Biosecurity and You: Animal Abuse or Animal Disease

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What are we really talking about?

- Food Production
  - Meat and Milk
  - Food Safety
- Animal Ownership
  - Production
  - Leisure
- Protection of Animal Industries
- Protection of Economy

FLORIDA has a long and colorful history of cattle ranching. The state has supported cattle grazing since the arrival of Spanish explorers almost 500 years ago, and many ranching families are into their 6th and 7th generations. Native American culture in Florida is tightly linked to the cattle industry, with the regional Seminole and Miccosukee tribes managing large ranches.

Until the 1930's many Florida cattle were descended from the early Spanish herds. Known as cracker cattle, they are now preserved as a rare breed. Today, the breeds that dominate Florida beef production have both European and Indian heritage.

According to a UF/IFAS report, in CY 2017, for all Florida cattle industry groups and activities, statewide economic contributions included

118,191
full-time and part-time jobs,

$16.8 billion
in industry output or revenues,

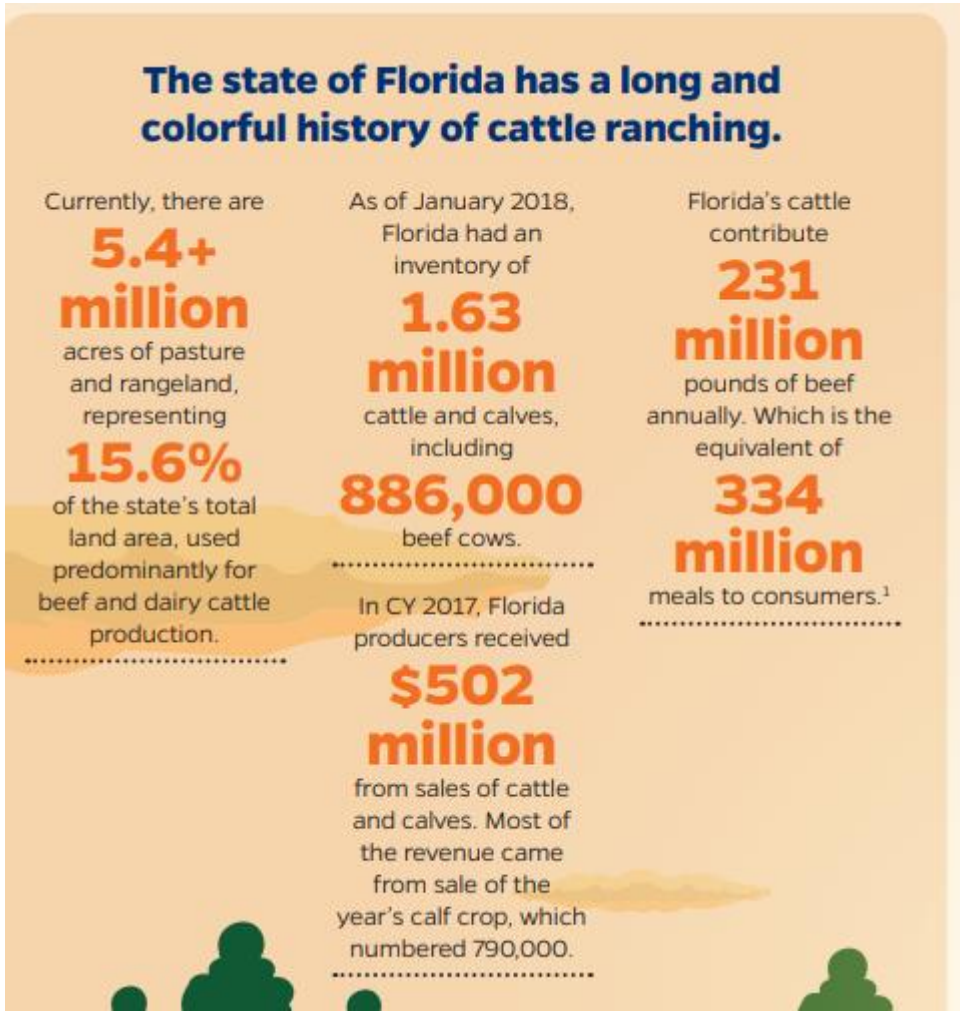
$7.65 billion
in value added or Gross State Product, and

$4.64 billion
in labor income (employee wages, salaries, benefits, business owner income).

In addition, the industries contributed

$712 million
in state and local government tax revenues and

$1.16 billion
in federal tax revenues.



Hodges, A.W. et al. 2019. Economic Contributions of Beef and Dairy Cattle and Allied Industries in Florida in 2017. UF/IFAS. https://bit.ly.2C4hHbw

Hazard vs. Risk

Hazard vs. risk

Hazard
is the potential
to cause harm

when crossing a road,
cars are a hazard

Risk
is the likelihood of harm
taking place based on exposure

when crossing a
highway, the risk
of an accident
is **high**

high exposure

when crossing a
country road the risk
of an accident
is **low**

low exposure

Example: *Salmonella* in egg is a hazard

if eaten raw,
Salmonella bacteria
may be present

the likelihood of exposure is higher

the
risk of illness
is **high**

correct food handling
for instance cooking
thoroughly kills
Salmonella bacteria

the likelihood of exposure is lower

the
risk of illness
is **low**

Hazard
in foods can be...

physical
for instance
pieces of bones
in fish products

biological
for instance
harmful bacteria,
viruses or parasites

chemical
for instance mercury
in fish or acrylamide
in starchy food

Risk
is determined by
the **exposure...**

how much

how long

how often

...to a hazard

without exposure, there is no risk

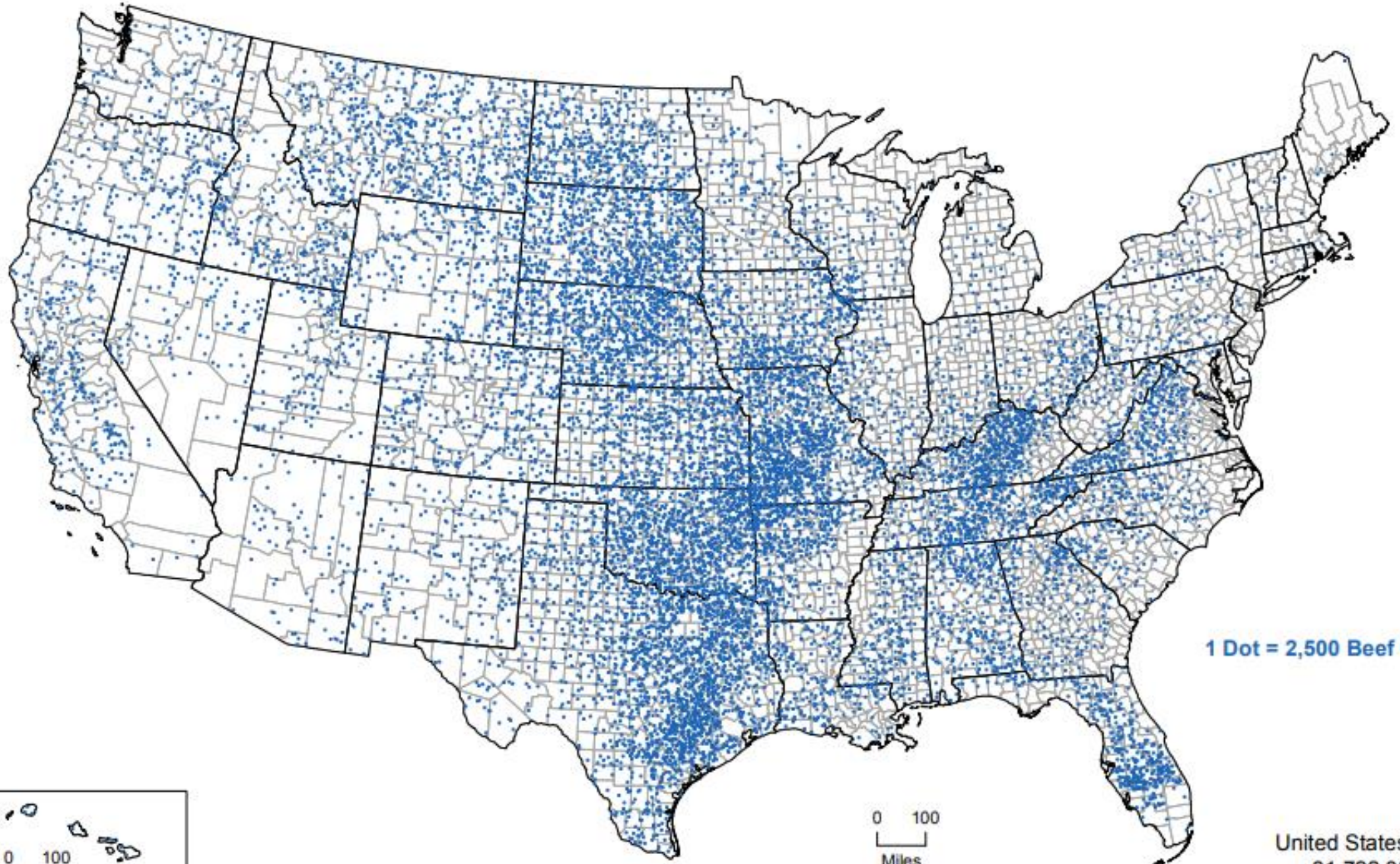
What are we really talking about? Hazards and Risks

Hazard

- Something that can cause harm

Risk

- The chance that any hazard will actually cause harm
- Risk assessments to identify what hazards exist, and how likely these hazards are to cause harm.
- Then decide what prevention or control measures are needed.



