Secure Food Supply Plans During an FAD Outbreak

• Overall goals include:
  – Detect, control, and contain FAD as quickly as possible;
  – Avoid interruptions in animal/animal product movement to commercial processing from farms with no evidence of infection during a foreign animal disease outbreak;
  – Provide a continuous supply of safe and wholesome food to consumers; and
  – **Maintain business continuity** for producers, transporters, and food processors through response planning.

Secure Food Supply Plans
Movement from Premises with No Evidence of Infection

HPAI
• Secure Egg Supply
• Secure Turkey Supply
• Secure Broiler Supply

FMD
• Secure Milk Supply
• Secure Beef Supply

FMD, CSF & ASF
• Secure Pork Supply
USDA-APHIS FAD PReP Movement Guidelines

• Establish Control Area
  – Infected and Buffer Zone
  – Federal quarantine
  – Movement by permit, risk assessment only
  – Movement controls in place until FAD eradicated
Control Area Established Around Each Infected Premises

Secure Food Supply Plans work toward enabling movement of animals or products from flocks/herds with no evidence of infection in a Control Area.
Plan Development

• Industry-State-Federal-Academia Partnership
• Academic partners draft documents
  – Iowa State University
  – University of Minnesota
  – Kansas State University
  – University of California at Davis
• Circulate to WG members
  – Review, suggest improvements
• Revise, pilot test, lessons learned
Common Components of Secure Food Supply Plans

• Voluntary pre-outbreak preparedness
• Biosecurity
• Surveillance
• Epidemiology questionnaires
• Movement permit guidance
• Risk assessments
  – Completed and in process
• Pre and Post-outbreak training
Reduced Confidence in Biosecurity

• Recent experience with Swine Enteric Corona Virus Disease (SECVD) and Seneca Valley Virus in the swine industry

• Experience with HPAI in commercial egg layers and turkeys

• Very difficult to have effective biosecurity to prevent FMD infection in animals not totally confined indoors (beef and dairy)

• New approach to biosecurity is needed
Porcine Epidemic Diarrhea Virus (PEDV)
Positive Biological Accessions

First case April, 2013
4,458 Positive Biological Accessions by March 12, 2014

Source: AASV website  www.aasv.org
Where have we seen SVA at the ISU VDL?

Information provided by Dr. Chris Rademacher
Highly Pathogenic H5N2 Avian Influenza in Iowa

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Poultry</td>
<td>31,502,052</td>
</tr>
<tr>
<td>Affected (6/8/2015)</td>
<td>31,502,052</td>
</tr>
<tr>
<td>Layers</td>
<td>24,725,086</td>
</tr>
<tr>
<td>Pullets</td>
<td>5,624,336</td>
</tr>
<tr>
<td>Turkeys</td>
<td>1,128,729</td>
</tr>
<tr>
<td>Hatchery</td>
<td>18,791</td>
</tr>
<tr>
<td>Backyard Flocks</td>
<td>5,110</td>
</tr>
</tbody>
</table>

April 13 to June 16, 2015

77 infected sites
- 6 “Backyard” sites
- 71 Commercial sites

[http://www.iowaagriculture.gov/AvianInfluenza.asp](http://www.iowaagriculture.gov/AvianInfluenza.asp)
Biosecurity to Control Introduction of Novel Diseases

**Biosecurity is expensive and inconvenient**

- Livestock and poultry producers implement level of biosecurity needed to protect from endemic diseases
  - There is herd or flock immunity to most endemic diseases
  - Low levels of pathogen shedding and high levels of resistance

- Routine level of biosecurity is not sufficient to protect from a newly introduced highly contagious disease (e.g., SECVD, HPAI, FMD, CSF, ASF)
  - No herd or flock immunity
  - High levels of pathogen shedding and low levels of resistance
Consequence of Delayed Stamping Out

• Delayed stamping out of HPAI infected flocks allowed amount of virus in environment to become very high
  – Challenged biosecurity and made it less effective

• USDA, State and Industry agree that stamping out HPAI should be accomplished within 24 hours of diagnosis to prevent high virus loads

• In a large FMD outbreak, stamping out in 24 to 48 hours will become impossible
  – Herds will be allowed to recover
  – Virus loads will be very high
Biosecurity Lessons Learned

• Original SES Plan had a prescriptive, detailed, universal biosecurity checklist which was based on current industry best practices
  – Did not account for the increased biosecurity needed for a new highly contagious disease
  – Did not account for premises specific variables
  – Did not sufficiently emphasize the need for continuous on-site monitoring of compliance with the biosecurity practices
Importance of Being Earnest with Biosecurity

Biosecurity only works if everyone on the production site understands the importance of biosecurity and follows the biosecurity protocols all of the time.
New biosecurity recommendations emphasize three concepts that may be new to existing biosecurity plans and should be strongly considered for implementation in all commercial operations:

1. Biosecurity Officer
2. Line of Separation for each building
3. Perimeter Buffer Area
Principles of Biosecurity for Secure Food Supply Plans

• It is the producer’s responsibility to keep their animals from becoming infected (this has always been true)

• A site specific biosecurity plan is needed and must be adhered to by everyone all of the time

• A biosecurity officer with expertise in infectious diseases and production animal agriculture and familiar with the facility, should develop the plan and monitor to ensure that it is continuously followed
Principles of Biosecurity for Secure Food Supply Plans

• Animals housed indoors, walls of the building should be the **Line of Separation (LOS)**, separating animals from all possible sources of infection.

