

Biosecurity on Pasture Poultry Farms

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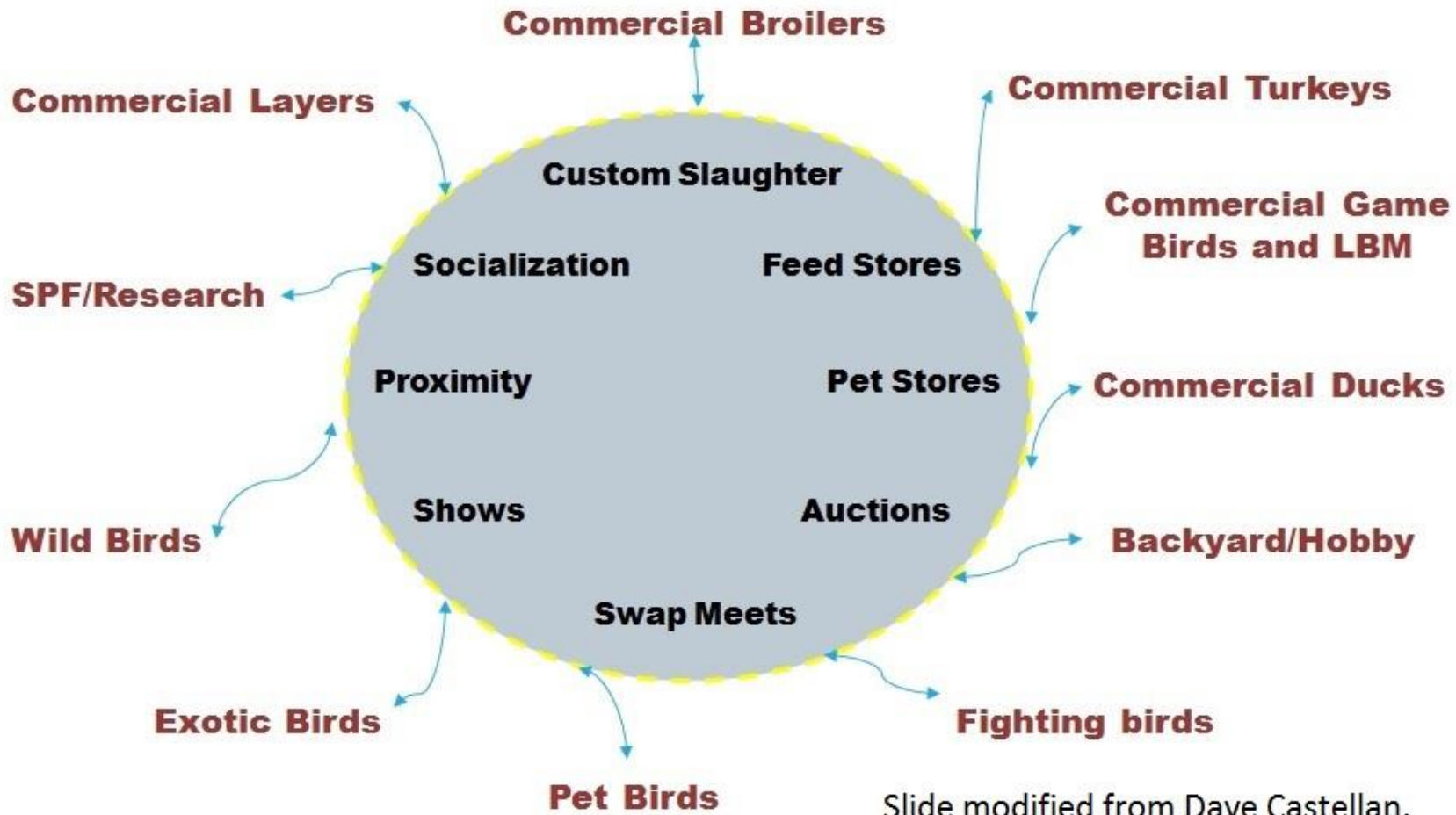
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Poultry Ponderings Newsletter

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Slide modified from Dave Castellano.

Biosecurity:

A set of management practices designed to help reduce the introduction and spread of disease-causing organisms onto and between farms.



