



# Highly Pathogenic Avian Influenza (HPAI)

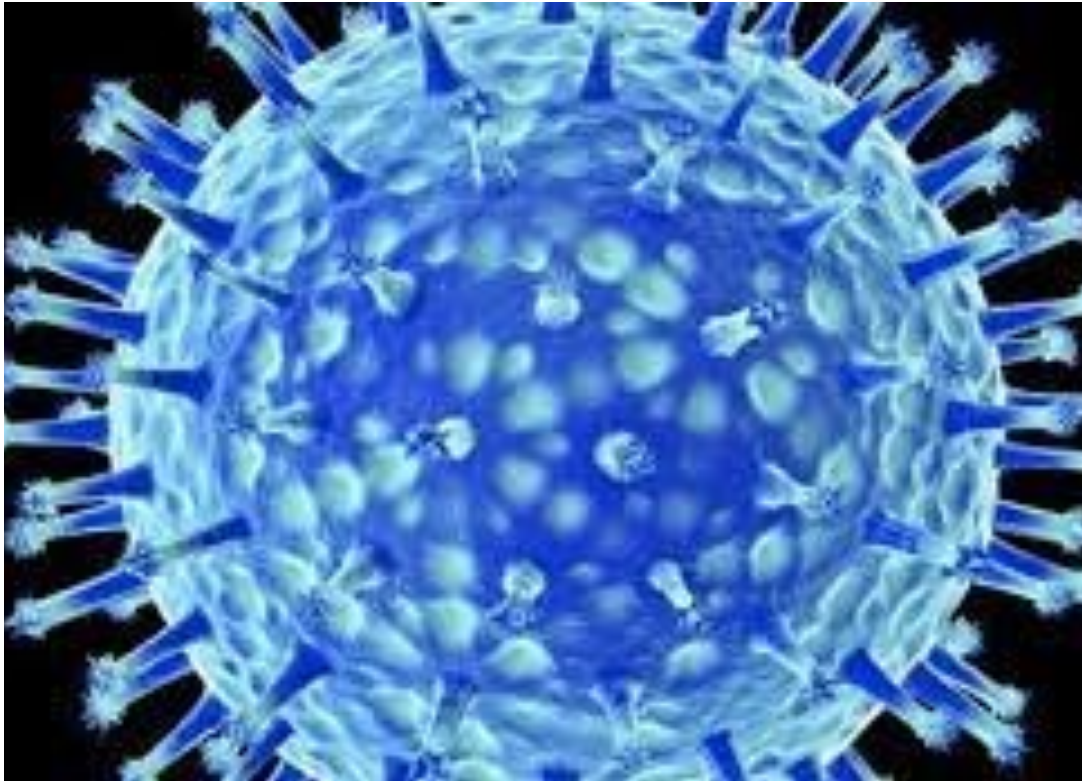
Dr. Sara Wyckoff, DVM  
Dr. J Hunter Reed, DVM, MPH



# Outline

- Welcome/introduction
- What is HPAI
- What does HPAI look like?
- Transmission/Epidemiology
- Current outbreak vs previous ones
- Timeline of current outbreak
- Management actions
- Questions

# What is highly pathogenic avian influenza?



- Alphainfluenza virus
- Low and high pathogenicity
- LPAI vs HPAI
- **Zoonotic**
- Strains depend on H and N proteins on virus
  - H<sub>5</sub>, H<sub>7</sub> --> HPAI
- Current strain EU H<sub>5</sub>N<sub>1</sub>



What does HPAI look like?

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TEXAS  
PARKS &  
WILDLIFE



What does HPAI look  
like?

