

# FAD PReP/NAHEMS Tactical Topics:

## Biosecurity

Information is based on the **Foreign Animal Disease Preparedness and Response Plan (FAD PReP)/National Animal Health Emergency Management System (NAHEMS) Guidelines: Biosecurity (2016)** to be used in training or during an animal health emergency. References to the Guidelines sections are provided in parenthesis for more detail.

**Introduction/Overview:** Biosecurity is critical to containing and eradicating disease, as well as protecting non-infected animals from exposure to disease pathogens. Establish and then strictly adhere to biosecurity protocols to prevent the introduction and spread of pathogenic agents onto or off of animal production or housing premises.

**FOR QUESTIONS REGARDING BIOSECURITY PROCEDURES: Contact your immediate supervisor. Follow chain of command.**

### Responsibilities within the ICS – Animal Biosecurity and Disease Prevention Group (Biosecurity Group) (3)

- Incident Commander: Holds ultimate responsibility for biosecurity practices.
- Biosecurity Group Supervisor: Leads the Biosecurity Group which is part of the Operations Section. Oversees the site assessment and development of the site-specific biosecurity plan, determines resource needs, institutes training requirements, and coordinates biosecurity activities with other work groups.
- Biosecurity Team: Implements and ensures compliance with biosecurity measures. Biosecurity Manager (or other title) provides on-site management to report needs, problems, challenges, and biosecurity violations, and has the authority to halt operations to avoid a biosecurity breach.

### General Biosecurity Concepts (2)

#### Understand Routes of Exposure to Disease (2.1)

- Prevent the spread of disease agents through direct contact, aerosol, oral, fomites, and vectors.
- Take special precautions to avoid exposure to zoonotic diseases.

#### Develop a Site-Specific Biosecurity Plan (2.2)

- Follow a three step process: 1) identify and prioritize diseases, 2) assess the facility, and 3) implement processes and procedures to prevent the movement or transfer of the pathogen.

#### Identify Levels of Biosecurity to Prevent Exposure to Disease (2.3)

- Conceptual biosecurity: Consider location, geospatial siting, and orientation of the facility to reduce exposure.
- Structural biosecurity: Understand the capital investment that enhances the ability to prevent disease.
- Operational biosecurity: Implement processes, protocols, management practices, or standard operating procedures to exclude or contain disease.

### Premises Operational Biosecurity (3)

- Biosecurity Officer/Biosecurity Manager (3.1)
  - Develop a written, site-specific biosecurity plan based on a risk assessment.
  - Implement the plan, train personnel, monitor procedures, take corrective actions, and stop violations.
  - Enforce all protocols in the biosecurity plan to be completed correctly and consistently by everyone.
- Line of Separation (LOS) (3.3)
  - Establish a line or barrier (LOS) separating clean from dirty. Access point(s) where movements cross the line are critical control points where biosecurity measures prevent the transfer of disease.
- Perimeter Buffer Area (PBA) (3.4)
  - If possible, clearly delineate a buffer area (PBA) around the perimeter of the animal buildings for additional separation between contaminated and non-contaminated. Biosecurity measures reduce pathogen load in the PBA. Enter and exit the PBA and cross the LOS only through controlled access points.
- Personnel (3.5)
  - Minimize the transfer of disease agents through the use of biosecurity attire/personal protective equipment (PPE), cleaning and disinfection (C&D), restricted access, and employment protocols.

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- Vectors (3.6)
  - Exclude or eliminate wildlife, feral animals, insects, and pets from clean areas. Avoid environmental contamination. Mitigate situations and habitats that attract vectors.
- Equipment (3.7)
  - Clean and sanitize all equipment at the critical control point before crossing the LOS.
  - Avoid sharing of equipment. Have, provide, and use sufficient, dedicated, site-specific equipment.
- Vehicles (3.8)
  - Exclude vehicles from crossing the LOS, if possible. Use an internal shuttle for necessary movements.
  - C&D vehicles before crossing the LOS, particularly wheels, wheel wells, and undercarriage.
- Carcass Disposal and Manure/Litter Management (3.9 and 3.10)
  - Protect susceptible animals from cross contamination with carcasses, manure/used litter, scavengers, or work pathways. Choose disposal methods and sites to avoid attracting wild animals.
- Replacement Animals (3.11)
  - Replace from within the herd, if possible. Manage animal groups as all-in/all-out.
  - Add from infection-free herds, transported in C&D'd vehicles, and quarantined prior to co-mingling.
  - Prohibit movement off quarantined premises, without specific permission from authorities.
- Feed, Replacement Bedding/Litter, and Water Supply (3.12)
  - Store and handle feed and fresh bedding/litter to avoid contamination by the disease agent.
  - Use water from deep wells or from treated sources.

### Biosecurity Components - C&D and Biosecurity Attire/PPE (4)

#### Cleaning and Disinfection (C&D) (4.1)

- Decontaminate items that cross the LOS at critical control points when moving from dirty to clean area.
- Use effective C&D processes to reduce, remove, inactivate, eliminate, or destroy disease agents.

#### Biosecurity Attire/Personal Protective Equipment (PPE) (4.2)

- Correctly don and doff biosecurity attire/PPE dedicated to the specific site.
- Handle and discard disposable PPE in a biosecure manner to avoid disease spread.
- Take precautions to prevent slips, falls, and any physical stress based on limited duration of safe use of PPE.

### Biosecurity in an FAD Response (5)

#### Biocontainment – Preventing disease spread (5.3)

- Quarantine and restrict movement.
- Perform risk assessment and develop a site-specific biosecurity plan with clear procedures and protocols.
- Set up Work Zones (Hot, Warm, Cold) and Decontamination (Decon) Corridor (see figure at right).
- Designate the Decon Corridor as the only point of access (critical control point) across the LOS, dividing clean/dirty.
- Restrict entry to the contaminated premises to necessary movements only. Leave vehicles in the Cold Zone.
- Correctly employ PPE. Prepare for C&D and a biosecure exit. Implement proper disposal of contaminated items.
- Exit through the Decontamination Corridor following the C&D and all biosecurity procedures in the plan.
- Wash hands and spray vehicle tires and wheel wells with disinfectant prior to driving away.
- Avoid contact with other susceptible animals as directed by Incident Command.

#### Bioexclusion – Preventing disease introduction (5.4)

- Carefully follow the biosecurity plan that exists for the premises, at a minimum.
- Defend the LOS. Use biosecurity components and protocols to prevent the transfer of disease across the LOS.
- Clean the response vehicle between visits to animal production facilities.

Work Zones of an Infected Premises