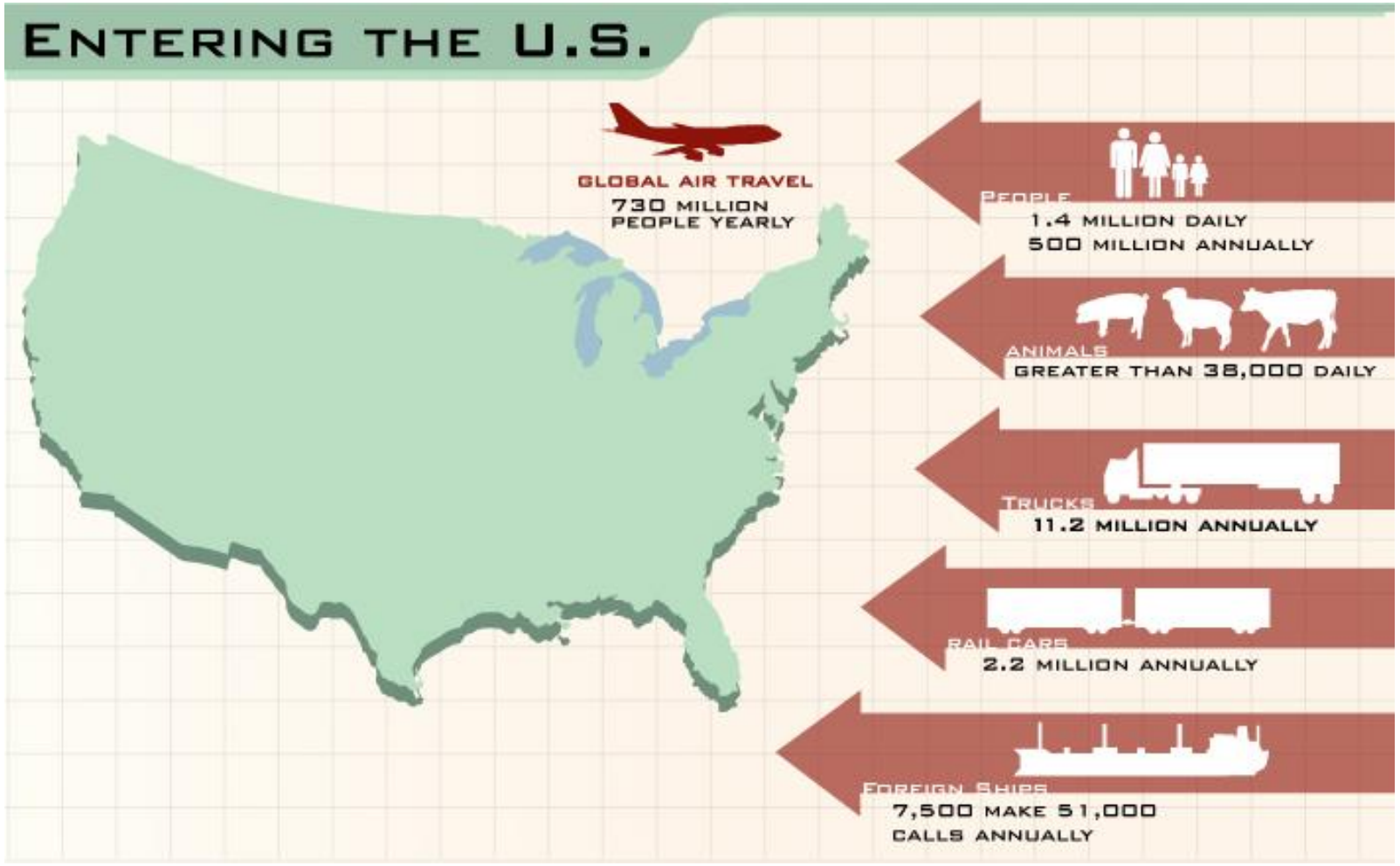
2017 Census of Agricultur

17-M210
U.S. Department of Agriculture, National Agricultural Statistics Service

Global Travel and Commerce

- Increase in personal travel
  - Spread of foreign animal disease
    - Within a food product
    - On the traveler's person
- Importation of animals and animal products
  - Animals may not show signs of disease
- International travel waste

Global Travel and Commerce



References: CDC and APHIS

Vulnerability – ports of entry

Gulf of Mexico
770 miles of coastline

Atlantic Seaboard
580 miles of coastline

Florida is 361 miles
East to West

Florida is 447 miles
North to South

ulnerability- Animals

- 26 million poultry
- 1.5 million beef cattle
- 350,000 horses
- 140,000 dairy cattle
- 100,000 swine
- 30,000 goats
- 10,000 sheep
- Millions and millions of pets

Routes of Transmission

Routes of Transmission

Apply to all infectious agents

Animal must be exposed to develop disease

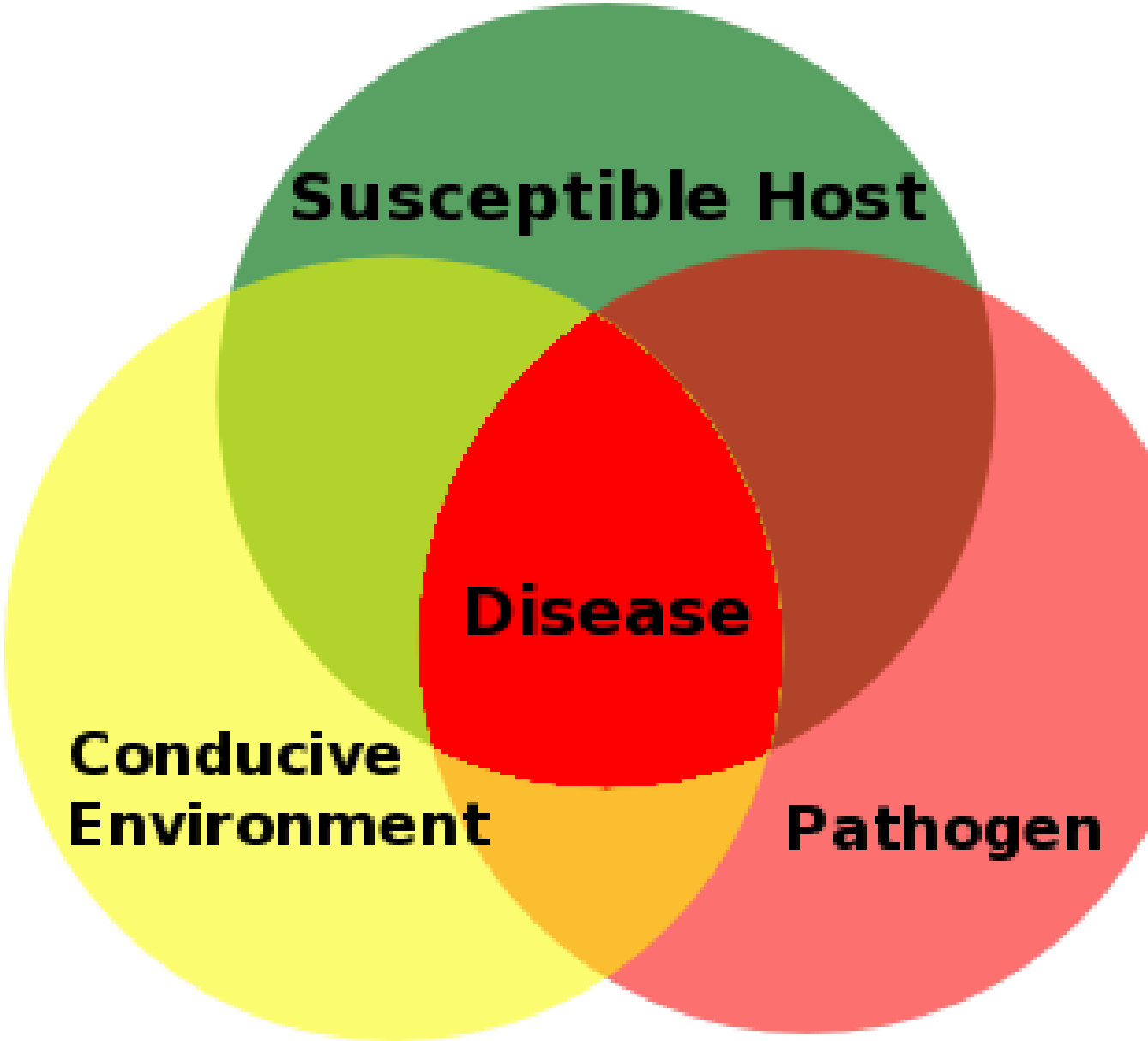
Understand different routes of transmission = Gain control

Risk areas must be identified

Design protocols to minimize exposure

Routes of Transmission

- Spread of disease agents
  - Animal to Animal
  - Animal to Human
- Different Routes of Transmission
  - Aerosol
  - Direct contact
  - Fomite
  - Vector
  - Zoonotic



Aerosol Transmission

- Disease agents contained in droplets
  - Pass through air
- Most agents not stable in droplets
  - Close proximity required
  - Infected and susceptible animals

Aerosol Transmission

- Infected droplets passed through the air from an animal to a person
  - Sneeze/cough
  - Birthing tissues
  - Fecal material
  - Urine
  - Contaminated soil

Aerosol Transmission

- Anthrax
- Listeriosis
- Melioidosis*
- Q Fever
- Rift Valley Fever*
- Tuberculosis

Wear an N-95 mask when:

Handling infectious animals or their tissues

Assisting with calving

Power washing

* Denotes Foreign Animal Disease

Direct Contact Transmission

- Disease agent in animal or environment
  - Open wounds, mucous membranes, skin
  - Blood, saliva, nose to nose, rubbing, biting
- Reproductive transmission
  - Breeding
  - Dam to offspring

Direct Contact or Fomite Transmission

- Anthrax
- Brucellosis
- Dermatophilosis [F]
- Leptospirosis
- Melioidosis*
- Pseudocowpox [F]
- Q Fever
- Rabies
- Ringworm [F]
- Rift Valley Fever*
- *Salmonella*
- Tuberculosis
- Vesicular stomatitis

* Denotes Foreign Animal Disease

F Denotes fomite transmission

Fomite Transmission

- Contaminated inanimate object
- Carries agents to other animals
  - Brushes, needles
- Traffic
  - Vehicle, trailer, humans

Center for Food Security and Public Health
Iowa State University 2006

Direct Contact, Fomite Prevention Practices

- Basic prevention steps involve:
  - Maintaining good personal hygiene
  - Wearing personal protective equipment (PPE)
  - Keeping equipment clean

Oral Transmission

- Consumption of contaminated feed, water
  - Feces, urine, saliva
  - Other contaminants (ruminant protein)
- Licking/chewing contaminated environment

Vector-borne Transmission

- Insect
- Acquires pathogen from one animal
- Transmits to another animal
  - Biological vectors
    - Fleas, ticks, mosquitoes
  - Mechanical vectors
    - Flies, cockroaches

Environmental Contamination

- Disease organism in environment
  - Survive in soil, organic material
- Animals and humans can acquire agent(s) through:
  - Inhalation
  - Direct contact
  - Fomites
  - Oral consumption
  - Vectors

Center for Food Security and Public Health Iowa State University 2006

Disease Transmission

- Animals may not exhibit obvious signs of disease
- Awareness of all routes of transmission is essential
- Develop strategy to minimize disease risk for livestock operation

Identification of Disease and Sickness

Symptoms of disease and sickness

Symptoms

1. Skin lesions
2. Hair loss
3. Panting/labored breathing
4. Drooling
5. Muscle spasms
6. Nasal discharge
7. White membranes
8. Bloody discharge
9. Thin
10. Uncoordinated movement
11. Elevated temperature
12. Rapid heart rate
13. Excessively fat
14. Diarrhea
15. Dark urine

Disease Category

- Respiratory
  - 3,6,7,8,11,12
- Metabolic
  - 1,4,5,9,11,12
- Internal Parasites
  - 1,2,7,9
- External Parasites
  - 1,2
- Poisonous Plant
  - 1,2,3,4,5,8,9,10,11,12,14,15
- Insect Vector
  - 10

Foreign Animal Disease	Animal Affected	Highly Contagious	Vector Borne	Zoonotic Potential
Diseases with Preparedness and Response Plan (Red Books)				
HPAI – Highly Pathogenic Avian Influenza	Avian, others	Yes	No	Yes
CSF – Classic Swine Fever	Swine	Yes	No	No
FMD – Foot and Mouth	All cloven hoofed animals	Yes	No	No
vND – virulent Newcastle Disease virus	Avian	Yes	No	Yes, minor
Diseases with FAD PReP Disease Response Strategies				
ASF – African Swine Flue	Swine	Yes	Yes	No
Japanese Encephalitis	Equine, Swine	No	Yes	Yes
Pest des petits ruminants	Caprine, Ovine	Yes	No	No
Rift Valley Fever	Bovine, Ovine, Caprine	No	Yes	Yes
Other FAD Threats				
African Horse Sickness	Equine	No	Yes	No
Akabane	Bovine, Caprine, Ovine	No	Yes	No
Bovine Babesiosis	Bovine	No	Yes	No
Contagious Bovine Pleuropneumonia	Bovine	Yes	No	No
Contagious Caprine Pleuropneumonia	Caprine	Yes	No	No
Dourine	Equine	No	No	No
Glanders	Equine	Yes	No	Yes
Heartwater	Ruminants	No	Yes	No
Lumpy Sine Disease	Bovine	No	Yes	No

Figure 2: FAD Investigations by Result, 2009 to 2018.

