

Produce Safety

Activity 1: Animal Scouting

Practice decision-making around whether produce is safe to harvest based on a walkthrough of a crop growing area to look for signs of animals.

KEY WORDS

Domestic animals: Animals kept as livestock, working animals or pets (e.g., chickens, goats, cattle, horses, dogs, cats, etc.).

Feces, fecal matter: The bodily wastes (e.g., poop) excreted by an animal.

Scouting: The practice of walking a farm for the purpose of observing something(e.g., crop diseases, pest pressure or wildlife signs).

Wildlife: Animals naturally found in the environment (e.g., deer, rabbits, wild turkeys, raccoons, mice, Canada geese, songbirds, moles, voles, etc.).

SUPPLIES NEEDED

- Printed or digital Animal Scouting Record (found in this handout on page 4)
- Printed or digital Animal Scouting Risk Matrix (found in this handout on page 5)

Alternate Supplies

- For the <u>virtual version</u> of this activity, you will also need an electronic device with internet access to access the activity.
- Wildlife damage flash cards can be use as an alternate activity.



Produce Safety Where Are Produce Safety Risks on the Farm?

How do you do this?

Practice different scouting techniques in a crop production area. When you find evidence of animal activity, record your observations on the sample Animal Scouting Record and discuss as a group what should be done about it using the Animal Scouting Risk Matrix tool as a reference.

- Scout the perimeter: Walking the perimeter of the field can help focus your scouting and allow you to see where critters have entered the field.
- Scout a row: Scouting a row provides a sample to judge how much contamination may be in an area and may help you determine whether adjacent rows have been affected. However, it's not representative of the whole growing area.
- **Zigzag the field:** This involves walking the entire crop production area. The benefit of scouting the whole thing is that you are less likely to miss any evidence of animals and it greatly reduces the risk of harvesting contaminated produce. Depending on the size of your farm, zigzagging through the field and checking each row can be time consuming.
- Scouting common animal habitats: Common animal habitats include the edge of the woods, water sources, brush piles, compost piles, tall grass or wildflower areas, equipment in grass, bunched-up plastic or plastic from tunnels, piles of Reemay, piled fence posts and more.

How do I know if it's safe to harvest?

Unfortunately, there is no perfect science that dictates exactly how to decide if a crop is safe to harvest. There are some situations in which a crop must not be harvested, and others in which it is more of a gray area.

Here are some factors to consider:

- Do you need to harvest it today? In a week? In a month? The longer you can wait before harvesting adjacent areas, the less risk there will be of produce contamination because the sunlight can reduce pathogens on the plant surface over time.
- Has it rained lately? Could the rainwater have splashed poop around?
- Is the poop uphill or downhill from other crops?
- Are there footprints in other parts of the area that indicate the animal moved through additional crop areas?



What does it mean for my farm?

Talk about what you would do if you found (use the Animal Scouting Risk Matrix_on page 5 as a guide):

- Only footprints, NO crop damage or feces
- A few piles of dog poop in your leafy greens
- That deer have significantly munched on your swiss chard.
- Widespread bird poop on raspberries
- One pile of raccoon poop in your carrots

Discuss with co-learners how what you learned in this activity could:

- reduce risks
- impact farming practices and management
- impact market opportunities
- · impact farm production and harvest

RESOURCES FOR ADDITIONAL LEARNING

Resources included in this handout:

- Handout: Rodents and Birds (page 6)
- Handout: Livestock (page 7)





Animal Scouting Record

Date	Animal Activity	Area Found	Action Taken	Recorded By



Animal Scouting Risk Matrix

	One instance	Sporadic	Widespread
Tracks			
	Low	Moderate	Moderate
Crop damage			
	Low	Moderate	High
Fecal		<u> </u>	
contamination	Moderate	Moderate	High

Matrix Source: MSU Extension Agrifood Safety

NOTES



Produce Safety Where Are Produce Safety Risks on the Farm?



Dealing with Rodents and Birds

Rodents and birds pose a significant contamination risk to produce both before and after it is picked. Poop from rodents and birds can spread bacteria such as E. coli and Salmonella on produce, packaging, and food contact surfaces. Minimizing and controlling rodents and birds where produce is packed or stored should be a part of a farm's steps to promote safe food production.

There are three steps to dealing effectively with rodents and other potentially contaminating wildlife in packing and storage areas.

- 1. Assess the risk and identify mitigation tactics.
- 2. Implement the tactics on the farm.
- 3. Keep records that you are carrying out the tactics.

When assessing risk, you want to consider the areas your crop is held or stored from the time it is harvested until it leaves your farm. Think about storage areas and wash/pack sheds. Are these areas prone to rodents or birds getting into them? Are there roosting spots for birds, such as rafters in a covered shelter or barn, over the areas you keep harvested produce? Are there tall grasses or other plants around the perimeter of packing or storage areas that could provide habitat and refuge for unwanted critters? What could you do to help minimize contamination by these pests? The best way to manage rodents and birds is to use multiple tactics to minimize their impact. Try to reduce the suitability of habitat around your packing and storage areas by reducing rubbish piles and high grasses. Store produce in shady structures equipped with netting in the rafters to exclude bird roosting. Use bird repellents, such as the distress calls of birds, Avitrol, or noise cannons to deter roosting. Place a series of rodent traps around the packing area and monitor them daily for caught rodents. While it may seem tempting to use a cat to handle rodents, this is not recommended. One, cats are not discriminate about where they kill rodents, and dead rodents on produce or produce contact surfaces is not sanitary. Additionally, cats can carry the parasite that causes toxoplasmosis, a disease that can get onto produce and infect humans who consume it.

If you use traps to kill rodents, always opt for traps that actually kill the rodent in the trap. Avoid poison bait traps. Dying rodents can pose a food safety risk if they crawl off into a produce container to die. Many growers number their traps for ease of monitoring. To make the traps conspicuous, some growers mark the areas above the locations of the traps with a label listing that a rodent trap is there and its number.

Growers are welcome to contact the Agrifood Safety Work Group at gaps@msu.edu or (517) 788-4292 with any questions.



Produce Safety Where Are Produce Safety Risks on the Farm?

Livestock

Livestock that are close to food production areas can pose significant food safety risks. With proper mitigation strategies, the two can coexist. Without these mitigation strategies, you could be making people sick.

It's important to remember that all animals pose a food safety risk to crops. Any time animals are housed together, even in a pasture, the risk of contaminating adjacent cropland increases. For the purposes of this article, livestock means all domesticated agricultural animals, regardless of size or number. This also includes domesticated animals that may be kept only for a short period of time, such as broilers or 4-H animals.

Keep as much distance as possible between livestock and produce growing—100 yards is ideal. If the livestock are too close, the best solution is to move either the production area or the livestock to get more distance.

In some cases, growers will not be able to move either the livestock or the production area. In these cases, a mitigation strategy must be put in place. The mitigation strategy should impede the movement of manure and particulate into the production area under most weather conditions. Possible mitigation strategies could include berms or ditches high enough or deep enough to prevent manure-laden water flow into the production area. If these earthen barriers are planted with fast growing trees, such as poplars, a particulate barrier can be established in short order. Planting perennial shrubs between produce fields and animal areas has additional benefits, such as reducing runoff and wind erosion.

A grower can have both fresh produce and livestock—it just requires a little thought and planning. If a grower has specific questions about produce safety or has difficulty tailoring food safety practices to their farm, they are welcome to contact the Agrifood Safety Work Group at gaps@msu.edu or (517) 788-4292.

