information on fences shared later in the presentation.

- Co-management
  - Work with local game and fish departments to learn management options
  - US Fish and Wildlife service has strict requirements for birds on top of local and state options
  - Bird populations may be migratory (transient) or resident – categorizing the bird population will help to determine management decisions
  - In Yuma, birds are generally resident – amenable climate year round
  - Migratory Bird Treaty Act of 1918 – managed by US Fish and Wildlife
    - Protects all common birds in the US
    - Exceptions include: house sparrows, starlings, feral pigeons
    - States that it is unlawful to kill, capture, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, and eggs
      - Cannot remove from the field
      - Need to work with local and federal agencies to determine legal management options

- Assessing wildlife risks
  - Identifying the type of tracks and scat (poop) is one factor in determining risk. Did it come from a coyote or deer?
  - Scat identification resources discussed during the call:
  - Paula stated that the guide can be distributed if there is interest
- Northwoods Animal Scat: [www.northwoodsguide.com](http://www.northwoodsguide.com)

- 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.
  - As a wildlife biologist, try to think like an animal when managing animal populations. If you take away their habitat, they could become more active in your field.

- Deterring Wildlife
  - Decoys alone are not very effective, unless they are moved throughout the day. Combining with other deterrents may increase effectiveness.
    - Movement of decoys can be difficult on large farms – need to have continuous movement.
  - Fencing: Can be expensive due to the vast amount of land to be covered.
    - Deer need a minimum of six feet high fence, however the grower will need to account for dips in the ground to ensure that fence height does not decrease below six feet. Consider the risk of deer getting stuck in the fence and panicking (and therefore destroying crop).
    - In order to keep rabbits out, very small squares are needed. Half inch (1/2") squares will be effective, however snakes and reptiles get stuck, which then serve as an attractant for birds. Quarter inch (1/4") fencing works very well.
    - In order to deter digging animals such as foxes and tortoises, fencing will be dug to a certain depth underground and have an L-shape away from the field.
  - Noise deterrents (sound cannons, screamers, injured bird calls):
    - Sounds should be randomized, or birds will get used to the sounds and return back to the field immediately.
    - Injured bird calls can be effective, however they may encourage predators (such as coyotes and larger mammals)
  - Visual Deterrents (Lasers, ‘floppy guys'/air dancers/air ranger, mylar):
    - Floppy Guys work, due to their unrepeatable dancing motion. Need 1 Floppy Guy per 1.5 acres, but then you need generator. Good option for small tracts of land.
    - Laser use needs to be targeted, however very effective. Local falconer works with lasers: nearby birds are shined with green lasers and scared away. The issue with this approach is the time commitment needed.
    - Mylar string along the fencing works by scaring birds and flashing sunlight. Challenging to have mylar strings in the fields.
  - Tactile repellents: Most animals do not like sticky things on their paws, however the reward (crops in field) may be more rewarding than the repellant.
    - AZ has zero tolerance for rodents in fields. Really light and can make it through the process in bagged salads!
Farmers often use glue traps, but it is an inhumane way and traps other animals. Snap traps are better, but more challenging to monitor, empty, and re-use.

- Relocation: Where are you going to move the animal? Relocation is not a good option for some animals – rodents for example, are social. If they are trapped and relocated, they will often die.
  - Need to talk with local agencies if they can be moved and where.
  - Relocation increases risk of disease transmission among introduced (or external) populations. Can cause a die-off among animal populations.
  - Good for tortoises, but most animals you cannot move.
- Combining several deterrent methods is the way to go.

- Risks Associated with Wildlife-Livestock Interactions – 2-3% birds and rodents in Yuma growing region trapped carried Salmonella and/or shigatoxin-producing *E. coli*
  - Need to be careful to keep animals out of fields – the risk is present.

- Pre-planting risk assessment
  - One grower moves neighbor’s horses and pays to board them somewhere else during growing season.
  - Need to consider animal production, compost, or manure storage – some buyers will not buy leafy greens within a mile of a CAFO.
  - Assess wildlife risks – recommend that growers buy trail cameras to help monitor for animals and see what animals are around.
    - Rodent traps (Sherman traps) can be used to monitor rodents and determine how many are around. Count the rodents and identify species. Local agencies can humanely euthanize.
    - Helps to realize patterns of wildlife movement.

- Pets: Should be excluded from the field, even from the dirt roads between fields.
  - Male dog can smell a female in heat for 5 miles. Campaign in Yuma, ‘pets and produce don’t mix’. Low cost spay/neuter for pets.

- Pre-Harvest Assessment is NOT Enough. In Yuma, ‘preharrowst’ can be considered 3-7 days before harvest.
  - Anecdote of farmer losing 12 acres of leafy greens due to red wing black birds. Pre-assessment was 3 days earlier, but bird intrusion was day before harvest.
  - Two critical times for birds in Yuma:
    - Germination/sprouting (horned larks)
    - Preharvest (red-winged blackbirds)

- Worker health and hygiene: Workers need to be trained to look for scat and tracks.

Q&A – Comments

- Tactile repellents not recommended by CU Lab of Ornithology, because of issue with bird plumage, http://www.birds.cornell.edu/wp_about/control.html; plus dust sticks to it and limits its effectiveness.
- Which animals are the most hazardous?
  - Depends on where you are. Generally poop is considered hazardous.
- Why are we only being told to look for poop in the field and not animal urine? Does urine also carry pathogens? I would assume so.
  - Urine is supposed to be sterile, but isn’t once in leaves your body. It is used as an indicator. When you look for tracks use gloves and scoop up wet spots. Many diseases
(including zoonotic diseases transmitted between humans and animals) can be passed through urine.

- Can you talk about the recommendation for using baited snap traps in/near the field? In a packinghouse, we don't recommend baited traps. What is the difference in the field?
  - The idea of drawing them in is bad, but allowing them to run through the field is worse.
  - If you can draw them to the bait, then you have some control. Needs to be a very structured program: how much bait you are putting out, and watch for trends. Point is to get rid of them. Nothing is perfect.
- Other questions that we didn’t have time to cover:
  - Any approx. cost on the air dancer/ranger/floppy dancers? Are there cost sharing programs for farmers?
  - Who is responsible regarding pathogen control from domestic animals -- the rancher with the cattle adjacent to the produce field or the farmer whose crops are adjacent to the rancher's cattle ranch?

**PSA Updates – Betsy**

- Water Summit – Feb. 27-28, 2018 – to be capped at 100 – remote options will be available
- PSA Materials – V1.1 available; V1.0 fine to still use, see [change log](#)
- New Teaching Materials – [hands on activities](#)

**Next Meeting – Monday Feb. 5, 2018, 2pm Eastern**

**Join from PC, Mac, Linux, iOS or Android:** [https://cornell.zoom.us/j/374270373](https://cornell.zoom.us/j/374270373)

**No registration is necessary!**

**From phone:** 1 877 369 0926 (Toll Free)

**Meeting ID:** 374 270 373

**Topic:** TBD