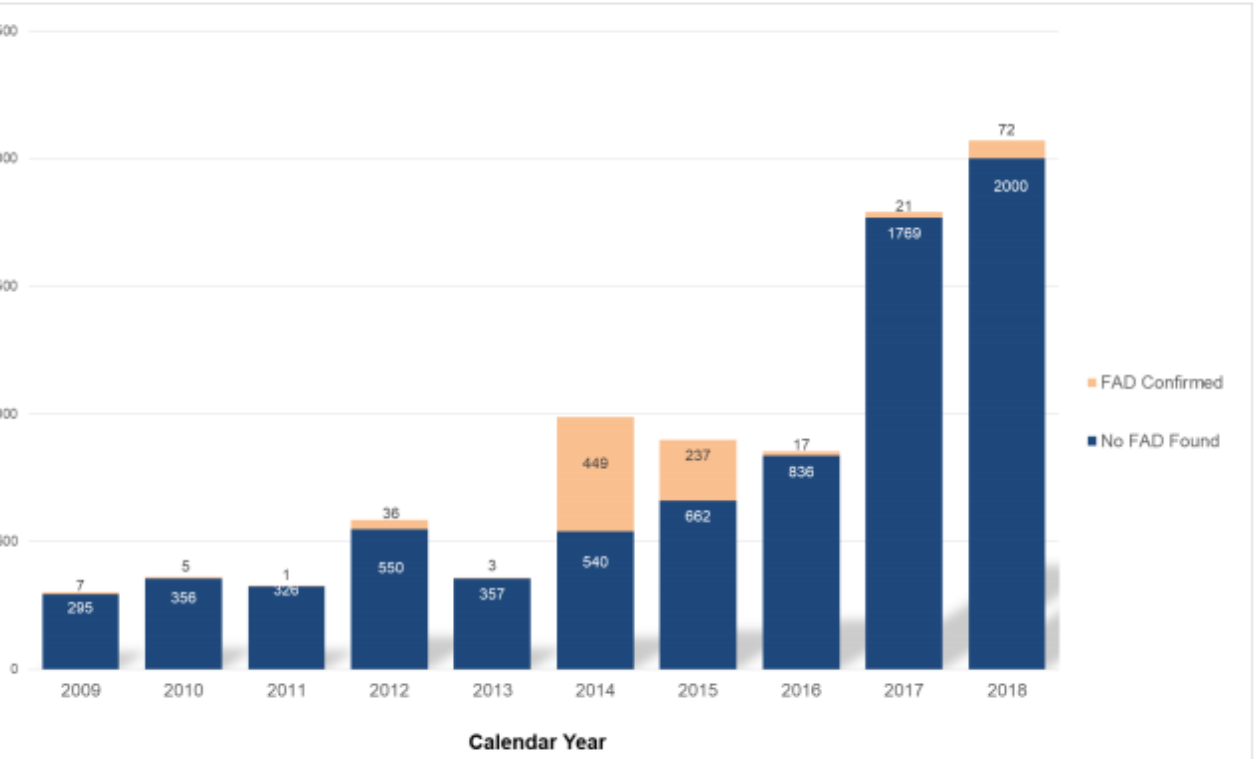
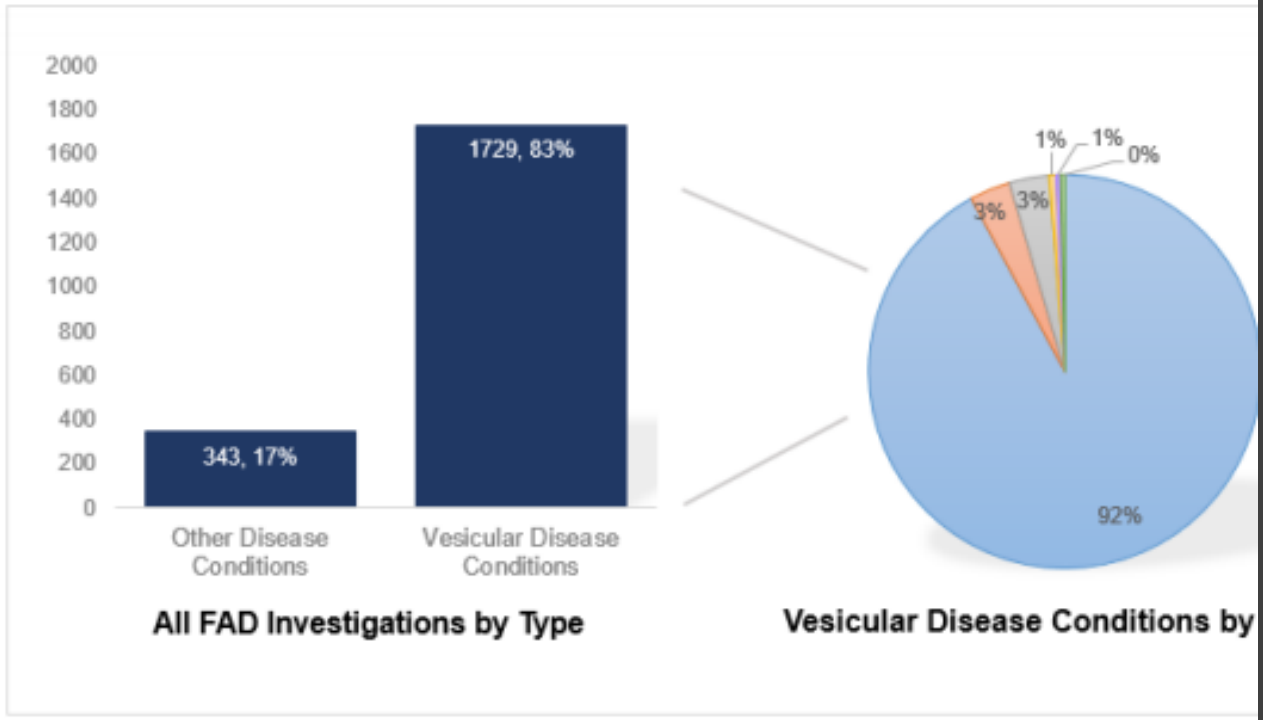
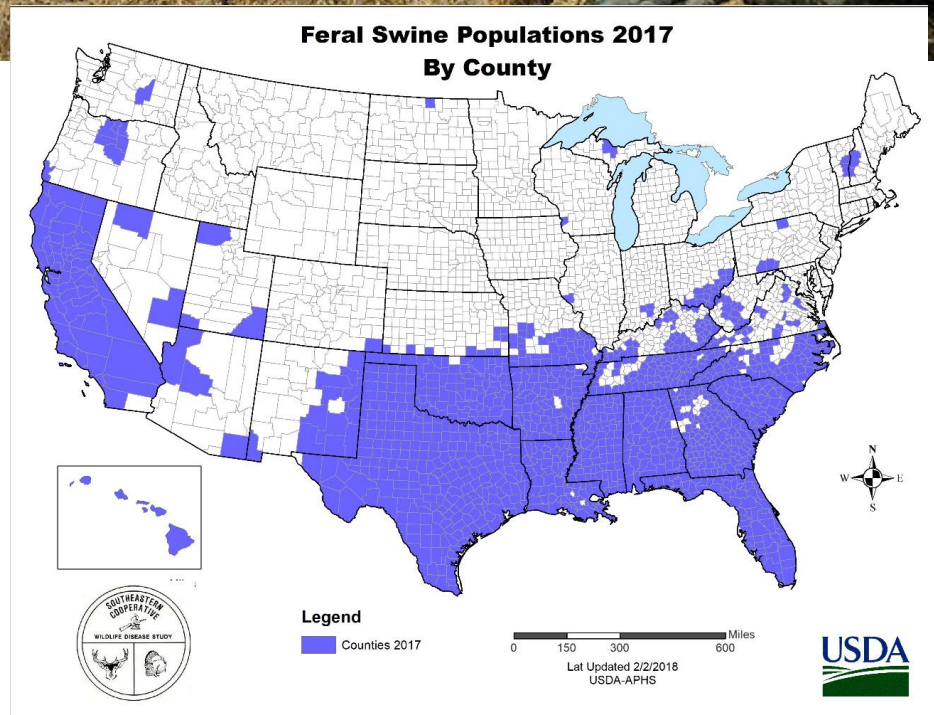


Figure 12: Proportion of FAD Investigations due to Vesicular Conditions, by



Foreign Animal Disease Investigations

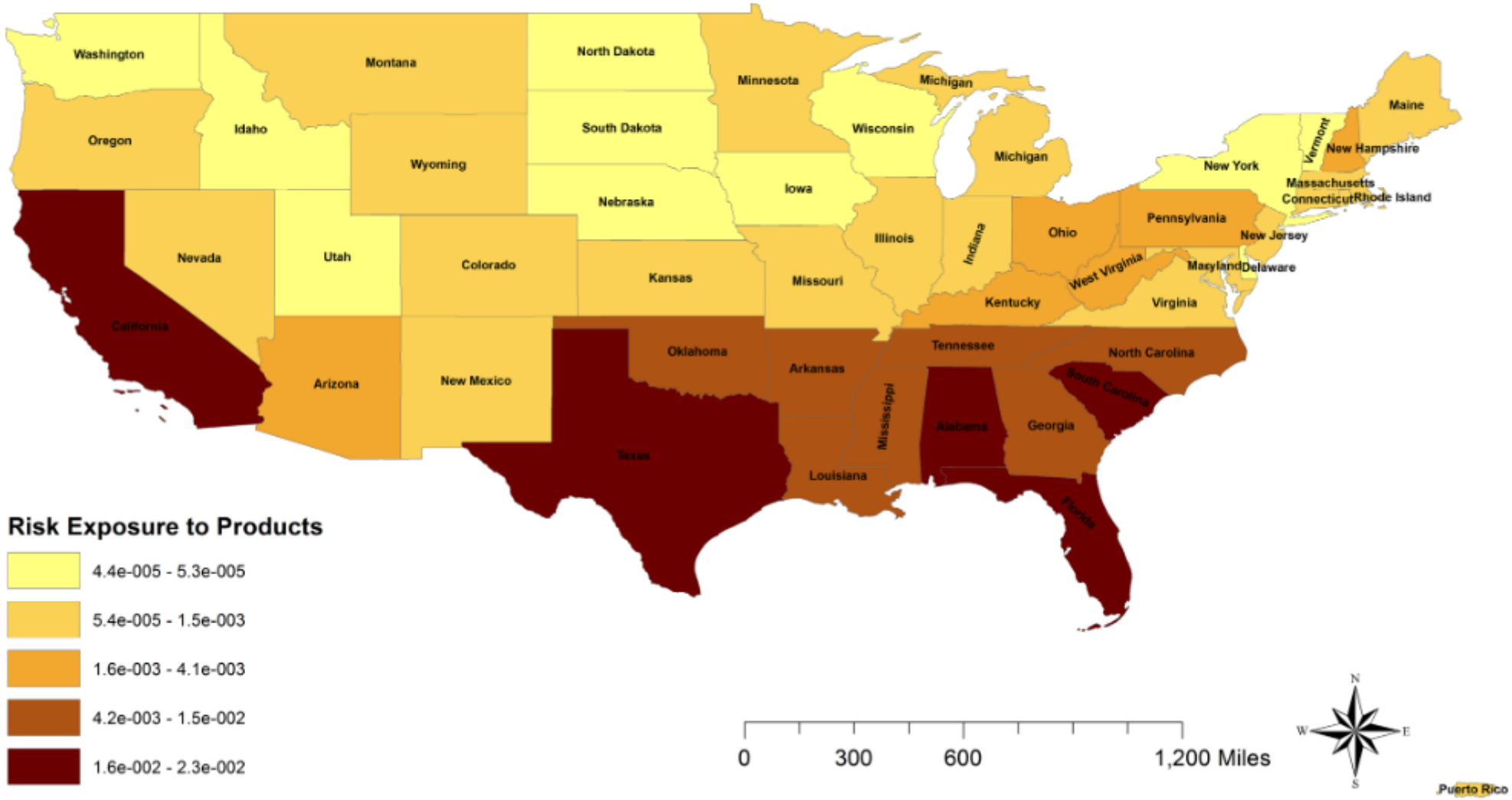
https://www.aphis.usda.gov/animal_health/emergency_management/downloads/summary_fad_investigations.pdf



https://www.sciencemag.org/news/2017/12/african-swine-fever-outbreak-alarms-wildlife-biologists-and-veterinarians

