Importance of the response plan in outbreak events

Use of transmission models to simulate the spread of livestock diseases

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Acknowledgement/Funding

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   - Vehicles, tools, equipment, pigs, food, and feed from the ASF risk areas.

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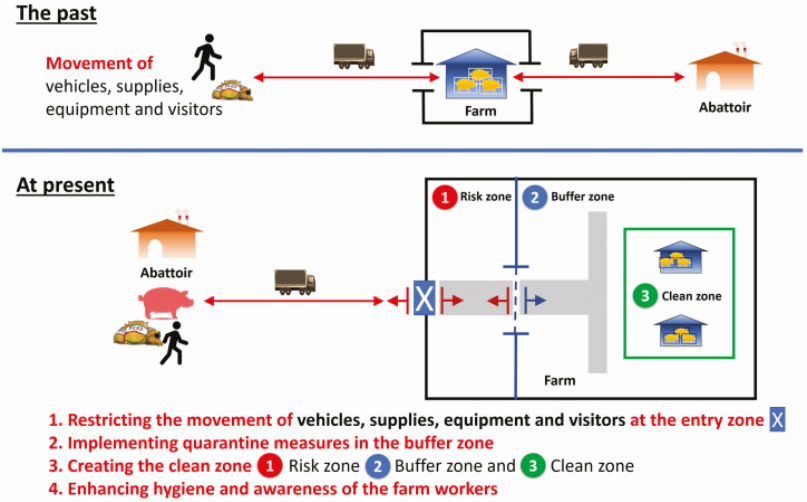

[4]

Why to prepare against FADs?

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- Achieving these three goals will allow individual livestock facilities, regions, and industries to resume normal production as rapidly as possible.

The objective is to allow the country to regain disease-free status without the response effort *causing more disruption and damage than the disease outbreak itself.*

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4. Pre-defined the best countermeasures.

Examples of FAD preparation

Secure Food Supply Plans are all about Continuity of Business.

1. Secure Poultry.
2. Secure Pork.
3. Secure Sheep and Wool.
4. Secure Milk Supply.
5. Secure Beef Supply.

What makes an SPS plan?

A completed Secure Pork Supply plan for a single site will display all 169 biosecurity features + map.

Written plan

Pirate Pork Farm Enhanced Biosecurity Plan for FAD Prevention in North Carolina

Date Created: 3/5/2021

This Biosecurity Plan is based off of the Secure Pork Supply (SPS) Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors, [August 2017] and was developed using guidance from the SPS Information Manual for Enhanced Biosecurity: Animals Raised Indoors. All documents are available at www.securepork.org. In the Plan below, all items have been implemented except those indicated which will be implemented prior to requesting an animal movement permit.

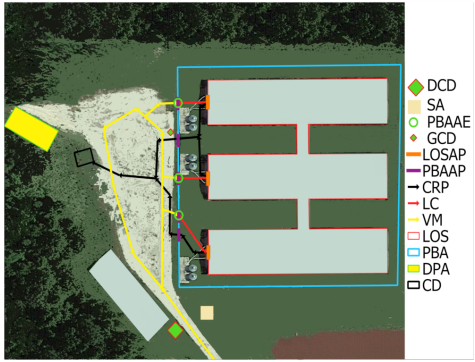
Scope of Biosecurity Plan

- National Premises Identification Number (PIN): 00XYZ12 Nursery
- Premises Address: 2468 Go Bulls Rd Durham, NC 28341
- Premises GPS Coordinates: 32.127481, -64.931797
- Animals* on primary premises: Swine and 2800
- Other business operations on premises? Yes
- If yes, what? Hay
- Secondary premises** locations:
  - Will be provided to Responsible Regulatory Officials if this premises is located in an FAD Control Area
  - *Work with your State Animal Health Official to determine if separate PINs are needed for all of your associated premises.

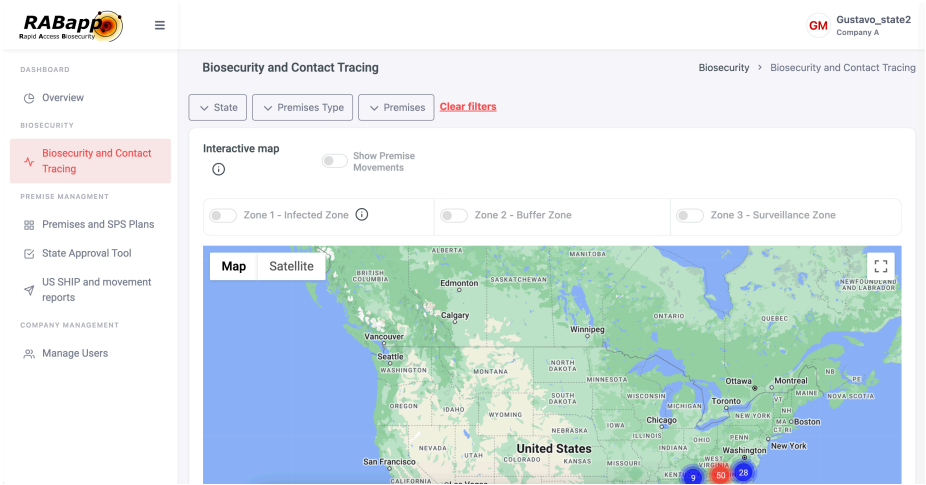
*Animals that are susceptible to FMD include cattle, pigs, sheep, goats, and elk. For biosecurity guidance for dairy cattle and beef cattle, see www.securemilksupply.org and www.securebeef.org.
**Work with your State Animal Health Official to determine if separate PINs are needed for all of your associated premises. When a premises becomes infected, all premises with the same PIN number will be considered to be infected.

