



## **Episode Twelve - Wildlife in the field**

Welcome to episode 12 of Food Safety Bites Brought to you the University of Wisconsin Madison, and funded by the USDA Food Safety Outreach Program, this is your host Harriet Behar. This episode is **wild animals and produce safety in the field**. In these podcast episodes, I will identify issues, and provide suggestions for how to reduce various fresh produce contamination risks and keep your customers safe. I will not talk in detail about what is required for a GAP audit or a FSMA inspection. If you want more information on those, please see the links on the website where you found these podcasts.

This episode will go over what types of issues you could have with wild animals on your farm. There are also episodes on managing produce contamination risks from domestic and working animals. There is another episode on living with wildlife with a conservation ethic rather than a “kill ‘em all” point of view that describes how food safety is not necessarily at odds with conservation, and often in fact they go hand in hand. The diversity of life on our planet and around our homes greatly improve our quality of life and many types of wildlife also offer important ecosystem services that improve the quality and quantity of produce on our farms. Birds and bats eat tons of insects, raptors are voracious consumers of rodents, and butterflies, bees, flies, wasps and others pollinate our crops and make them productive. Deer provide a food source for many people and all creatures are part of a web of life that keep various populations in balance as well as providing their own unique and important ecosystem function. In this episode, I will discuss where wildlife could cause a problem, and how you can deter as well as deal with the issues they present.

**Diversity of species offer challenges-** Many kinds of wildlife that could be on your farm can bring potentially dangerous bacteria like E. coli or parasites in their feces, including deer, snakes, turtles, and pigeons. As they move through your farm, they could be pooping and urinating as well as rubbing fecal matter from their fur onto your produce. Smaller animals such as mice or snakes can travel through your fields unnoticed, under large leaves or mulches. Birds fly overhead and can roost on fencing and trellises. Many mammals travel through fields during the darkness of night. Controlling wild animals is challenging, and unless you have very tall, strong and electrified small net fences, complete exclusion of all wildlife is not possible.

If control comes down to killing the wildlife, due to excess volume or difficulty in trapping, removal or deterrence, you need to be aware and follow any federal, state or local regulations concerning the destruction of specific species or subspecies. In my area, timber rattlesnakes are protected and it is illegal to kill them unless there is an immediate life-threatening situation to human or domestic animals. Another thing to consider is that animals might migrate through in large numbers, but for a short time, which can offer both management challenges and opportunities. Many common species of migratory birds are protected by the migratory bird treaty act of 1918. Neither these birds, nor their young can be killed or captured. Wildlife may also congregate around areas where there are human or domestic activities, such as areas where food waste is dumped, or where large groups of livestock are fed grain, especially when it get spread on the ground by the livestock around the feeding areas.



**Understanding the risks-** How often and in what volumes are wildlife feces or feeding activities noted on your farm, in what areas and on which crops. If you are going to implement exclusion or deterrence activities, knowing where to expect a problem will allow you to put these in place before there are significant problems. Once the animals get a taste for your broccoli, it could be more difficult to deter them from continuing their feeding. There are some really good written and web-based resources that can help you learn to identify the fecal matter or “scat” as well as tracks of a wide variety of animals. Since these may be the only identifiers left behind after their visit to your field, get to know these signs of the common and migratory species that live or travel through your area. This also helps you target your activities specific to the species causing the problem.

**Poop-** Produce that is in direct contact of that poop, or produce within a specific radius from that poop, should not be harvested. There is not a buffer zone specific distance mandated in GAP or FSMA that you must allow between any poop in the field and product you are harvesting. a, Some growers having a no harvest buffer zone of 2 feet and others using a 6-foot radius; this radius will depend on many things like the size of the poop, the slope of the field, the product that is growing, if it has rained etc. Harvesting produce 6 inches from the poop is quite risky, as that poop can easily splash or get onto the produce, so develop your own protocols and consider the situation when deciding what not to harvest. The poop should be removed from the field in a way that follows good worker and tool hygiene. Burying it away from the produce field is an option if done carefully, so in a heavy rain, there would not be runoff and you have removed the chance of future contamination. Your workers should be alert to any poop in the field, be trained to not get it on their footwear, gloves or tools and follow good hygiene if they do. In the recordkeeping episode, I will discuss documenting known animal intrusions into your fields.

**An example for deterring deer-** We have found a simple deterrent to deer feeding on my winter squash, which they only go after when they are ripe. We have put up plastic electric fence posts and tied fish line to each post about 20 feet apart, usually about three feet high. We have gone around a 2 acre field with this treatment, not very expensive and it doesn't take very long. For some reason, the deer are spooked by this, perhaps because they cannot see the fish line. They feel it and don't push through it for at least 2-3 weeks. If the fish line is broken it is easy to repair. If this stops working, we have tied thin black plastic bags to the fish line about every 50 feet, they swish in the wind and scare the deer, which is effective for us for another 2-4 weeks. Between these two things, we have kept the deer out of the squash long enough to harvest mature undamaged fruit. We put up the fish line when the first squashes are starting to ripen. This year, we had something eating our watermelons and found some tracks in the field which told us it was deer, so we put up our fishline and plastic bags, and no more problems. This might not have worked as well if it was raccoons or woodchucks eating the melons, so it helped to know be able to target our deterrence to the animal that was causing the damage.

**Other deterrents-** Fake decoys of owls or coyotes can scare away specific birds or animals. Short moveable net fencing, sometimes buried a few inches into the ground can deter rabbits and squirrels. Blood meal or stinky soaps around the edge of the field can also deter animals from feeding, as well as sprinkling cayenne pepper on items that raccoons and squirrels like,



since they lick their paws and do not like that hot pepper! I have kept these animals out of my bird feeders with only a few applications of cayenne pepper, which do not bother the birds. Mylar strips or aluminum pie pans blowing in the wind, and mirrors reflecting light can scare off some animals.

Some people have had luck with a running radio or using a noise cannon. I have heard those moving plastic tube people that go up and down and flap their arms from forced air, work well, because they never have the same movements. Some sort of battery and fan will be needed for these moving scarecrows. Animals can get used to many different type of deterrents, so having a variety of solutions in your pocket and rotating them, can help solve the problem for a longer time during the growing season.

**Trapping and relocating-** Just about every hardware store has cage live-traps, for both small animals like chipmunks or larger ones like raccoons. Baiting them with something they want to eat (sunflower seeds for chipmunks, an open can of cat food for raccoons) is important, and I find the animals more willing to enter the trap if you put some brush or plant debris on it to camouflage that it is a trap. If you plan to relocate the animal, be careful so you are not bitten or exposed to their bodily fluids (especially skunks) and consider any regulations for this type of wildlife movement. Most relocated wildlife will not survive the move, since they are vulnerable to predation and starvation when removed from their known home, habitat and food sources, so use this as a last resort. Make sure that you check with your local laws as well, as this might not be legal in all situations.

Keep records of when you see signs of wildlife, to help you understand over time which animals are attracted to which crops, or which parts of your farm are most attractive to wildlife activity. Talk with other growers to see what type of deterrents worked for them, we are the species with the big brains, and should be able to figure out how to encourage the wildlife to go elsewhere for their dinner!

So that's it for this episode of Food Safety Bites, the next episode is domestic animals. This is your host Harriet Behar brought to you by the University of Wisconsin Madison, talk to you next time!