Wildlife Control

Shade/Shelter Structure

- Birds can go underneath and escape predators
- Makes it harder for the predators and discourages them from trying again
- Anything that can make the farm less attractive overall will help keep carriers of disease away



Wildlife on Our Pasture

- Geese on our pasture are very concerning because of the potential of disease transmission
- Even after they leave, the fomites they leave behind are still capable of spreading disease (ie. feathers, droppings)
- Examples include Avian Influenza and Salmonella
- Can persist up to months in the environment depending on the environmental conditions



What footprint is this???

- In any case, not a good sign
- Close to our eggmobile and pasture
- Can carry disease
- Important to remember zoonotic diseases
- Want to protect our birds and ourselves
- Can act as a predator as well
- Good habit to walk around farm and learn about the wildlife in your area



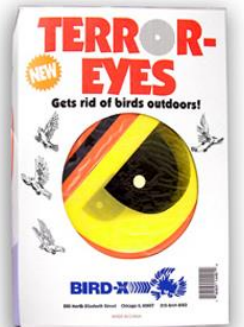
Predator Repellent Tape

- Relatively inexpensive from \$7 (150ft) to \$27 (100ft)
- Easy to use/install
- attach to 6-8in. string and hang around farm
- Hang strategically in trees, at eye level for ground predators and around enclosures
- Can potentially scare your birds so they should be placed farther away from flock
- Humane; flashes in all directions in the sun and makes a noise as it flaps in the wind
- Need to move it to different locations regularly so wildlife won't get acclimated
- Currently testing on our farm



Terror Eyes Balloon

- \$9-\$25
- Covers about 1,000 sq. ft.
- Easy to use/install
- Hang strategically in trees, at eye level for ground predators and around enclosures
- Humane; eyes are holographic
- Need to move it around as often as you can to prevent birds from acclimating



Coyote/Fox Decoy

- \$30-\$67
- Also, easy to use/install
- Humane
- Must be moved around to be effective (consider changing position daily); birds can start to catch on
- May be why some reviews are poor, not being used properly.
- Need about one decoy per $\frac{1}{4}$ acre
- Currently testing this on our farm



Propane Cannon

- \$300-\$600
- Propane tank ~\$20
- Produces loud bangs, frequency depends on the model
- Need to consider neighbors before buying, noise could be too loud
- Most effective when wildlife such as geese, deer and coyotes have other places to go
- One person should be responsible for maintaining it and should follow strict biosecurity protocol
- Wear PPE and boots specifically for that task



