




## Biosecurity

### Overview



## Biosecurity

- Series of management practices
- Bioexclusion
  - Preventing the introduction onto non-infected premises
- Biocontainment
  - Preventing the spread from an infected premises
    - By animals, personnel, equipment



## ICS: Biosecurity Group


- Biosecurity Officer
  - Experienced veterinarian
  - Develops site-specific biosecurity plan
  - Train personnel on protocols
  - Ensure biosecurity implemented
- Biosecurity Team Members
  - Front line assistance
  - Biosecurity tasks to contain and control disease outbreak

## Basic Biosecurity Elements

- Start biosecurity procedures quickly
- Awareness of biosecurity measures
- Understand disease transmission
- Biosecurity measures aimed at preventing disease spread by
  - Movement of animals
  - Movement of personnel
  - Movement of equipment

## Disease Transmission

- Direct
  - Contact
  - Ingestion
  - Inhalation (aerosol)
- Indirect
  - Fomites
    - Inanimate objects
  - Vectors
    - Living organism (e.g., insects, rodents)



## BIOSECURITY MEASURES

- Movement control and restriction
- Personal protective equipment
- Cleaning and disinfection
- Isolation
- Vector control


### Movement Control: Animals

- Stop movements
- Movement restrictions
- Animals should not be moved if
  - Came from a confirmed or suspected premises
  - Had contact with infected or suspect animal
  - Are susceptible animal near infected or suspected premises
  - Found on transport vehicles that do not meet biosecurity standards

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### Movement Control: Personnel

- Restrict access
- Control movement on and off premises
- Post highly visible signage
  - Describing biosecurity protocols
  - Designating PBA and LOS work zones
- Log book for those allowed to access
- Post signs at premises boundary



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### Movement Control: Vehicles


- Potential fomite transfer
- Park in designated areas away from animal locations
- Clean and disinfect before entering and exiting premises




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### Personal Protective Equipment

- Two functions
  - Prevent further spread
  - Protect responders
- Don PPE prior to entry into area
  - Disposable Outerwear
    - Tyvek® coveralls, gloves, boot covers, masks
  - Reusable Outerwear
    - Cloth coveralls, rubber boots, goggles
- Wear clean and disinfected footwear and outerwear



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### Personnel Biosecurity

- Once on infected premises, do not exit until
  - PPE cleaned, disinfected
  - Disposable items left on premises or placed in designated area
  - Clean/disinfect reusable items on site
- WASH HANDS!

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### Cleaning and Disinfection Procedure


- Cleaning
  - Remove all organic matter
  - Wash and rinse
- Disinfection
  - Use proper concentration
  - Allow proper contact time
  - Read safety precautions
  - Wear appropriate PPE
- All equipment or vehicles must be cleaned and disinfected



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### Isolation

- Infected or exposed animals should be housed in separate areas
- Proper carcass disposal of euthanized or dead animals



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### Wildlife Control

- Wildlife can carry diseases on and off the property
- Keep animals isolated from wildlife contact
- Ensure boundary measures are checked regularly and maintained
- Store food in a way that does not attract wildlife

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### Vector Control

- Source reduction
  - Prevent egg laying
  - Minimizing long vegetation (e.g., mowing)
- Control adults
  - Insecticides
  - Spraying, fogging, baiting
- Minimize animal interaction
  - Screens on buildings
  - Animal treatment



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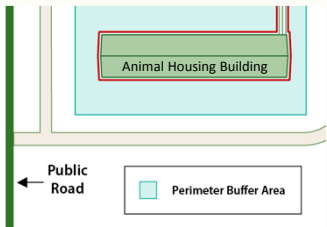
## BIOSECURITY LINES AND WORK ZONES

- Perimeter Buffer Area (PBA)
- Line of Separation (LOS)
- Biosecurity Work Zones

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### Biosecurity Lines

- Perimeter Buffer Area (PBA)
- Line of Separation (LOS)



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### Perimeter Buffer Area (PBA)

- First Line of Defense
- Outer control boundary
  - Around premises or building perimeter
  - Designate PBA
    - Fencing, flags, ropes
  - Non-essential vehicles should not enter
  - Vehicles and equipment that are not cleaned and disinfected should not enter
  - Personnel training

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### Line of Separation (LOS)

- Building walls separating animals from outside, AND
- Clearly marked line at entry site of building
- Cleaning and disinfection protocols must be completed prior to movement across the LOS (entry and exit)

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### Biosecurity Work Zones

The diagram illustrates a building with a yellow 'Hot Zone - Exclusion Zone (EZ)' at the entrance, a green 'Warm Zone - Contamination Reduction Zone (CRZ)' in the middle, and a grey 'Cold Zone - Support Zone (SZ)' at the back. A 'Decontamination Corridor' is shown leading from the hot zone. 'Control Access Points' are marked at the transitions between zones.

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### Resources

- USDA Foreign Animal Disease Preparedness (FAD PReP) Guidelines: Biosecurity  
– [http://www.aphis.usda.gov/animal\\_health/emrs/naheems.shtml](http://www.aphis.usda.gov/animal_health/emrs/naheems.shtml)
- Poultry Biosecurity Officer Information Manual  
– <http://www.poultrybiosecurity.org/>
- Additional Just-In-Time Training  
– <http://www.cfsph.iastate.edu/Emergency-Response/just-in-time-training.php>

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### Acknowledgments

Development of this presentation was by the Center for Food Security and Public Health at Iowa State University through funding from the Multi-State Partnership for Security in Agriculture

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