+

Map view of the site



Standardized map view


RABapp
Rapid Access Biosecurity
GM
Gustavo_state2
Company A
DASHBOARD
Overview
BIOSECURITY
Biosecurity and Contact Tracing
PREMISE MANAGMENT
Premises and SPS Plans
State Approval Tool
US SHIP and movement reports
COMPANY MANAGEMENT
Manage Users
Biosecurity and Contact Tracing
Biosecurity › Biosecurity and Contact Tracing
State
Premises Type
Premises
Clear filters
Interactive map
Show Premise Movements
Zone 1 - Infected Zone
Zone 2 - Buffer Zone
Zone 3 - Surveillance Zone
Map
Satellite
Edmonton
Calgary
Vancouver
Seattle
Winnipeg
Ottawa
Montreal
Toronto
Chicago
Boston
New York
Washington
San Francisco
United States
9
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Disease transmission models as FAD preparation tool.

Movement controls

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4. **One solution is to develop transmission model to simulate epidemics and the best control plan.**
5. Do you know any other solutions?

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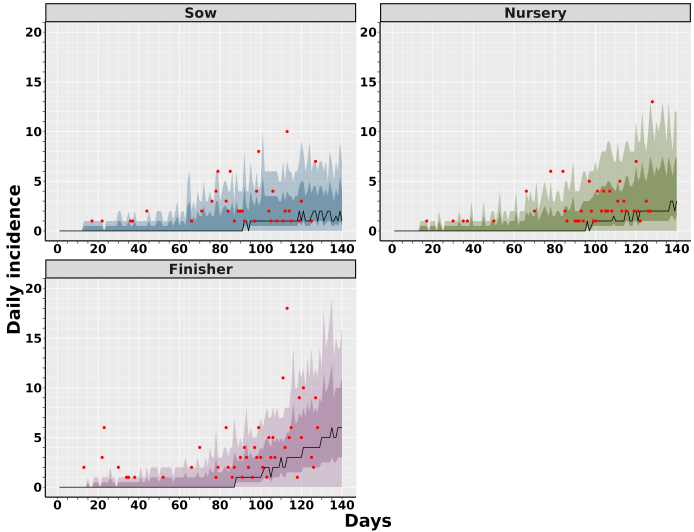
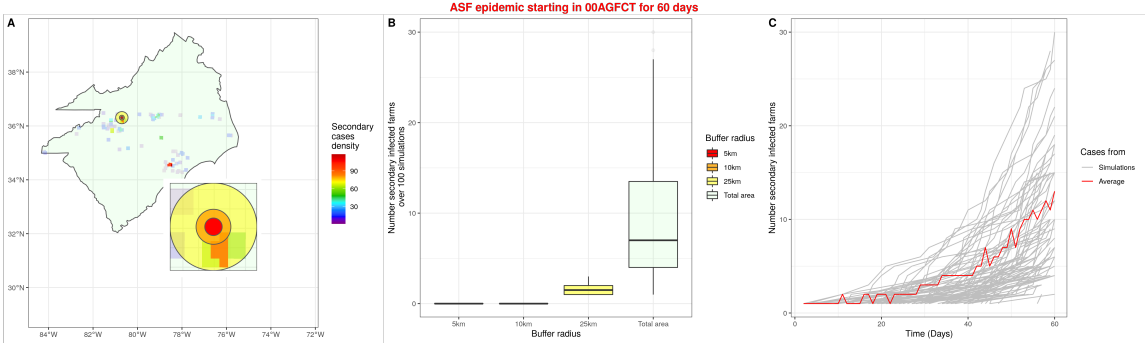
Calibration models when we have past/current epidemic data



Simulation models, when we do not have any real data



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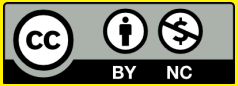
3. No published FMD transmission models for Latin America (MHASpread).

Transmission and simulation in decision making

- Many countries rely heavily on mathematical simulation to make and update their policies. [2, 3]
  - New Zealand (InterSpread Plus).
  - U.S (InterSpread Plus and NAADSM).
  - U.K. (Exodis).
  - The Netherlands (The Netherlands model).
  - Denmark (DTU-DADS).
  - Australia (AADIS).
  - **Brazil (MHASpread).**
- Most of the cited models either are missing relevant data and realism (e.g. closed populations, single species, homogeneous mixing) or compromising complexity for speed (e.g time step in a week).

Thanks for listening

Questions?



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