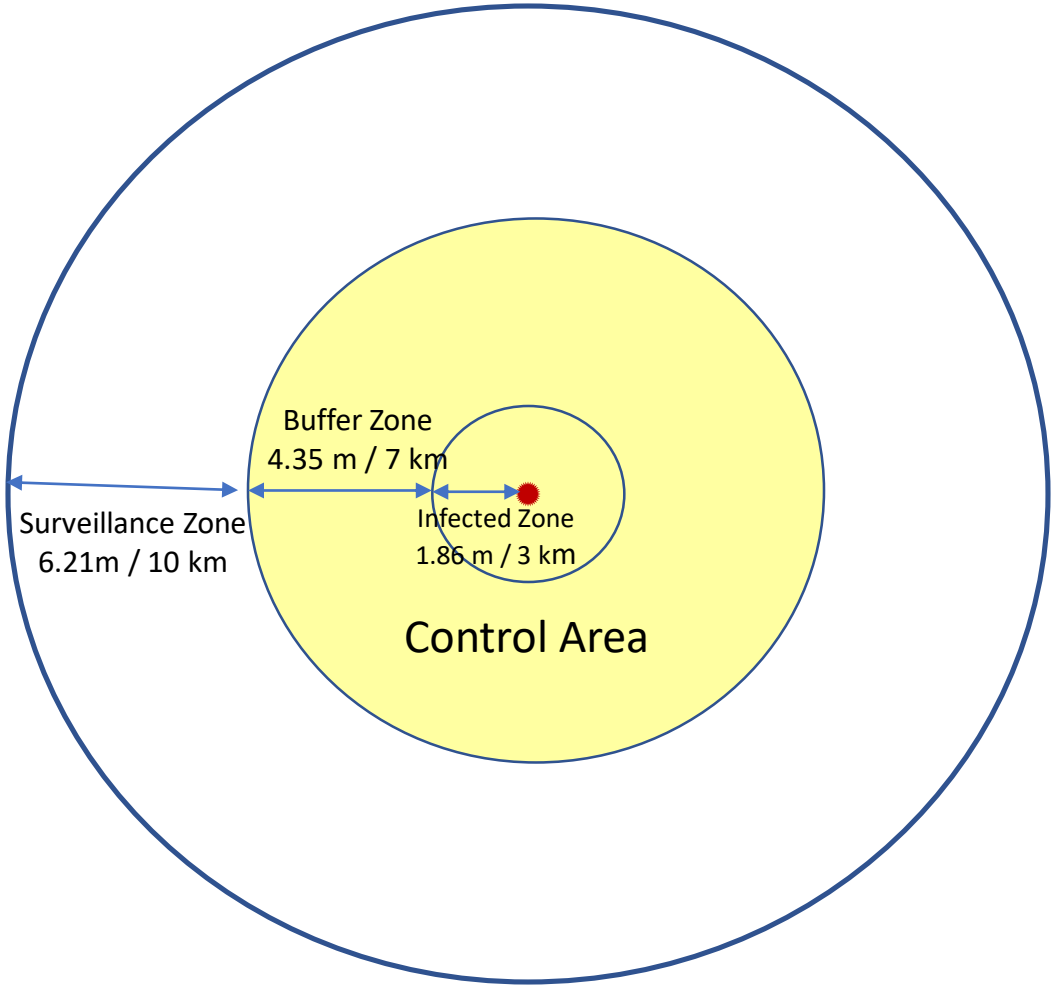
Risk of exposure to legal imports of swine products.

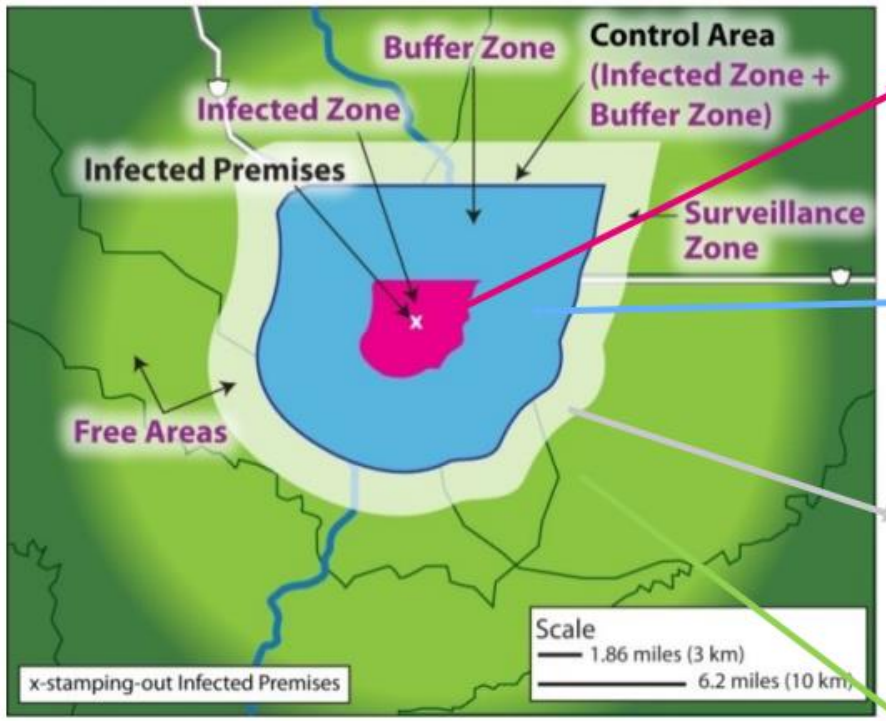
The graduated color map represents the risk from the highest (darker) to the lowest (lighter) of US susceptible swine populations being exposed to the legally imported swine products.



doi: https://doi.org/10.1371/journal.pone.0182850.g005

Response Zones for Disease Outbreak





In the **Infected Zone** (which is ***part* of the Control Area**), there are movement controls and surveillance activities. Infected Premises are quarantined.

In the **Buffer Zone** (which is ***part* of the Control Area**), there are movement controls and surveillance activities.

In the **Surveillance Zone** (which is ***part* of the Free Area**), targeted poultry surveillance may be conducted (i.e. commercial premises).

In the **Free Area** (which ***includes* the Surveillance Zone**), routine or program surveillance may occur (i.e. NPIP and wild birds).