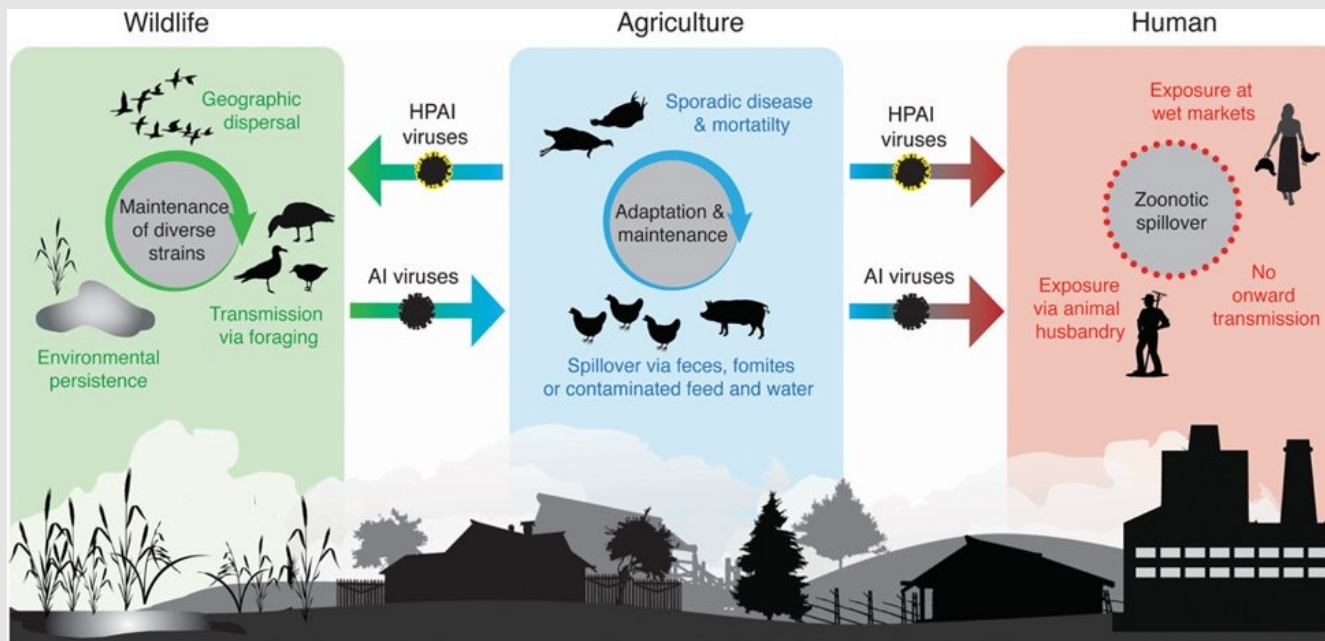
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# Clinical signs

- Neurological signs – seizures, body and head tremors, ataxia/incoordination, inability to fly
- Diarrhea
- Lethargy, quiet, fluffed feathers
- Severe morbidity or mortality events



# Transmission and Epidemiology



- Respiratory secretions
- Feces
- Consumption of infected meat
- Fomites- shoes, clothing, equipment with viral particles



