Wildlife Management and Vector Control

During Livestock or Poultry Disease Outbreaks

Example FADs

Arthropod Vectors

Wildlife
- Free-ranging
- Native or feral
- Wildlife can
  - Be infected
  - Serve as a reservoir
  - Further spread pathogen
- Indicator of disease

Arthropod Vectors
- Living organism that carries disease agent between animals
  - Arthropods
    - Mosquitoes
    - Ticks
    - Biting midges
    - Flies
  - Bite or body part

Agencies Involved
- Wildlife
  - State and local wildlife management agencies
  - USDA APHIS Wildlife Services
    - National Wildlife Disease Program
- Arthropod vectors
  - Public health if human impact

Assessment
- Determine if wildlife or arthropod vectors involved
  - Species present
  - Infected or carrier
  - Potential spread of disease agent
  - Level of interaction
- Determine risk to livestock or poultry

Disease | Relevant Wildlife | Domestic Livestock | Transmission Route | Zoonotic
--------|------------------|--------------------|-------------------|---------
African swine fever | Yes | Yes | Yes | Yes
Avian influenza | Yes | Yes | Yes | Yes
Classical swine fever | No | No | No | No
Foot-and-mouth disease | No | No | No | No
Rift Valley fever | No | No | No | No
Swine vesicular disease | Yes | Yes | Yes | Yes
Vesicular stomatitis | Yes | Yes | Yes | Yes
Disease Surveillance
- Determine absence, presence and potential spread
- Diagnostic sampling
  - Live capture
  - Observation
  - Carcass collection
- Animal movement into and out of Control Area can pose challenges

Wildlife Management
- Measures to minimize spread to domestic livestock
- Species present or involved
- Population density and distribution
- Habitat
- Social organization

Wildlife Management
- Removal and relocation
- Dispersal
- Habitat alteration
- Natural or artificial barriers
- Wildlife able to evade and disperse

Short-term and Long-term Goals
- Short term
  - Contain, control outbreak in livestock
- Long term
  - Control or eliminate disease from wildlife species
  - May require extended management
- Consider consequences
  - Ecosystem and environment
  - Trade implications

Vector Control
- Understand life cycle
  - Life stages vary in habitat and ability to transmit disease
- Minimize contact with vector
  - Keep animals away from vector habitat
  - Shelter during peak vector times

Vector Control
- Source reduction
  - Habitat reduction/elimination
  - Parasitic or predatory insects
- Control adults
  - Chemical control
    - Fogging, knockdown
    - Baits, fly traps
    - Supplemental measure

Controlling the egg and larval stages is usually more efficient than controlling adults
Other Response Activities

- Many disease control activities implemented during response
  - Quarantine and Movement Control
  - Cleaning and Disinfection
  - Personal Protective Equipment
- Other JIT presentations available

Safety

- Safety is a priority
- Handling and restraint of wildlife
  - Trained, experienced personnel
- Vector control chemicals
- Zoonotic disease

Additional Resource

- FAD PReP/NAHEMS Guidelines: Wildlife Management and Vector Control for an FAD Response in Domestic Livestock

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