Infected Zone + Buffer Zone = Control Area

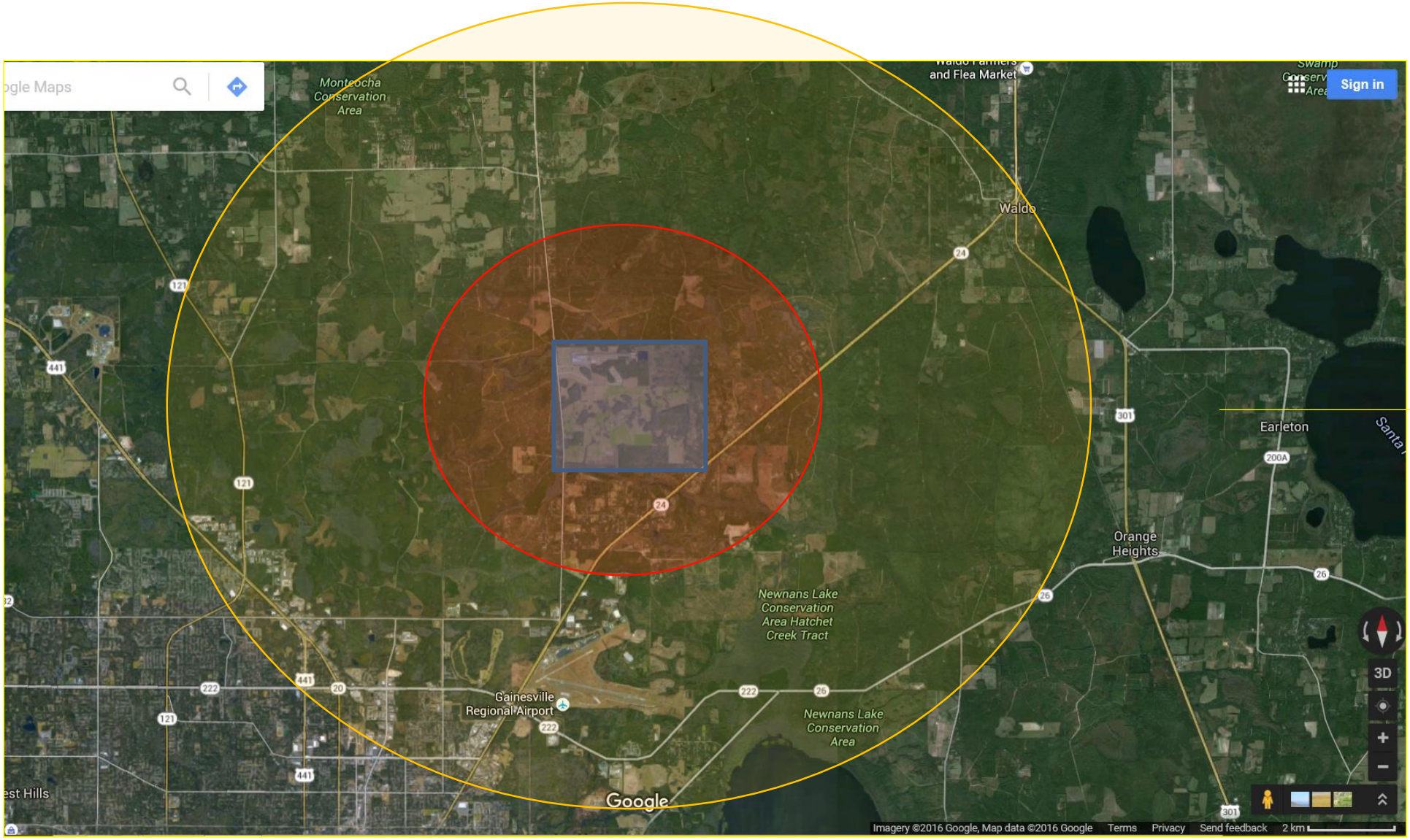
Surveillance Zone + = Free Area

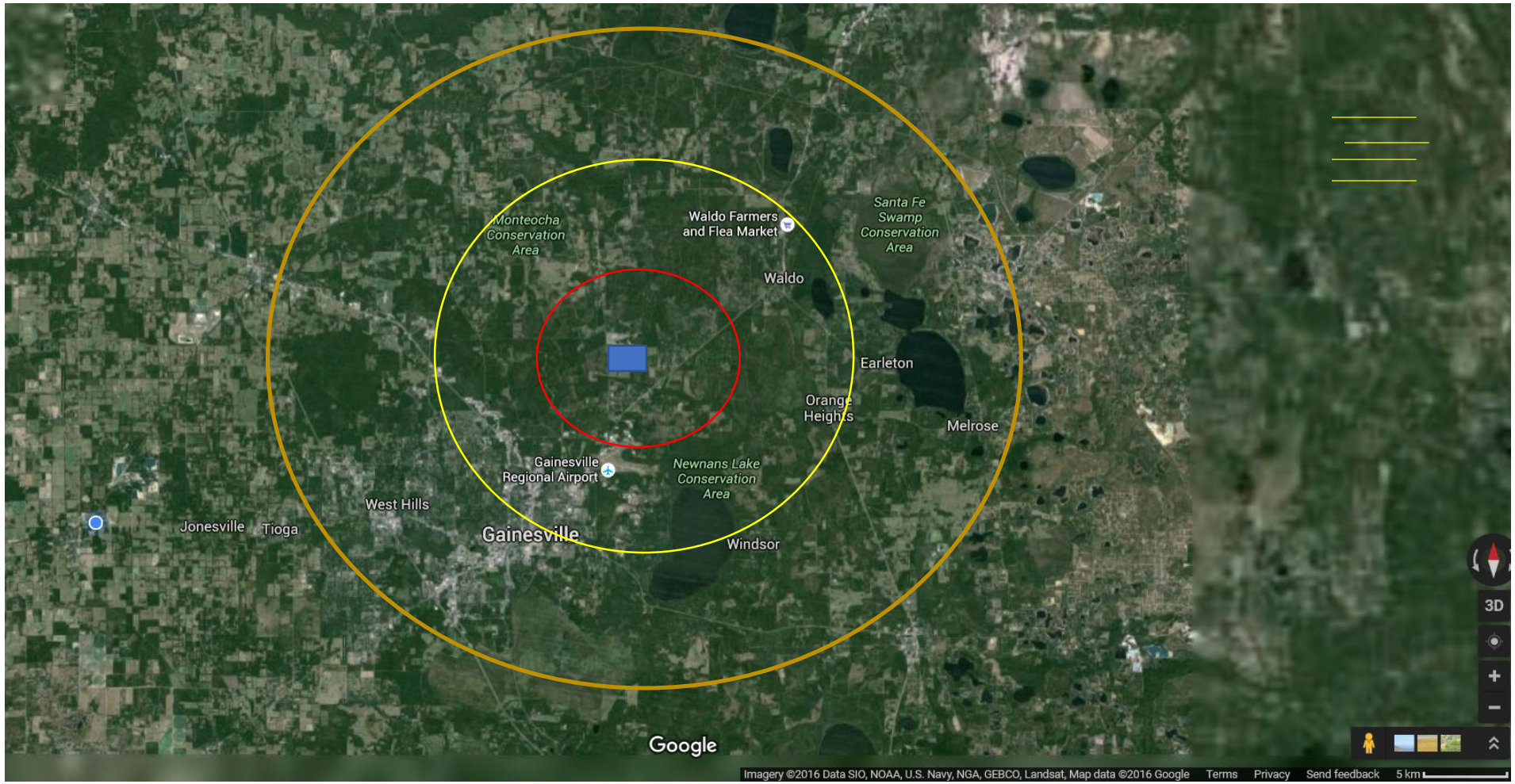
Zone/Area	Definition
Infected Zone (IZ)	Zone that immediately surrounds an Infected Premises.
Buffer Zone (BZ)	Zone that immediately surrounds an Infected Zone or a Contact Premises.
Control Area (CA)	Consists of an Infected Zone and a Buffer Zone.
Surveillance Zone (SZ)	Zone outside and along the border of a Control Area. The Surveillance Zone is part of the Free Area.
Free Area (FA)	Area not included in any Control Area. Includes the Surveillance Zone.

Factors Used to Determine Control Area Size

Factors	Additional Details
Jurisdictional areas	• Effectiveness and efficiency of administration • Multi-jurisdictional considerations: local, State, Tribal, and multistate
Physical boundaries	• Areas defined by geography • Areas defined by distance between premises
FAD epidemiology	• Reproductive rate • Incubation period • Ease of transmission • Infectious dose • Species susceptibility • Modes of transmission (such as, fecal-oral, droplet, aerosol, vectors) • Survivability in the environment • Ease of diagnosis (for example, no pathognomonic signs; requires diagnostic laboratory testing)
Infected Premises characteristics	• Number of contacts • Transmission pathways and transmission risk ◊ Extent of animal movement ◊ Number of animals ◊ Species of animals ◊ Age of animals ◊ Movement of traffic and personnel to and from premises (fomite spread) ◊ Biosecurity measures in place at time of outbreak
Contact Premises characteristics	• Number and types of premises • Susceptible animal populations and population density • Animal movements • Movement of traffic (fomites) and personnel to and from premises (fomite spread) • Biosecurity measures in place prior to outbreak
Environment	• Types of premises in area or region • Land use in area or region • Susceptible wildlife and population density • Wildlife as biological or mechanical vectors
Climate (for aerosol spread diseases)	• Prevailing winds • Humidity
General area, region, or agricultural sector biosecurity	• Biosecurity practices in place prior to outbreak • Biosecurity practices implemented once outbreak detected
Number of backyard or transitional premises	• Types of premises, animal movements, and network of animal and fomite movements
Continuity of business	• Continuity of business plans and processes in place or activated at beginning of outbreak (such as surveillance, negative diagnostic tests, premises biosecurity, and risk-assessments) • Permit processes, memorandums of understanding, and information management systems in place or activated at beginning of outbreak

https://www.aphis.usda.gov/animal_health/emergency_management/downloads/premises_and_zones.pdf


Montocha Conservation Area
Waldo
Earleton
Orange Heights
Newnans Lake Conservation Area Hatchet Creek Tract
Newnans Lake Conservation Area
Gainesville Regional Airport
Google
Sign in
3D
Imagery ©2016 Google, Map data ©2016 Google
Terms
Privacy
Send feedback
2 km


Monteocha Conservation Area
Waldo Farmers and Flea Market
Santa Fe Swamp Conservation Area
Waldo
Earleton
Orange Heights
Melrose
Gainesville Regional Airport
Newnans Lake Conservation Area
West Hills
Jonesville
Tioga
Gainesville
Windsor
Google
3D
Imagery ©2016 Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Landsat, Map data ©2016 Google
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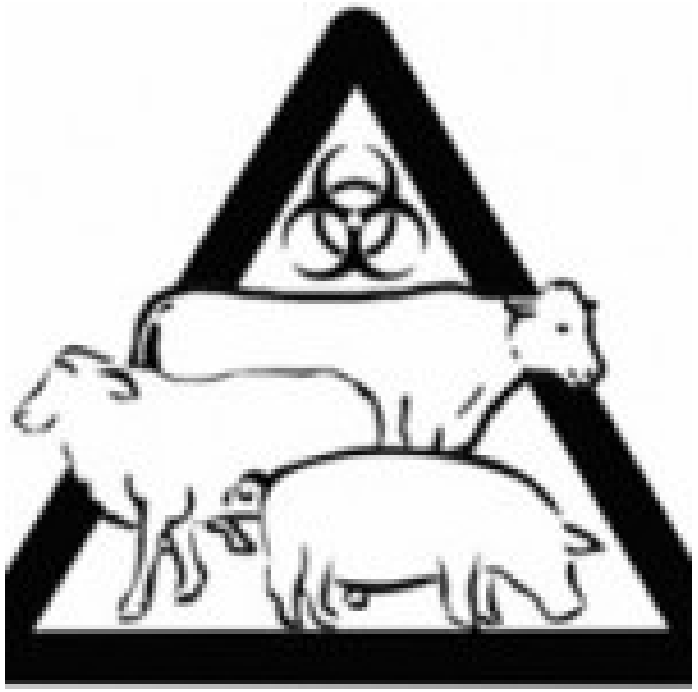
Send feedback
5 km

FAD vs Endemic Diseases

- Endemic livestock diseases in cattle, swine, poultry, equine likely single largest cause of financial loss in agriculture and adversely affect animal well-being and trade.
- Distinguishable from FAD because they are constant problem with little public, policy and “just part of animal ag”.

Equine	**Bovine**	**Swine**
Contagious E. Metritis	Tuberculosis	Brucellosis
East/West Encephalitis	Brucellosis	Pseudorabies
E. Herpes Virus	BSE	
E. Infectious Anemia	Johnes Disease	Influenza A Virus
E. Piroplasmosis	New World Screwworm	
E. Viral Arteritis	Trichomoniasis	
Vesicular Stomatitis	Vesicular Stomatitis	
West Nile Virus	B. Leukemia	

https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information



What Is Biosecurity?

The protection of the economy, environment, and health of living things from diseases, pests, and bioterrorism.

1st step in biosecurity

Risk Assessment

- Has to be developed specific to the situation
- One size does not fit all!

Look at

- Animal risk factors
- Feed and water risk factors
- Owner and employee risk factors
- Visitor risk factors
- Premise risk factors

Three Components to Biosecurity

- Isolation
  - Prevents contact between animals
- Traffic Control
  - Vehicles, animals, people, etc.
- Sanitation
  - Disinfection of materials, people and equipment

Isolation

- Most important step in disease control
- Limit contact and co-mingling
- Can be difficult during a disaster – but very important!
- Especially important is to isolate sick animals
- Use of common or unclean equipment negates isolation.

Traffic control

- What are the points of entry
- Consider types of traffic
  - Animals
  - Vehicles
  - Farm equipment
  - People
  - Other animals…pets, wildlife, etc.
- Prevention
  - Gates, locks, fences, barriers, signs

Sanitation

- Maintain the cleanliness of people and equipment
- Regularly clean objects that come in contact with animals or animal fluids
- Disinfect things entering the ranch (vehicles, equipment, people)
- Clean facilities between groups of animals

Sanitation

- Need to consider the prior stops of deliveries
  - Fuel
  - Feed
  - Cattle trucks

  Where do the vehicles go?
- What is the level of cleanliness/disinfection
- Prevention
  - Footbaths, disposable boots, change of clothes

Sanitation

- People
  - Transfer of pathogens on shoes, clothes
- Equipment
  - Don’t use same equipment for feed and manure
  - Clean equipment after potential contamination
- Clean facilities between groups of cattle
  - Clean environment for working
  - Reduce transfer of pathogens

Biosecurity – Enterprise Security

- Protection of the Agricultural enterprise from external pressures who's goals are to:
  - Alter management practices
  - "Free the animals"
  - Destroy facilities and equipment
  - Stop modern agriculture practices – GMO's
  - Bring harm to individuals associated with ag enterprises

Agroterrorism

PETA, ALF, ELF, Greenpeace, foreign countries

Biosecurity – Enterprise Security

- Isolation, Traffic Control, Sanitation
- Employee Screening
- Employee Training
- Assessment of Situation
- Vigilance to Security Measures
- Florida is a “Sentinel State”

Why have a biosecurity plan

To prevent economic loss caused by production loess

To prevent theft of animals, machinery, or equipment

To protect wholesome image of agricultural/food products and protect market access

Prevent or minimize an interruption in cash flow

Create awareness of potential harm from individuals and begin prevention

General Prevention Steps

Personal hygiene

- Wash hands after handling animals
  - Removes the infectious agent

Personal protective equipment

- Gloves, coveralls, boots
- Mask, goggles

Personal Protective Equipment

- Special clothing and equipment that places a barrier between an individual and a hazard
- Prevents the spread of hazards between animals and locations

Cleaning and Disinfection

Cleaning

Removal of organic material

Washing

Removal of materials that can inhibit the action of disinfection

Disinfection

Process that destroys most pathogenic and non-pathogenic microorganisms to an acceptable level

Practical PPE Items

- Disposable boots
- Rubber boots
- Latex/rubber gloves
- Coveralls
- Safety glasses/goggles/face shield
- N95 mask
- Brush
- Hand sprayer
- Bleach/Disinfectant
- Bucket
- Paper Towels
- Garbage Bag

Zoonotic Diseases of Cattle Present in the U.S.