# Current outbreak vs previous ones

## 2014-2015

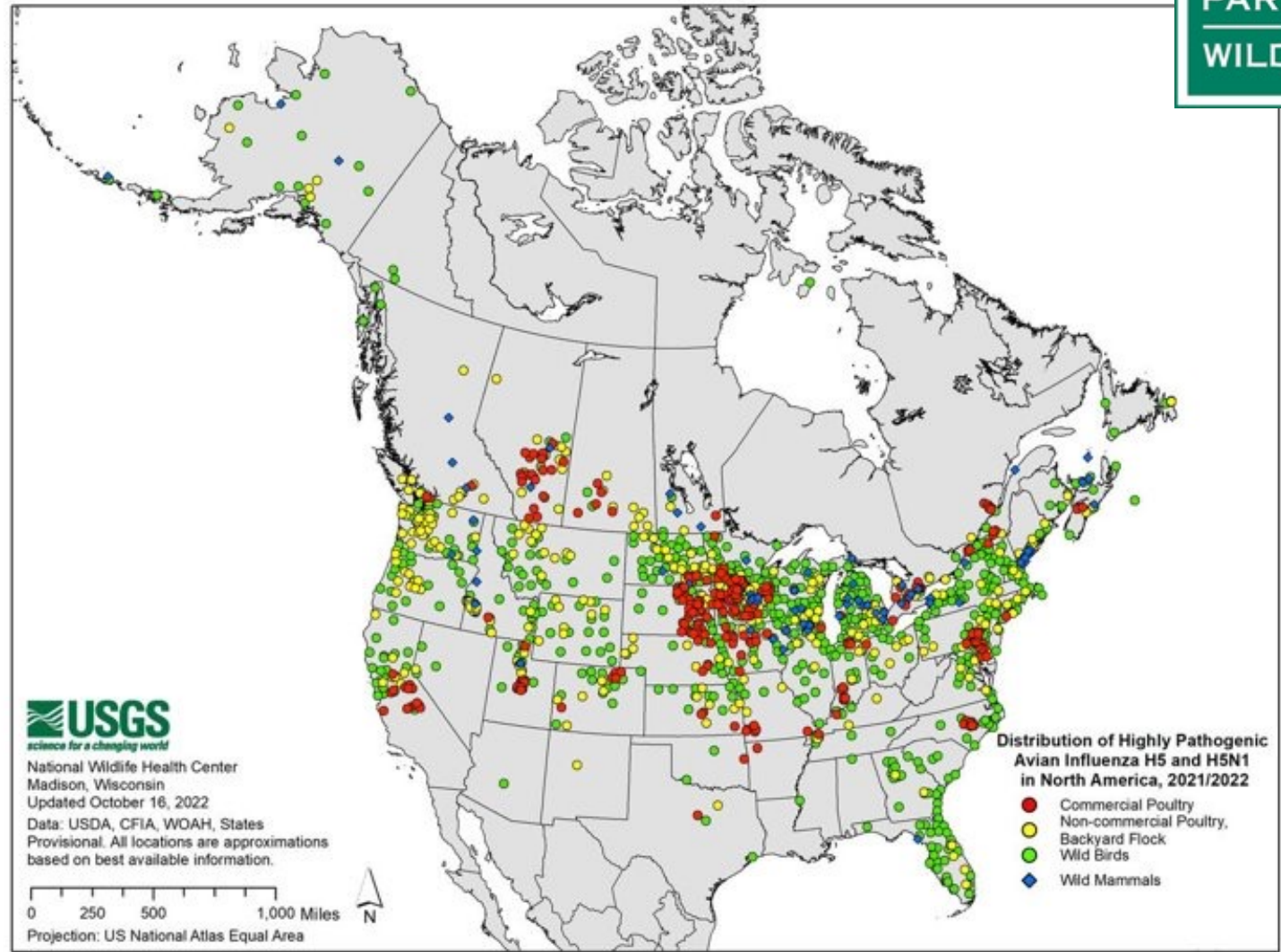
- Midwest
- Minimal wildlife mortalities
- No mammals affected
- Spread attributed to poor biosecurity practices

## Current outbreak

- Large wildlife mortality events globally
- Raptors
  - Bald eagles
  - Black vulture
- Mammals
- Low risk of transmission to human

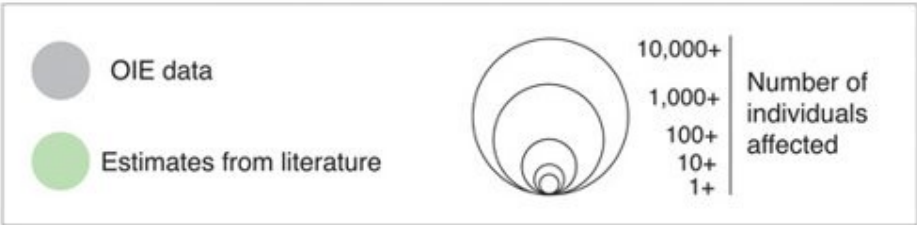
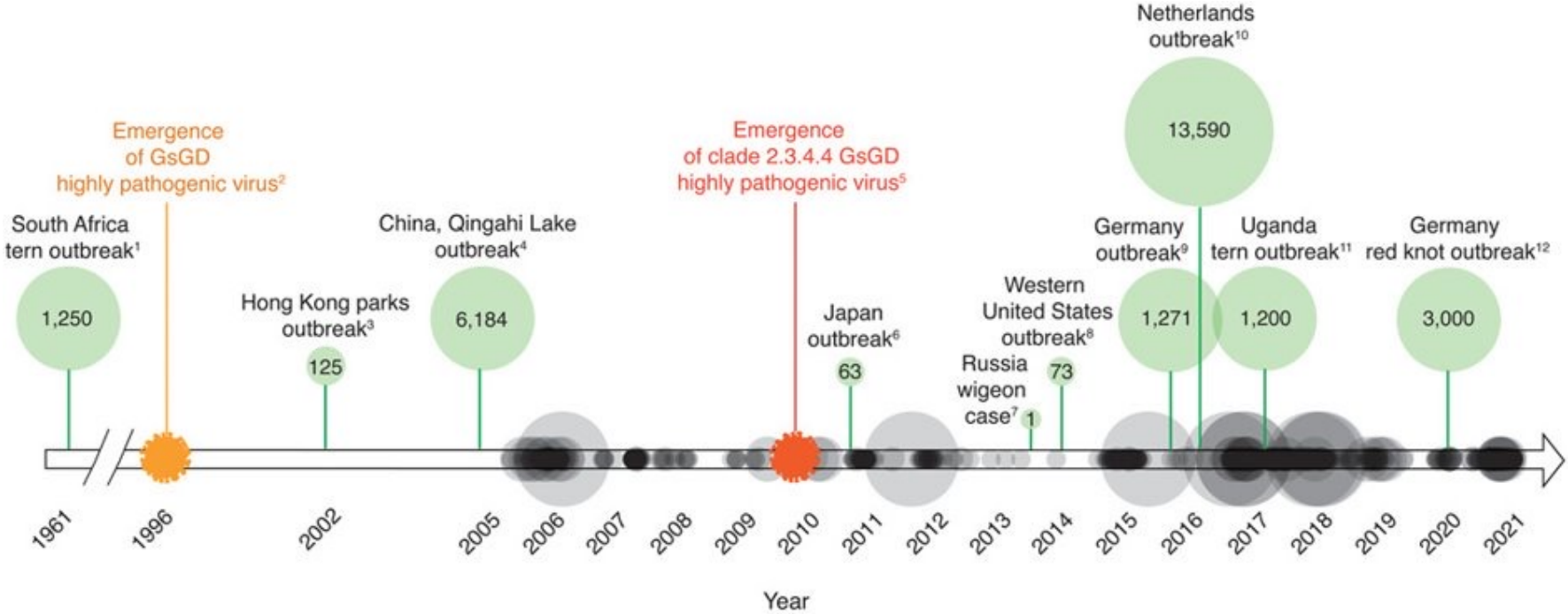