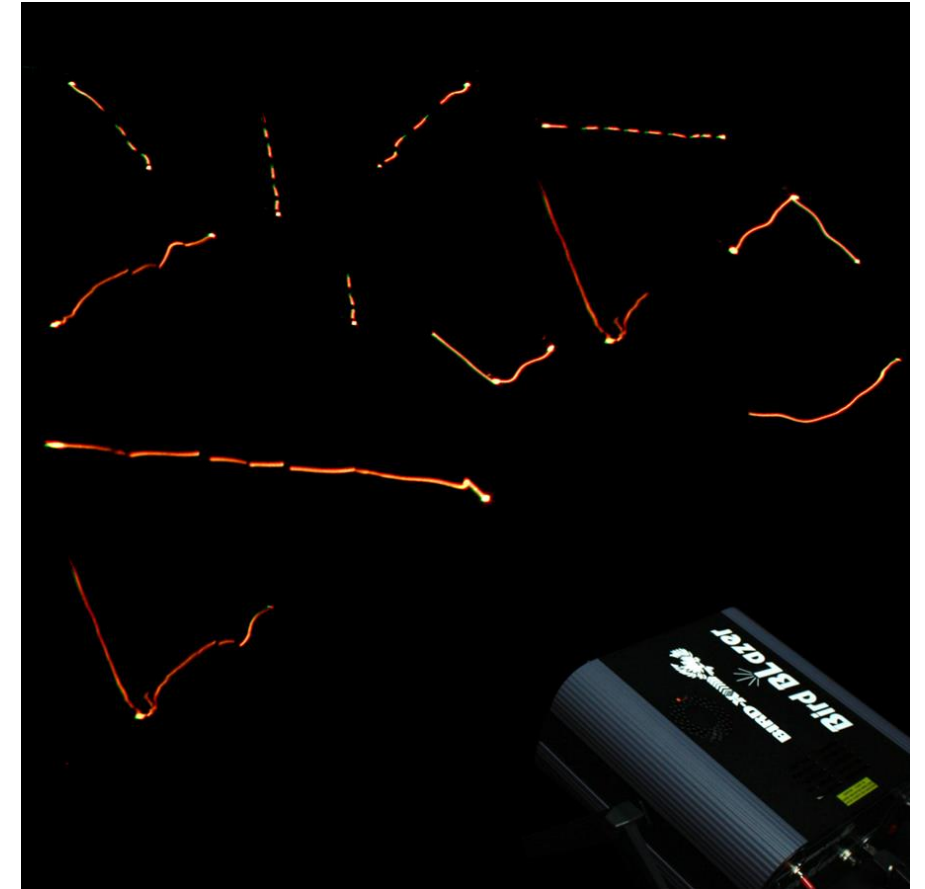
Electronic Bird Repellents

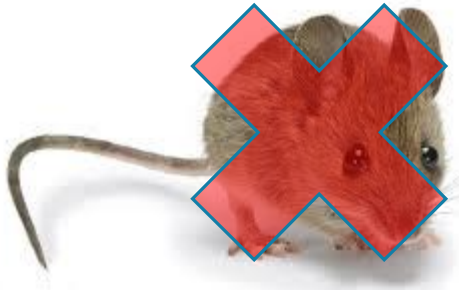
- \$55-\$3,500
- Uses combinations of sounds to repel them
- Distress and alarm calls made by common problem birds
- Natural predator sounds
- Noises that are irritating to birds
- Some models let you customize the sounds for your specific problem birds, more expensive though



Bird-X Lasers

- ~\$1,200-\$1,400
- Covers up to ~10,000 sq. ft.
- Multi-colored and changes patterns to prevent the birds from acclimating
- Need to make sure it is allowed on property; Federal Aviation Administration regulations may not allow if too close to airport
- Our farm is close to an airport so we decided against it
- But it is a humane and easy to install tool





Structural Features that Deter Wildlife from Entering our Eggmobile

Wire Mesh

- Recommended because it is thick and wildlife (ie. mice, rats, skunks, opossums) cannot break through
- Size of squares should be no bigger than $\frac{3}{4}$ in. sq.
- The thicker and closer together the squares are, the better
- Our eggmobile has thick wire mesh that overlaps well with the frame
- Hard to get in through the layers



Eggmobile Floor

- Solid bottom floor helps keep wildlife out
- Want to make it hard for them to get in so they get discouraged
- Once they get in, they will keep trying to come back



Important Differences

MICE

- Mainly vegetarian
- Shy; tend to avoid contact with humans
- Not adequate swimmers
- Can drink water less frequently
- Nest site ~10ft. to 30ft. from food source
- Conservative behavior; tend to follow the same tendencies (ie. same feeding routes)

RATS

- Eat a wider range of foods, such as eggs, birds, small animals
- Curious, less shy
- Good swimmers; willing to swim in order to reach food or harborage
- Require water daily
- Nest site ~50ft. to 100ft. from food source
- Will change behavior if find better food or shelter



Traps

- Place every 25ft. along the high-traffic spots and along potential runways (ie. walls, beams)
- Should also move some around since rats can change routes regularly
- Rats tend to avoid traps with another rat inside so need to clean them out after one capture
- Mouse traps can be checked every two-weeks; can capture multiple with one trap
- Check them regularly and keep good records of how many rodents have been captured to make sure they are working and to assess how severe the infestation is
- Rat infestation trickier to assess since they are harder to trap
- So need to actively look for signs of them (ie. feces, chewing marks, burrows, fur, tracks)



Restrict Access to Feed

- If they can't access feed, they will nest somewhere else
- Like to nest near food and shelter
- Make sure to clean up spilled feed as it can attract them and then they will keep coming back
- Mice in particular don't like to change diet and will keep coming back
- Rats more willing to look for other food sources