- Anthrax
- Brucellosis
- Cryptosporidiosis
- Dermatophilosis
- *E. coli*
- *Giardia*
- Leptospirosis
- Listeriosis
- Pseudocowpox
- Q Fever
- Ringworm
- *Salmonella*
- Tuberculosis
- Vesicular stomatitis

Center for Food Security and Public Health Iowa State University 2005

General Biosecurity Guidelines: Before entering a premises DO:

- Park your vehicle away from site production facilities
- Ensure that your vehicle's tires, wheel wells, and undercarriage have been cleaned.
- Designate separate "clean" and "dirty" zones in your vehicle. The "clean" zone is usually the passenger compartment. The "dirty" zone is usually the trunk or cargo zone.
- Put on clean coveralls, boots, hat, gloves, and other required apparel.
- Wash your hands with soap and water.
- Consult with the owner to establish an arbitrary line on the site to demarcate the "clean" side of the premises from the "dirty" side. This will usually be somewhere along the driveway or in the parking zone.

Note: Additional biosecurity and cleaning and disinfection procedures are required to address the risks posed by suspected and confirmed foreign animal diseases and serious zoonotic diseases. This includes the creation of work zones for proper entry and exit from a contaminated zone.

General Biosecurity Guidelines – Don'ts

Enter	Enter a “clean” zone of either a premises or vehicle unless you have disposed of or cleaned and disinfected all clothes, footwear, hats, gloves, equipment, supplies, and other sources of pathogen transmission.
Attempt	Attempt to disinfect a surface unless it first had been thoroughly cleaned (i.e., it is free of all visible organic material).
Drive	Drive your vehicle onto premises any more than necessary. Use an on-site vehicle for on-site transportation whenever possible.

General Biosecurity Guidelines Before LEAVING a premises DO:

- Use a brush and an approved disinfectant to thoroughly clean and disinfect all reusable clothing and equipment, including personal items.
- Clean vehicle exteriors and trailers, including tires, wheel wells, and the undercarriage, with soapy water and/or take them through a pressure car wash.
- Place disposable coveralls (turned inside out), boots, and other used items in a plastic bag to leave on the premises or to transport in the “dirty” zone of your vehicle.
- Dispose of disinfectant solution according to label directions.
- Dispose of all plastic garbage bags containing used or contaminated supplies in a manner that prevents exposure to other people or animals.
- Wash your hands with soap and water.
- Clean and/or launder all reusable equipment and clothing.
- At the end of the day, take a shower and clean all personal items.

General Biosecurity Guidelines **DON'T:**

- Bring "dirty" paperwork into the clean zone of your vehicle.
- Visit a second premises before complying with appropriate biosecurity protocol.
- Follow the incident specific Biosecurity Plan for guidance on waiting periods between visits to susceptible sites.
- The waiting period may vary based on the disease, the premises designation, the task assignment, and the level of biosecurity practiced.

Animal Abuse Laying the ground works: what is necessary

- Five Freedoms
  1. Freedom from hunger and thirst
  2. Freedom from discomfort
  3. Freedom from pain, injury, or disease
  4. Freedom to express normal behavior
  5. Freedom from fear and distress

Animal Abuse Nutritional

Animal Abuse - Physical

https://animalaidunlimited.org/blog/cow-rescued-whose-halter-was-cutting-into-her-nose/

https://rtfitchauthor.com/2010/03/30/horse-hater-pleads-guilty-in-louisiana/

https://www.spca-sofla.org/no-justice-for-justice-and-susie-jury-delivers-not-guilty-verdict-in-cruelty-case/

Convergence of Abuse and Disease

Case Study

ON [redacted] DURING THE FRESH PURSUIT AND APPREHENSION OF THREE STOLEN CAR SUSPECTS A HOG PEN AT THE ABOVE LOCATION WAS LOCATED. THE THREE SUSPECTS WERE TRACKED BY A [redacted] K-9 UNIT TO THE PEN WHERE THE SUSPECTS WERE LOCATED UNDER THE PEN. UPON APPROACHING THE PEN SEVERAL DEAD HOGS WERE WITNESSED IN AND AROUND THE PEN. OVER 50 BUZZARDS WERE OBSERVED ON THE PEN AND EATING ON ONE OF THE DEAD HOGS. UPON REVIEWING THE PEN 8 HOGS WERE FOUND IN DIFFERENT STAGES OF DECOMPOSITION. ON HOG WAS FOUND TO BE IN THE STAGES OF IMMEDIATE DEATH DUE TO AN UNKNOWN ILLNESS THAT WAS CAUSING THE HOG TO SHAKE CONTINUOUSLY LAYING ON ITS SIDE. AGRICULTURE SUPERVISION WAS NOTIFIED, THE SHERIFF'S OFFICE VETERINARIAN WAS ALSO NOTIFIEDOF THE INCIDENT. THE HOG WAS EUTHANIZED DUE TO THE UNDUE SUFFERING OF THE ANIMAL. 7 HOGS WERE LOCATED IN THE PEN ALIVE. THE HOGS DID NOT HAVE ANY WATER AVAILABLE IN THE PEN. THERE WAS ONE BARREL WITH APPROXIMATELY 1/2 GALLON OF ROTTEN MILK AND ANOTHER WITH APPROXIMATELY 1 GALLON OF AN UNKNOWN SUBSTANCE.(ROTTEN FOOD) THE HOGS WERE OBSERVED SEVERAL TIMES EATING ON THE DEAD HOGS LOCATED IN MULTIPLE SPOTS IN THE PEN. PHOTOGRAPHS OF THE HOGS WERE TAKEN AND PLACED IN SHERIFF'S OFFICE RECORDS.

CONTACT WAS MADE WITH THE SUSPECT IN A PUBLIC PARKING LOT IN [redacted], FLORIDA. THE SUSPECT SURRENDERED THE OWNERSHIP OF THE HOGS TO THE [redacted] SHERIFF'S OFFICE. IN AN NON CUSTODIAL INTERVIEW THE SUSPECT STATED THE FOLLOWING FREELY AND WILLINGLY: HE KNEW THE HOGS WERE SICK AND THAT THEY NEEDED A SHOT (MEDICATION) TO HELP THEM FEEL BETTER. HE KNEW THERE WERE SICK HOGS IN THE PENS AND THAT HE KNEW THERE WERE DEAD HOGS IN THE PEN. HE STATED HE FEED THE HOGS SPOILED MILK AND OTHER FOOD ITEMS. HE STATED HE DID NOT GET THE DEAD HOGS OUT OF THE PEN AND THAT HE HAD THOUGHT ABOUT DISPOSING OF THEM LATER IN THE WEEK.

Convergence of Abuse and Disease

Case Study

INVESTIGATION:

ON 12/20/2013 @ 0955 HOURS A NECROPSY WAS PERFORMED ON THE HOG THAT WAS EUTHANIZED DURING THIS INVESTIGATION. THE NECROPSY WAS PREFORMED BY DOCTOR [redacted] OF THE SHERIFF'S OFFICE ANIMAL CONTROL SECTION. THE MALE (BAR) HOG WEIGHING APPROXIMATELY 55 POUNDS WAS FOUND TO HAVE ABSCESSES COVERING THE OUTER LAYERS OF THE HOGS LUNGS AND LIVER. THESE ABSCESSES ARE A CLEAR INDICATION OF THE HOG HAVING SEVERE PNEUMONIA. THE HOGS HEART WAS NOT UNIFORM IN SHAPE INDICATING POSSIBLE WHITE MUSCLE DISEASE. THIS DISEASE IS FOUND IN HOGS THAT EAT AN IMPROPER DIET. THE STOMACH CONTENT OF THE HOG WAS MADE UP OF SMALL GREEN PEAS AND A SMALL GRAIN TYPE SUBSTANCE. PHOTOGRAPHS OF THE NECROPSY WERE TAKEN AND SUBMITTED TO SHERIFF'S OFFICE RECORDS. A COPY OF THE VETERINARIAN REPORT IS ATTACHED AS A PAGE OF THIS INVESTIGATIVE REPORT.

ON 12/20/2013 THE 7 REMAINING ALIVE HOGS WERE TAKEN TO THE [redacted] ANIMAL AUCTION IN [redacted], FLORIDA AND SOLD TO THE HIGHEST BIDDER. NO FURTHER INVESTIGATION REGARDING THIS CASE AT THIS TIME.

Animal Handling

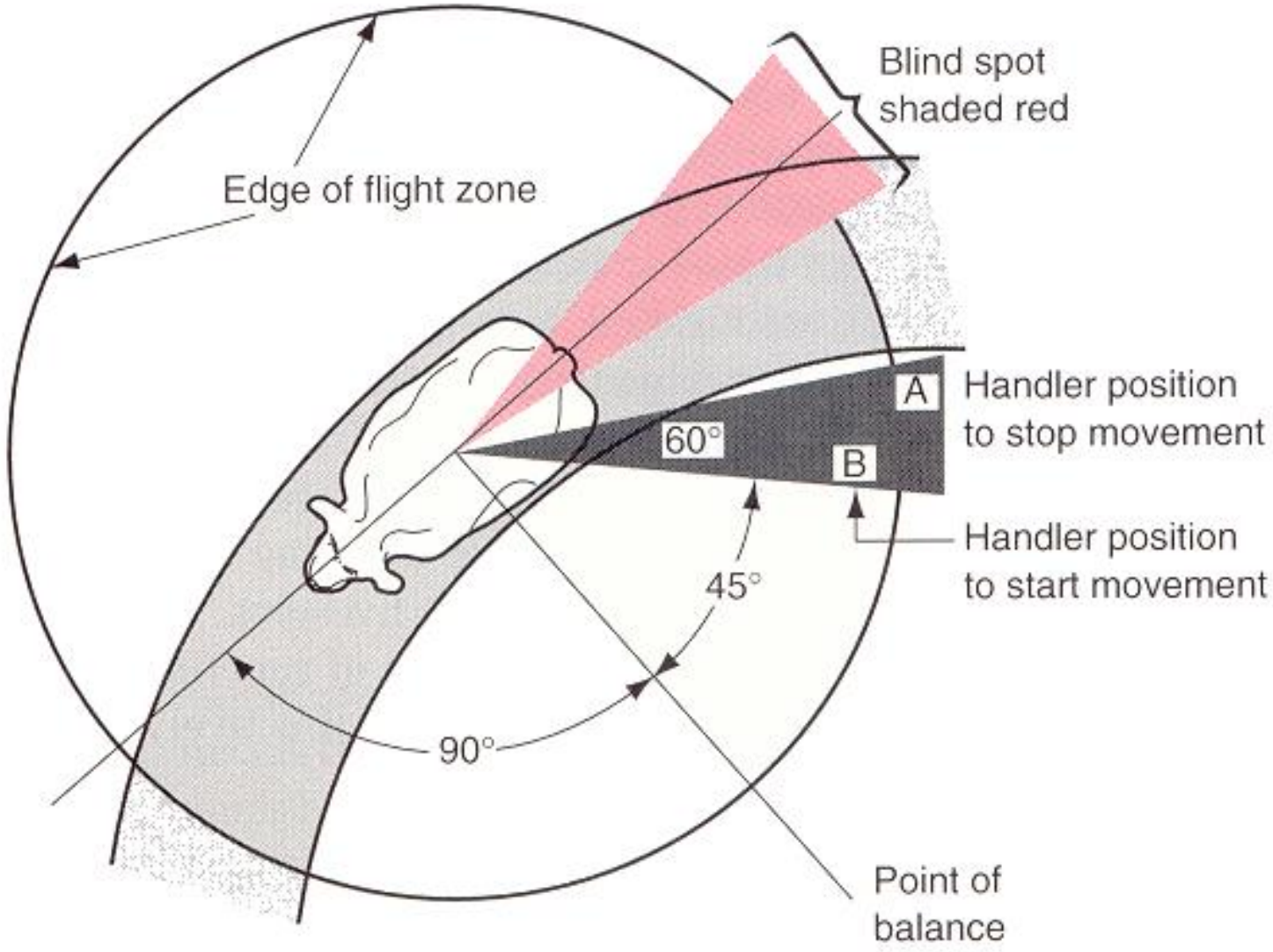
Stop and think!	Have at least 12% of a plan
Work slow	Unfamiliar area, people, situations
They are bigger, stronger, faster	Body weight, horns and hooves, four legs
Most LEO equipment and animals are not compatible	Lights and sounds
Are you equipped and/or capable	Training and tools