# Timeline of current outbreak (National and Tx)





# Current outbreak vs previous ones



# Management and Mitigation- BIOSECURITY



United States Department of Agriculture

## ✓ Checklist: Tips To Help Keep Your Flocks Healthy

This checklist is a general guide to practicing good biosecurity, but if you have a site-specific biosecurity plan, please follow it. Commercial growers should be sure their site-specific plans follow the National Poultry Improvement Plan biosecurity principles.

- Wear personal protective equipment** or clothing and shoes that you only use when caring for your poultry. This includes boot covers or boots that can be disinfected. Change into fresh protective gear between poultry houses or coops.
- Enclosures must be empty for a thorough cleaning.** If you have a poultry house, wait until the house is empty to start the cleaning process. If you have a coop or other type of enclosure, move the birds to a separate area before cleaning.
- Remove all litter, manure, and other debris.**
- "Dry" clean all areas**—brush, scrape, and shovel off manure, feathers, and other materials. Disinfectant will not penetrate organic matter or caked-on dirt.
- "Wet" clean all surfaces**—scrub with water and detergent. Work from top to bottom and back to front.
- Rinse all surfaces carefully with water.**
- Apply disinfectant** according to the directions on the label. Be sure to use a disinfectant that is registered by the U.S. Environmental Protection Agency (EPA) and indicates that it is effective against avian influenza and other poultry diseases.
- Leave the enclosure empty** until it is completely dry. Use fans and/or open doors and windows to help speed the drying process. Wet surfaces can be harmful to poultry.
- When you're done, remove and discard** your protective gear. If using dedicated clothing and boots, change clothing and clean and disinfect your boots.
- Wash your hands thoroughly** with soap and water. Wash and dry your dedicated clothing.

# Biosecurity- PPE

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- Dedicated footwear or shoe covers
- Change of clothes or Tyvek suits
- Disposable gloves
- Safety glasses/goggles
- Mask



# Biosecurity-Triage

- Consider triaging outside
- Consider species
- Consider clinical presentation
- Is this a high risk neurological animal?
- Is this a known silent carrier?
- Can I explain these clinical signs?



# Biosecurity- Quarantine

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- Minimum two weeks for incoming patients
- Watch for suddenly debilitating patients
- Death usually occurs 3-5 days after exposure to virus
- Suspect cases can be submitted to TVMDL
- Whole carcass or choanal/cloacal swabs



# Biosecurity- Quarantine Protocols

- Designated staff for this area OR do last
- Separate supplies, clothing or Tyvek suits, equipment
- Shoe covers over footbaths
- Consider moving education/ambassador animals off the property





# Biosecurity- Facility wide

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- Deter wildlife and outside rehab animals interacting
- Cover up food supplies, garbage etc
- Manage run off
- Sanitize equipment that travels between facility