• Animals housed indoors, area around the building(s) is the **Perimeter Buffer Area (PBA)** where human and vehicle traffic have taken steps to mitigate the potential for contamination.

• Animals with access to outdoors are more difficult to protect from infection, but the LOS concept can help:
  – LOS around area of premises where animals are located
  – Nothing should cross the LOS that can introduce infection.
Perimeter Buffer Area (PBA) concept is aimed at reducing virus entering and contaminating production site. Complete exclusion is not possible but reducing virus load in the outside environment will reduce risk.
Line of Separation (LOS) 
Perimeter Buffer Area (PBA)
Personnel Must use a Biosecure Entry Procedure to Cross the LOS

All equipment and supplies that cross the LOS must be cleaned and disinfected or be from a known clean source

“Danish entry system”
Create a Site-Specific Biosecurity Plan
Enhanced Biosecurity for Poultry Producers

USDA Enhanced Biosecurity for Poultry Producers

Highly pathogenic avian influenza (HPAI) affected over 200 poultry premises in the upper Midwest in spring 2015. The scope of the detections demonstrated that the biosecurity of poultry facilities needs to be strengthened to reduce the risk of future infections as much as possible.

To assist poultry producers in implementing effective biosecurity plans, the Animal and Plant Health Inspection Service (APHIS) worked with State, academic, and industry experts to develop this biosecurity checklist.

Checklist for Self-Assessment of Enhanced Biosecurity

Educational Materials
- HPAI Biosecurity Officer Information and Training Materials
- HPAI Biosecurity Officer Information and Training Materials (Spanish)
- USPOULTRY Biosecurity Page

Source http://www.uspoultry.org/animal_husbandry/intro.cfm
Biosecurity Self-Assessment Checklist

- Biosecurity Officer
- Training of Employees and Other Personnel
- Line of Separation
- Perimeter Buffer Area
- Personnel
- Wild Birds, Rodents and Insects
- Equipment
- Dead Bird Disposal
- Manure and Litter Management
- Replacement Poultry
- Water Supplies
- Feed and Replacement Litter

In place □  In progress □  Not In place □
Poultry Biosecurity Training Materials

This site offers educational materials (in English and Spanish) for the poultry industry to support implementation of biosecurity recommendations identified in the Checklist for Self-Assessment of Enhanced Poultry Biosecurity. The materials are arranged by checklist item. The materials can be downloaded, printed and used as is. However, poultry Biosecurity Officers are encouraged to modify the resources to best meet the situation at their operations. Note, if the text appears shadowed / hard to read when previewing the file, download the file and open it locally. That should resolve the issue.

These HPAI Biosecurity Training Materials were produced by the Center for Food Security and Public Health, Iowa State University, College of Veterinary Medicine. The USDA, APHIS, Veterinary Services, Surveillance, Preparedness and Response Services, National Preparedness and Incident Coordination provided funding through a cooperative agreement to the Center for Food Security and Public Health to develop these materials.

We welcome your suggestions for improvement.

Biosecurity Officer

The first checklist recommendation is that “each production site (or integrated system) should have a Biosecurity Officer capable of designing and implementing effective biosecurity procedures”. The Poultry Biosecurity Officer Information Manual provides guidance for a Biosecurity Officer in accomplishing the other checklist items.

Poultry Biosecurity Officer Information Manual | Biosecurity Officer Manual – en español

Training Employees and Other Personnel

Short video presentations are available for training purposes. The PowerPoint file for each presentation is also provided. The presentations can be downloaded and modified to better address specific factors at your production site.

Introduction
Video (7 min.) | Presentation | Video (7 min.) – en español | Presentation – en español

Do NOT Bring Avian Influenza to the Site
Video (6 min.) | Presentation | Video (6 min.) – en español | Presentation – en español

Perimeter Buffer Area
Video (8 min.) | Presentation | Video (8 min.) – en español | Presentation – en español

Line of Separation
Video (6 min.) | Presentation | Video (6 min.) – en español | Presentation – en español
POULTRY BIOSECURITY OFFICER INFORMATION MANUAL

September 15, 2015

MANUAL DE INFORMACION PARA EL AGENTE DE BIOSEGURIDAD DE UN ESTABLECIMIENTO AVICOLA

15 de Septiembre del 2015
Pre-Movement Isolation Period (PMIP)

- Enhanced biosecurity for a period of days prior to movement is being discussed for Secure Turkey and Secure Broiler Supply plans
  - Led by University of Minnesota
Additional info on Secure Food Supply Plans

• 3:25pm Overview of Secure Food Supply Projects
  – Dr. Danelle Bickett-Weddle

• 3:45pm Secure Pork Supply Plan: A Work in Progress
  – Dr. Pam Zaabel

• 4:10pm Secure Milk Supply: Training and Implementation of Biosecurity and the Line of Separation Concept
  – Dr. Molly Lee
Comments and Questions:
jaroth@iastate.edu 515-294-8459