Livestock Characteristics

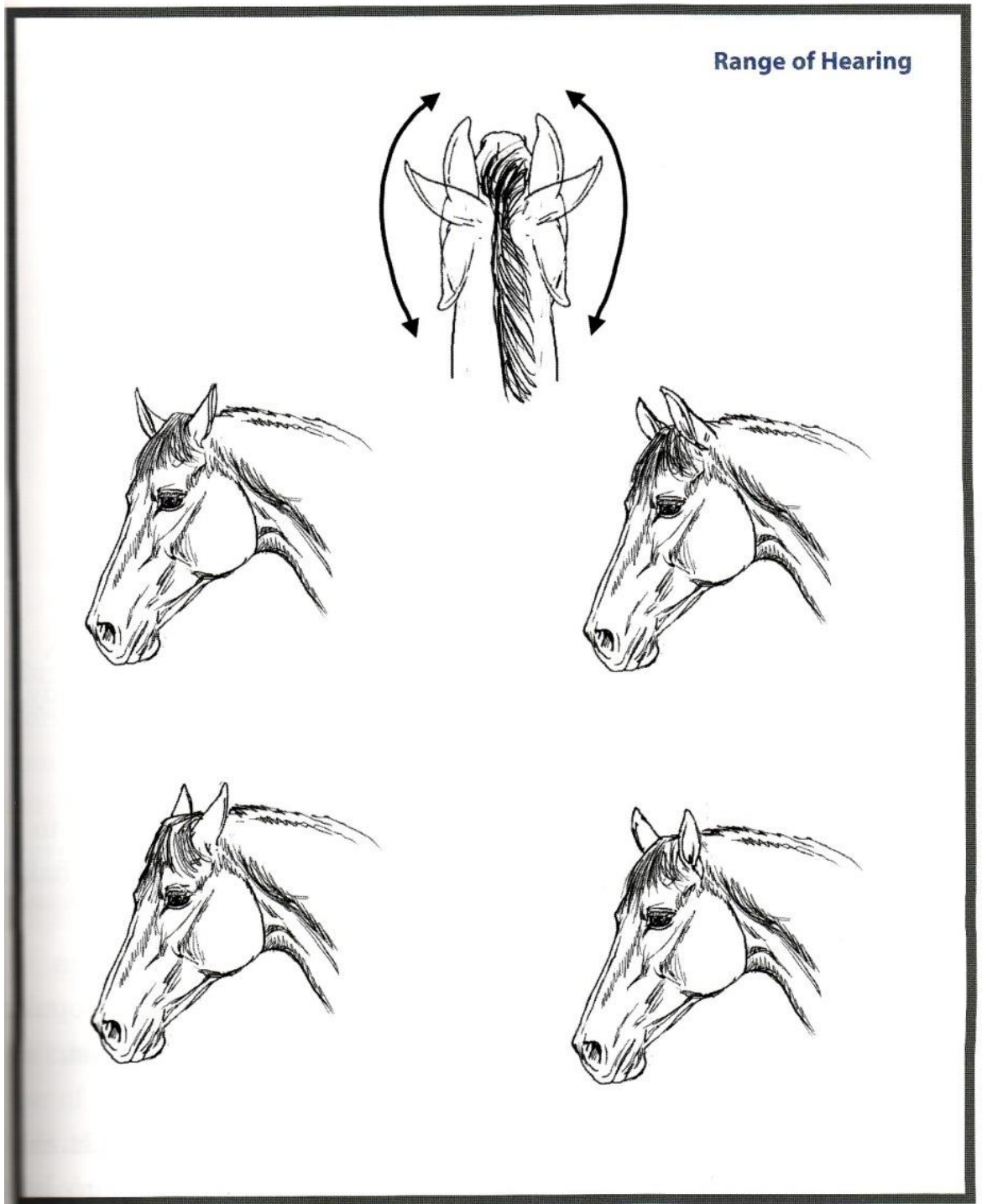
- Easily distracted
- Poor depth perception
- Shadows startle
- Footing
- Gregarious – Circling behaviors

- 5 senses
  - Vision
  - Hearing
  - Smell
  - Touch
  - Taste

Cattle Vision



Capturing Sound



Animal Behaviors

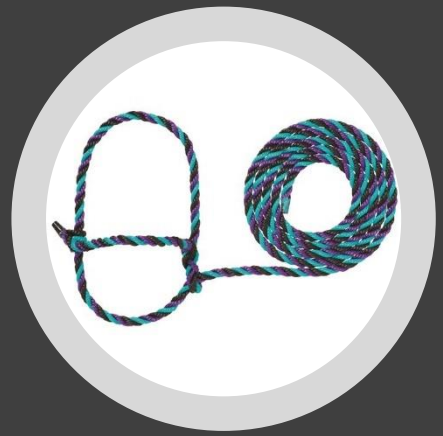
- Ingestive – eating/drinking
- Eliminative – feces/urine, avoid those areas in pastures
- Play – important for wellbeing
- Investigative – curiosity, varies
- Vigilance – group function
- Social Facilitation – herd animals do the same thing
- Care-giving – mutual grooming, fly swatting
- Care-seeking – signal for care and attention
- Agonistic – aggressive types of interaction
- Sterotypic – oral, locomotive

How can we accommodate the horse's nature in our management? – Regarding safe handling

- Most horses spook…fairly often
- Most horses will panic in situations that may not seem logical to us…1000 lbs of panic is dangerous
- Learn to think like a horse and you can avoid the majority of "normal" horse accidents

Large Animal Handling Equipment

- Rattle paddle, flag, cane
- Feed bag
- Length of rope
- Rope/nylon halter
- Plastic bucket
- Cattle panels / chute
- Other restraints
- Patience

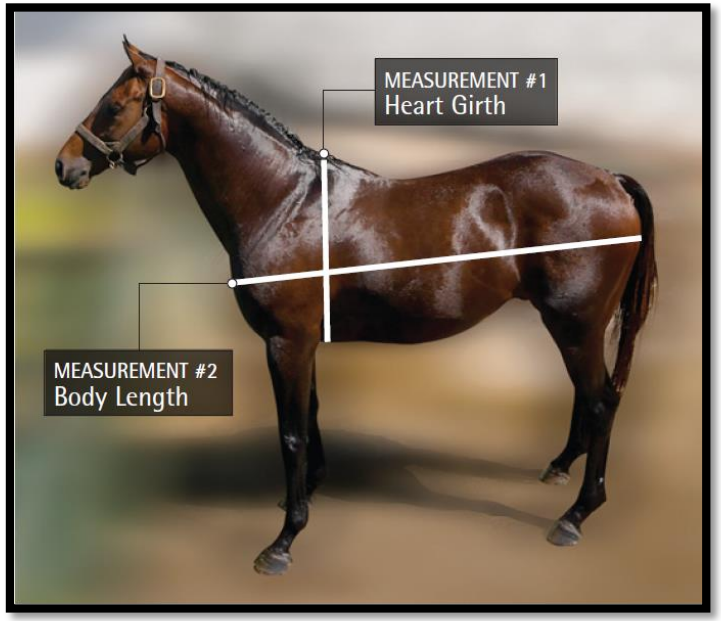


Videos you don’t want to be part of

- Arizona Llamas https://www.youtube.com/watch?v=81HOHEfuKic
- Florida Bulls
- https://www.youtube.com/watch?v=TbCgVzVIjTo
- Canadian Cow
- https://www.youtube.com/watch?v=4AEqglZ_x1k
- California
  - http://youtu.be/yszdWSLoJjk
- Oklahoma
  - http://youtu.be/dFnRZXd2fQ4
- Alabama
  - http://youtu.be/5EG6CzjQRpI

Weight Estimation

- Method of Measurement
  - measure from point of shoulder to the buttocks
  - measure girth just behind front legs
  - measure in inches to calculate weight in pounds



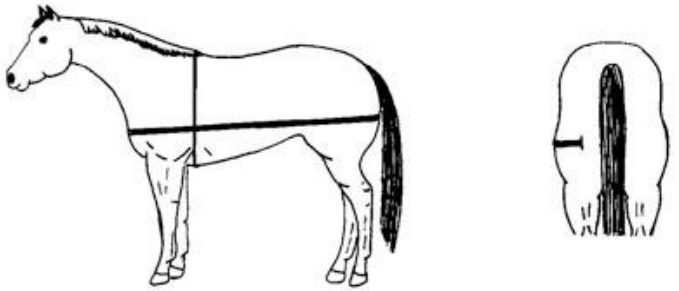
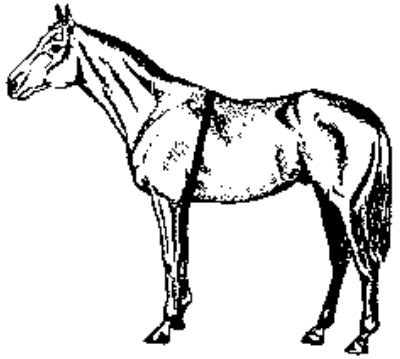


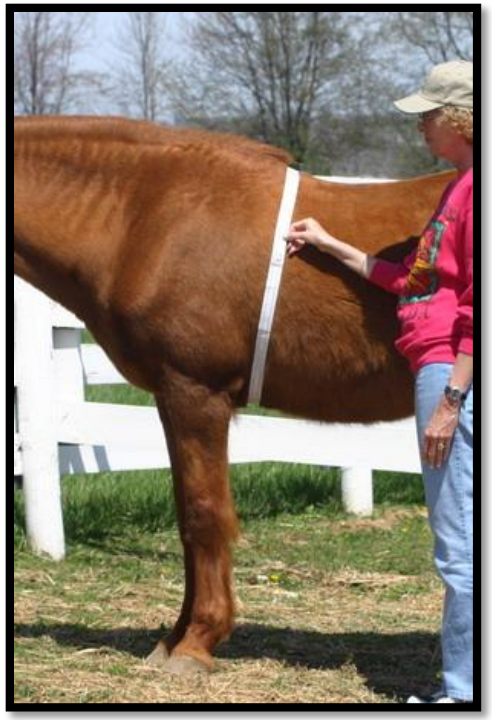
Figure 1. Measuring locations used to estimate a horse's body weight.