## Checklist: Tips To Help Keep Your Flocks Healthy

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- Clean equipment and vehicles** with soap and water before and after they come in contact with your flock. Be sure to spray the tires and undercarriage of vehicles, where contact with infectious agents is most likely. Germs can survive months—or even years—in small spaces that are hard to clean.
- Do not share tools, poultry supplies, or lawn and garden equipment** with other flock owners or neighbors. If you must, be sure to clean and disinfect the items before they reach your property and before returning them.
- Establish procedures for cleaning and disinfecting equipment and vehicles.** Don't be afraid to change these procedures if you see a problem or if something's just not effective or practical. There's always room for improvement.
- Give clear and consistent instructions** to everyone who handles your equipment or vehicles.
- Define paths where trucks, vehicles, and other equipment** can travel to access your poultry area. This will help limit the spread of germs and disease.
- Know the warning signs of poultry disease,** like changes in how much your birds eat or drink, increased deaths in your flock, or general malaise.

# Biosecurity- Disinfection

- Quaternary ammonium compound
- Clorox Regular bleach
  - Diluted
- Clorox disinfecting wipes
- Oxivir TB
- Lysol Brand All Purpose Cleaner



# What do I do if I suspect HPAI?

Euthanize animal



Double bag

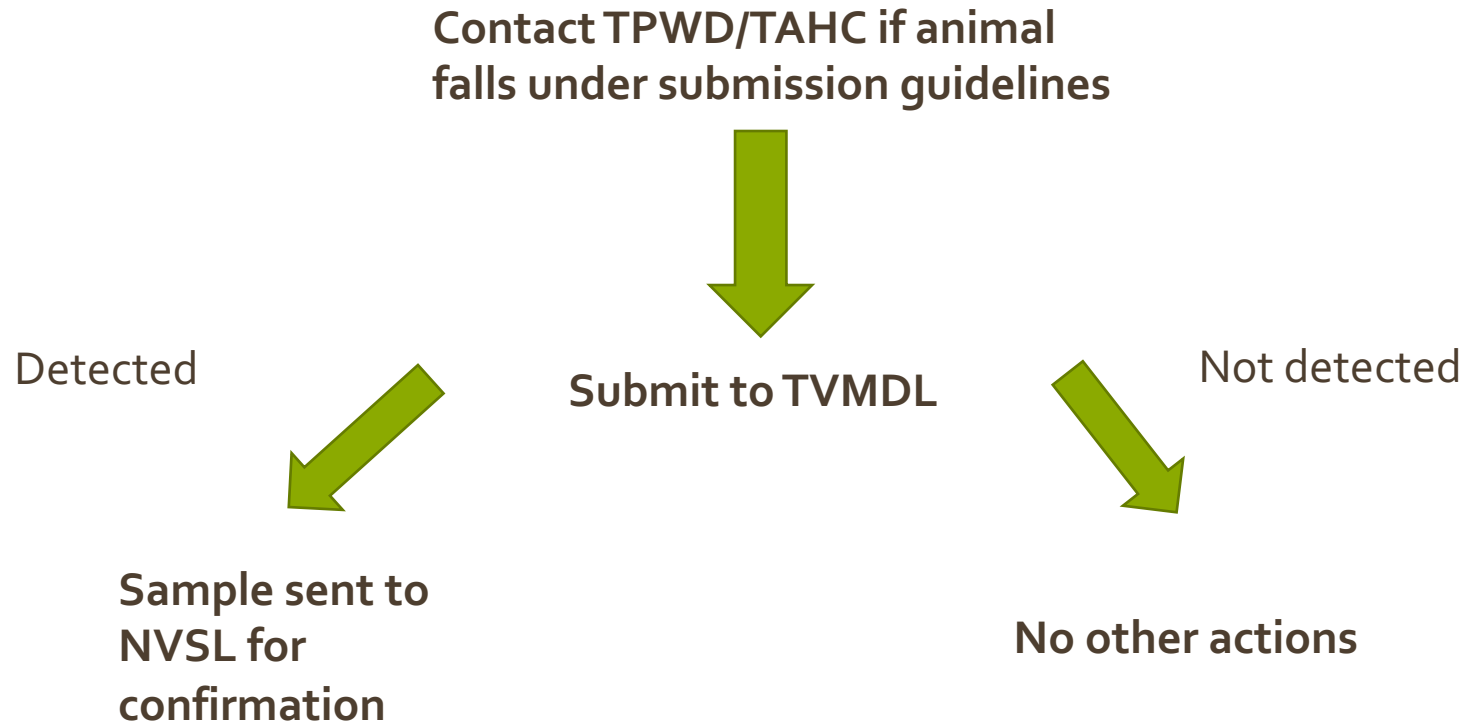


Disinfect outer bag

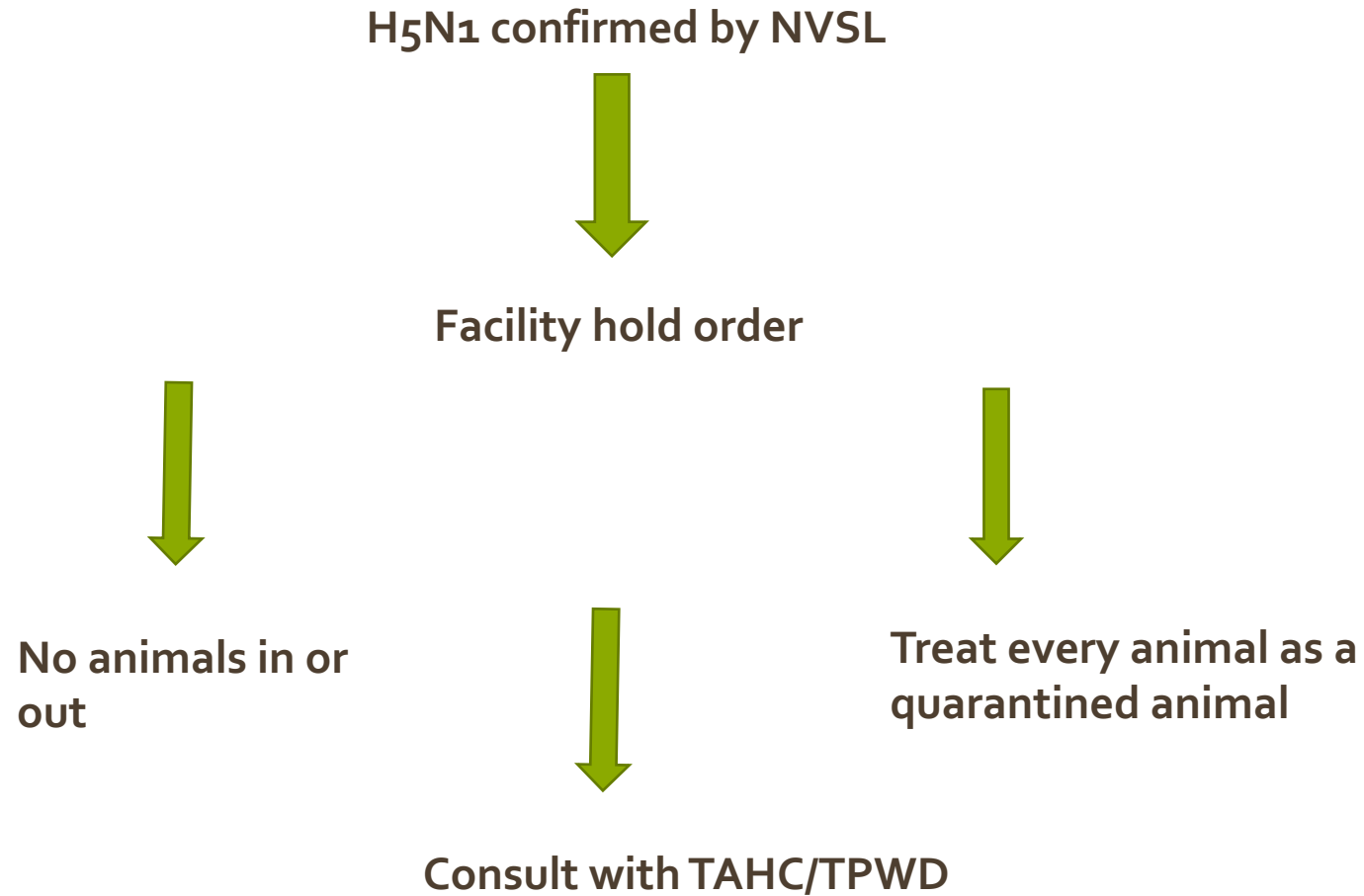


Place in freezer

# What do I do if I suspect HPAI?



# What do I do if I suspect HPAI?





Questions