Buffer Zone around Pasture Fence

- Buffer zone between fencing and pasture can help make weak spots/signs of entries more visible
- Rodents dislike digging through gravel
- So under gaps/weak spots in our fence, we will add gravel to discourage them from digging
- Our buffer zone is 20ft. long



Electrical Fence

- Coyotes and foxes are around our area
- So installing an electrical fence is really important
- Will help deter other wildlife like raccoons, possums from entering as well
- Will have to make sure it has good charge and that it is working regularly
- Make sure grass is not close to the fence as it can affect the charge circulation
- Walk along the fence once a week



Lethal Control

- Rodenticides can be tricky to use
- Restrictions and limitations can apply (ie. Vitamin D3 can only be used for mouse control)
- Anticoagulants not associated with bait shyness
- Toxicants (ie. zinc phosphide) are associated with bait shyness
- Non-anticoagulants (ie. zinc phosphide, bromethalin and Vit. D3) recommended for big clean outs
- Motomco has really good resources on rodent control

MOTOMCO BIOSECURITY RODENT CONTROL SYSTEM

No biosecurity initiative is complete without the implementation of a comprehensive rodent control program.

Inspection
Rodent signs helps determine the size of the infestation and where the rodents are traveling and feeding

1. Mouse:
a. 1/2 inch in width
b. Holes are small, clean cut

2. Rat:
a. 1 1/2 inch in width
b. Holes are big with rough torn edges

Rub Marks
When dirt in the environment combines with oils in their skin, rub marks are left where rodents travel along walls.

Sanitation & Harborage Reduction

Eliminate all spilled feed
Remove debris from around building
Keep a 2-foot sterile zone around building mowed or sprayed

Baiting Strategies

Perimeter of the Property:

- Place tamper resistant bait stations along the perimeter of the property
- Use BAIT CHUNK® as it can be secured inside bait stations on vertical or horizontal securing rods

Exterior Baiting:

- Rodents tend to gravitate to warm air currents or where food odors emerge.
- Tamper-resistant bait stations or traps should be placed every 30-50 ft depending on the severity of the infestation
- Place bait or traps around all entry door
- Burrow baiting – place loose pellets deep into the burrows

Interior Baiting:

- Rodent device placement depends on the type of infestation you are dealing with:
- MICE:** Space placements at 8-12 foot intervals depending on the severity of the infestation
- RATS:** Space placements at 15-30 foot intervals depending on the severity of the infestation

Rodent Identification

	Norway Rats	Roof Rats	House Mouse
Scientific Name:	Rattus Norvegicus	Rattus Rattus	Mus Musculus
Color:	Brownish Red	Dark Gray	Black, Dusty Gray
Weight:	10-17 oz.	8 oz.	3/4 oz.
Length (including tail):	12-18 inches	13-17 inches	6-7 inches
Body:	Thick body, blunt nose	Thin body, pointed nose	Small head/body
Sexual Maturity:	2-3 months	2-3 months	1 month
Gestation Period:	23 days	22 days	19 days
No. of Young:	6-12 per litter	6-8 per litter	5-6 per litter
No. of Litters:	Ave. 6.7 per year	Ave. 4.6 per year	Ave. 8 per year
Diet:	Meat, fish, grains, almost anything	Fruits, vegetables, seeds, grains	Grains, or nuts, meats, fish etc.
Daily Food:	1 oz. food	1 oz. food	1/20 oz. food
Water Consumption:	1 cc. water	1 cc. water	1/20 cc. water
Length of Adult Life:	18 months	18 months	15-18 months
Signs:	Sharp ends	Pointed ends	Pointed ends
Nests:	Burrows, 100-150 ft. from food & water	Trees/Roof/Signs, 100-150 ft. from food & water	Corners, 10-30 ft. from food and water

HAWK 6 months
JAGUAR RODENTICIDE 4 months
RAMPAGE 2 months

Planning Ahead for Extreme Cases

- Coming up with a plan for the worst case scenario (ie. Coyote, fox problem) beforehand can go a long way
- Contact wildlife services or a wildlife specialist to come up with an appropriate protocol
- Knowing what to do in a timely manner can be difference between saving a few birds and saving most of your flock
- **Prevention and preparedness is key!**



Questions?