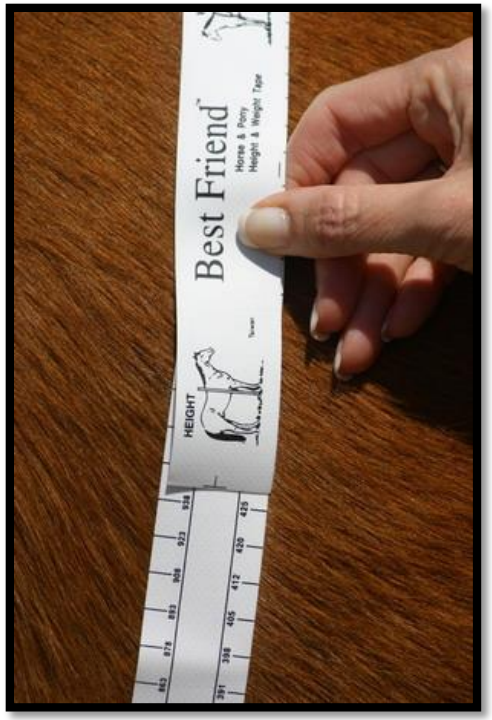
$$\text{Equine Bodyweight (lbs)} = \frac{\text{Heart girth (in inches)} \times \text{heart girth (in inches)} \times \text{length (in inches)}}{330}$$

Weight Estimation, cont'd



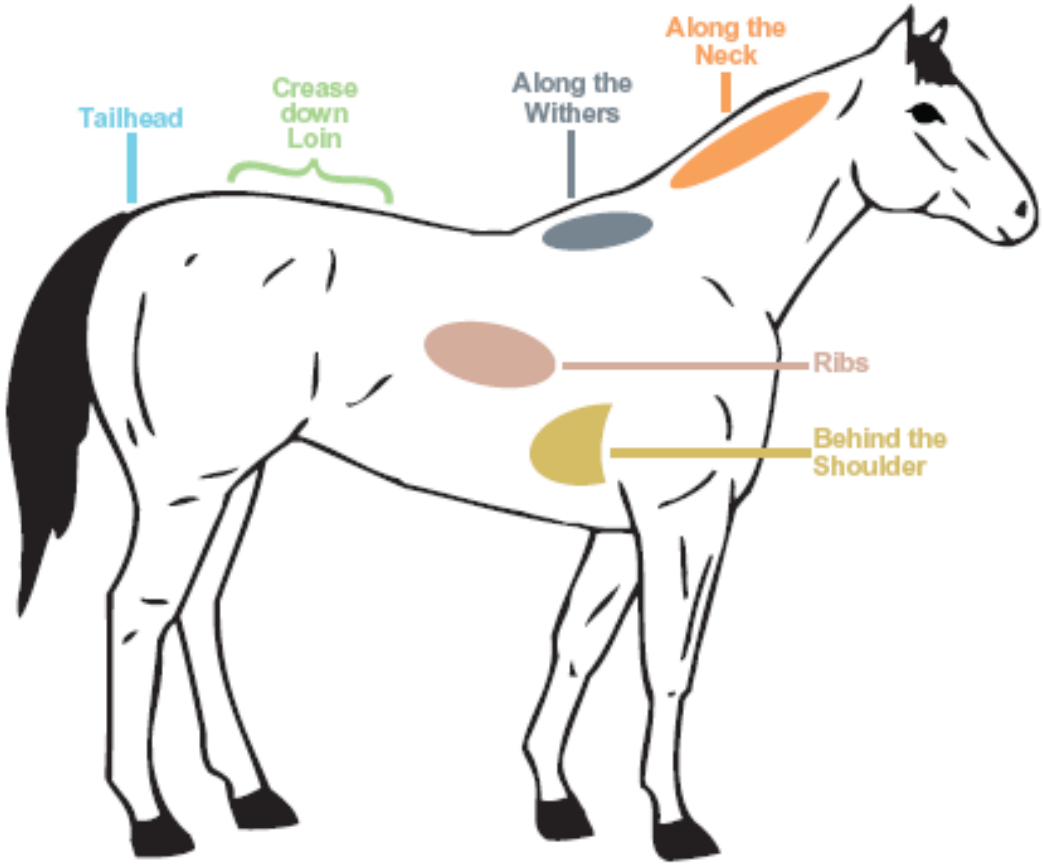
- Use of a weight tape to determine horse's body weight



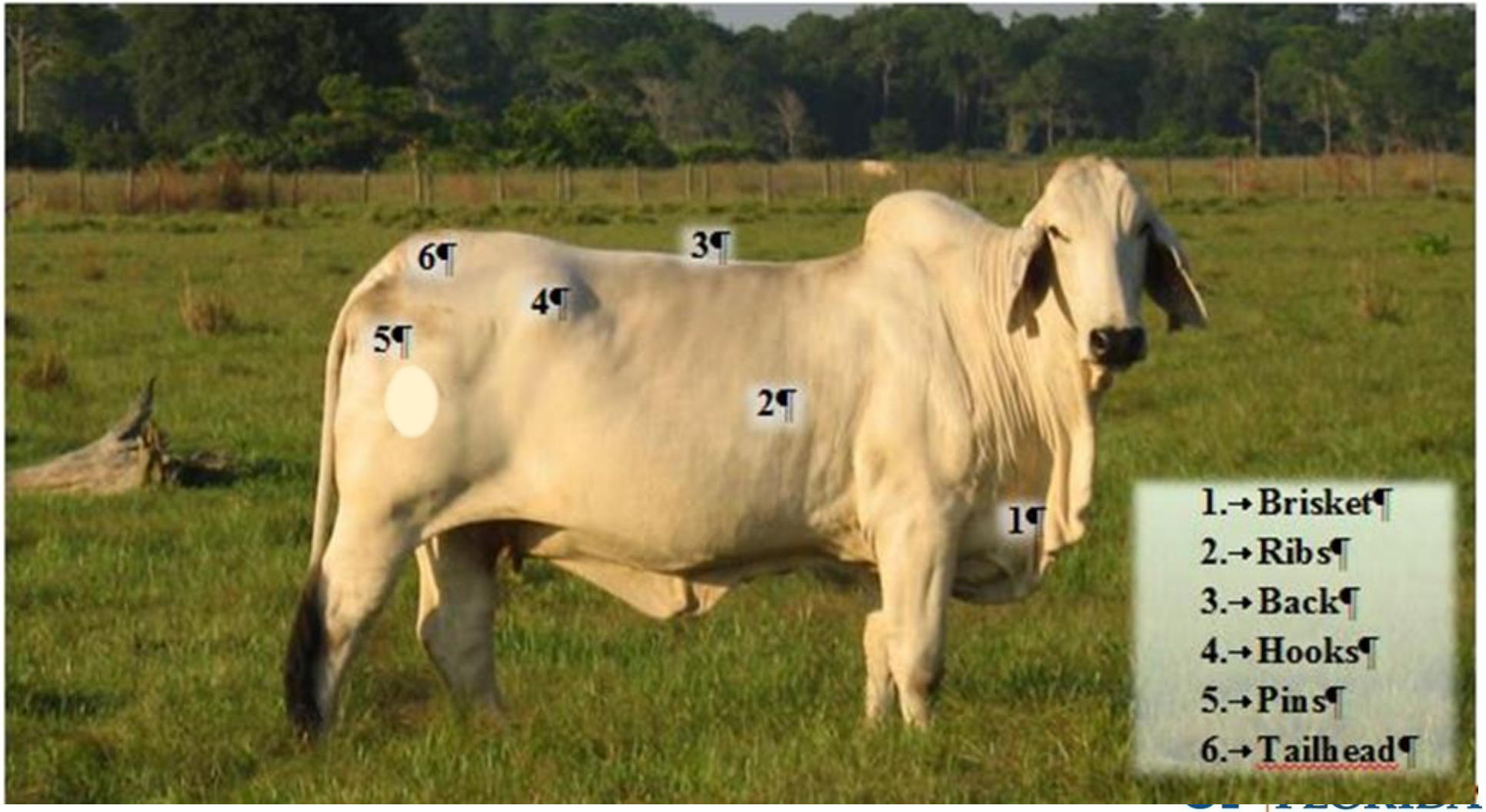


Pertinent Areas of the Horse for Body Condition Scoring

- Behind the shoulder
- Ribs
- Along the neck
- Along the withers
- Crease down back
- Tailhead



Assessment points for visual evaluation of body condition score



Check List for Recovery

1. Supply adequate water
2. Determine body weight
3. Meet dry matter intake requirement
    1. Medium to high-quality hay
4. Introduce supplement that meets requirements
    - Energy
    - Protein
    - Vitamin - Minerals

Check List for Recovery cont.

5. Increase supplement intake over time
   - One to two pounds per week
   - This will take time
   - BCS 2 to 3 could take ≤ 90 days
     - 14 lbs bahiagrass hay, 5 concentrate
   - BCS 3 to 4 could take ≤ 100 days
     - 14 lbs bahiagrass hay, 5 concentrate
     - To do it faster = professional

Livestock Education & Certification for Agriculture Law Enforcement

What is the LECALE Program

- Livestock-based education specifically designed for law enforcement-attorney-Dept. Ag
- Classroom and field learning experience
- Continuing education opportunity for law enforcement
- Multi-species, agriculture related education
- Accreditation provided

Who is Behind LECALE?

- University of Florida IFAS Extension
  - State and County Faculty
- Florida Farm Bureau
  - State and County Association
- County Sheriff Deputies
  - Multiple counties
- Florida Dept. of Agriculture and Consumer Services

Benefits of LECALE Program

- Rigorous and Relevant training curriculum
- Accreditation through UF-IFAS and FFB Agriculture Education Services and Technology
- Local delivery for classroom and field content
- Subject matter experts
- Involvement of law enforcement to develop curriculum
- Immediate follow-up with training
- Cost and time effective

LECALE Objective

The objective of the LECALE program is to provide law enforcement, litigation attorney, and Dept. of Ag personnel with:

1. knowledge regarding generally accepted livestock production practices
2. skills to discern acceptable animal well-being
3. ability to apply acquired knowledge and skills in the field and during litigation proceedings

LECALE Details December 9-13, 2019

Registration:

- Attendees can register via EventBrite by following this link
- https://www.eventbrite.com/e/2019-lecale-livestock-education-certification-for-agriculture-law-enforcement-tickets-62410610817 **or**
- Search EventBrite: lecale
- **Go to:** http://animal.ifas.ufl.edu/beef_extension/index.shtml

Registration Fee: $349.99 for all participants regardless of affiliation. (Includes: refreshment breaks, lunches, course material, and certification fee).

- **The class will be limited to the first 25 registrants.**
- **Contact:**
  - **hersom@ufl.edu**
  - **352-392-2390**

So What Do We Do?

- Training
- Education
- Practice
- Respond

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