

Overview of Biosecurity and Avian Influenza



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Introduction

- **Veterinary Services Mission**
- **Definition of Biosecurity**
- **Sources of Infection**
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- **Major Components of Biosecurity**
 - **Isolation**
 - **Traffic Control**
 - **Cleaning & Disinfection**
 - **Rodent & Insect Control**

Introduction- continued

- **USDA/APHIS Low Pathogenicity Avian Influenza (LPAI) H5/H7 Program**
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- **Summary**

Veterinary Services Mission

- **Veterinary Services protects and improves the health, quality, and marketability of our nation's animal, animal products and veterinary biologics by:**
 - **1. preventing, controlling and/or eliminating animal diseases, and**
 - **2. monitoring and promoting animal health and productivity.**

Biosecurity

■ Definition:

- Embodies all the cumulative measures that can or should be taken to keep disease (viruses, bacteria, fungi, protozoa, parasites), from a farm and to prevent the transmission of disease (by humans, insects, rodents, and wild birds/animals) within an infected farm to neighboring farms.



Sources of Infection

- humans - hands, hair, clothing, footwear
- Contaminated equipment



Sources of Infection - continued

- domestic and wild animals



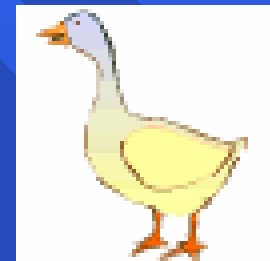
Crow



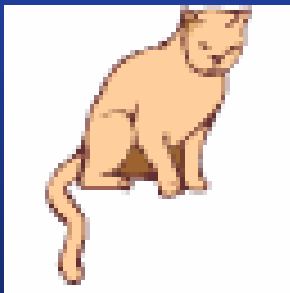
Duck



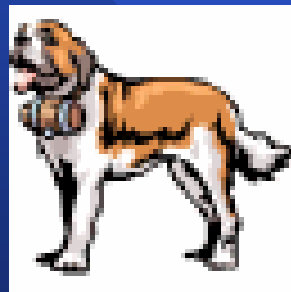
Sparrow



Goose



Cat



Dog

Sources of Infection - continued

- Improperly disposed carcasses

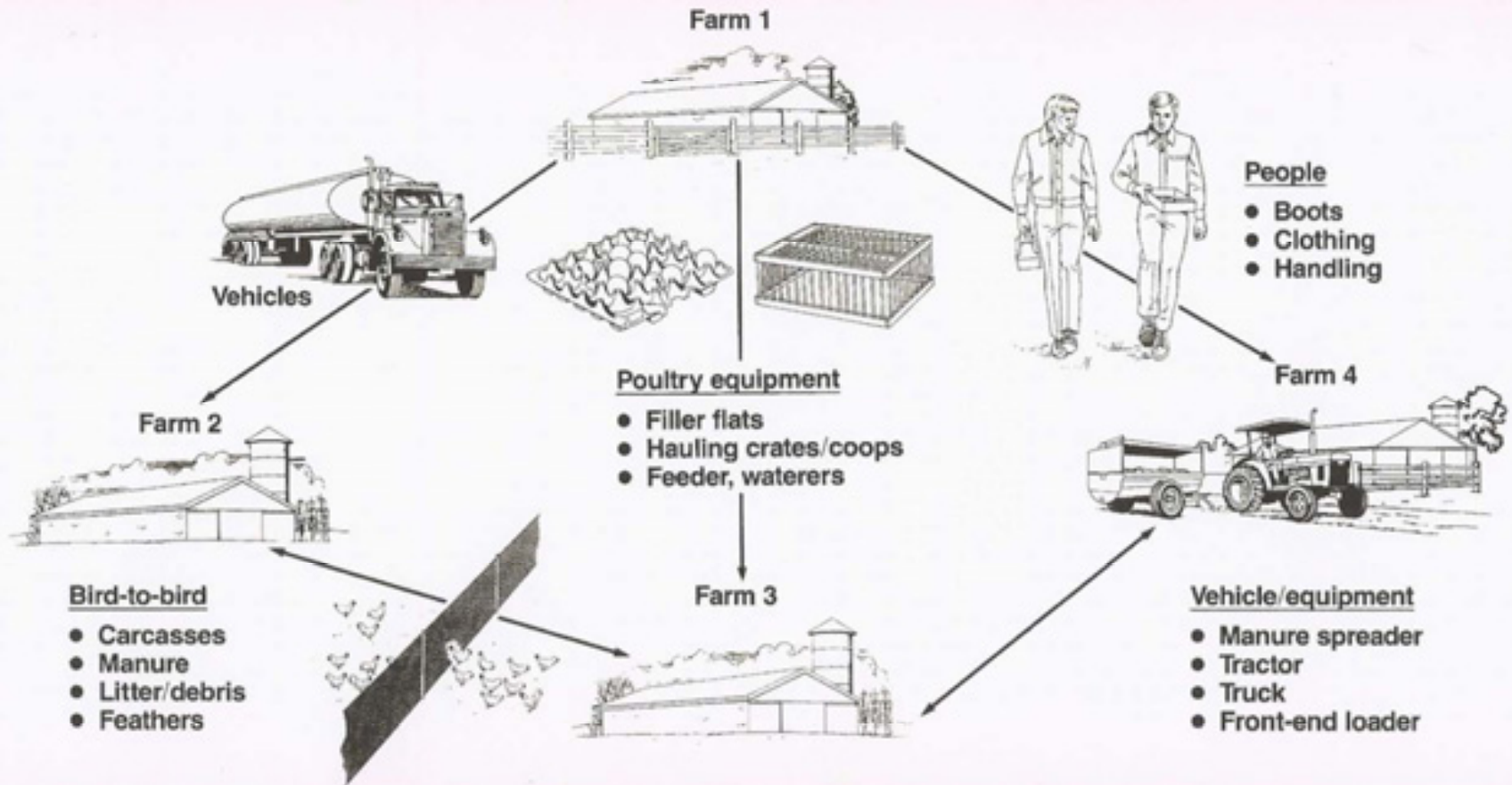


Sources of Infection - continued

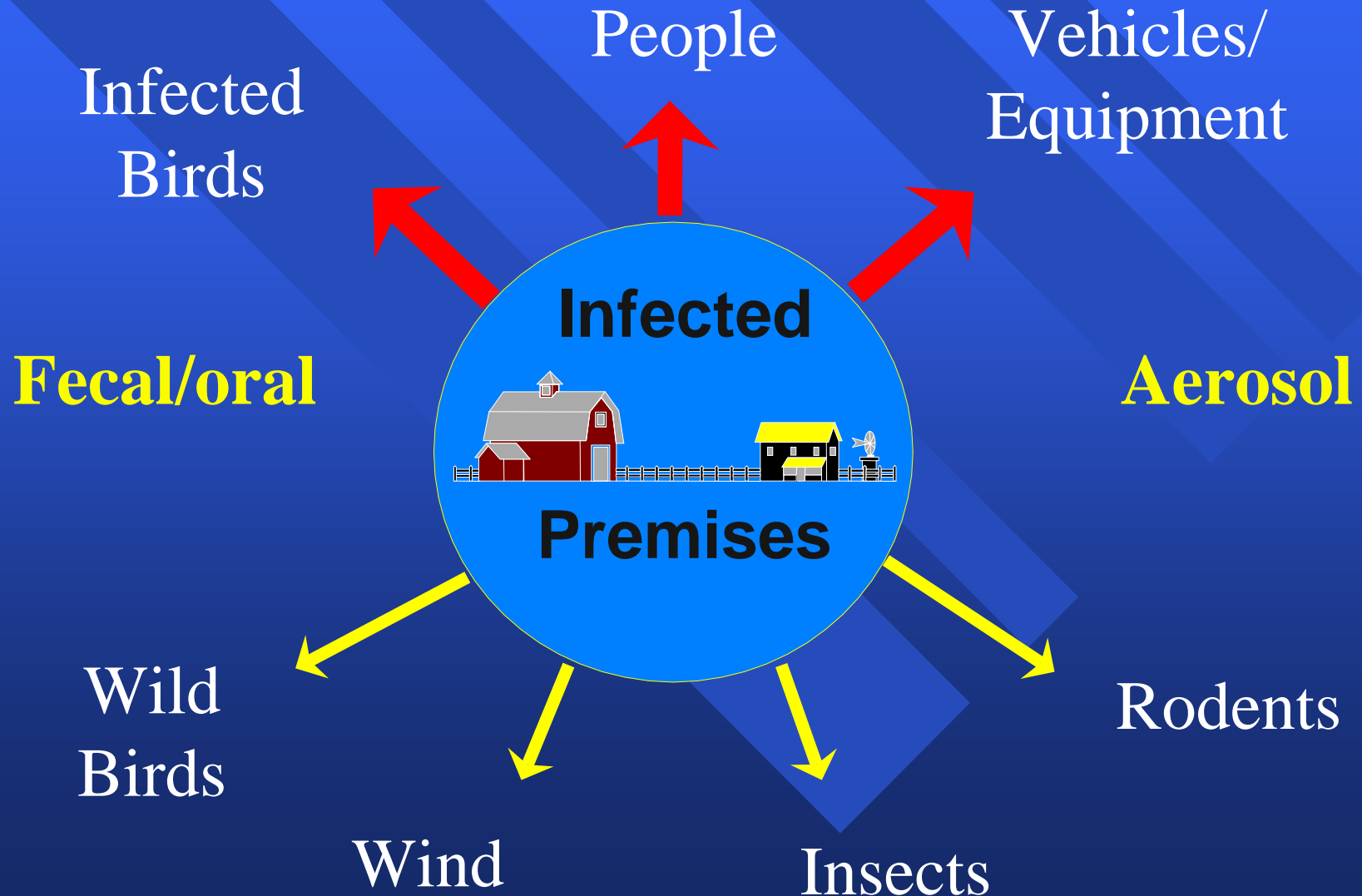
- Backyard flocks
- Live Bird Markets



How Poultry Disease Spreads



Methods of Spread: AI Infected Premises



BIOSECURITY

Major Components

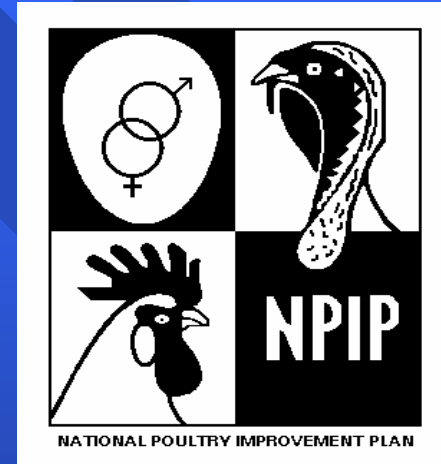
- **Isolation**
- **Traffic Control**
- **Sanitation - Cleaning & Disinfection (C&D)**
- **Rodent & Insect Control**

USDA/APHIS Low Pathogenicity Avian Influenza (LPAI) H5/H7 Program Development

- **USAHA Program proposal, January 2003**
- **AI program should include 2 compartments:**
 - **Commercial poultry**
 - **Live bird marketing system (LBMS)**

Commercial poultry program

- **Contact: Andrew R. Rhorer and Dr. Rick Sharpton**
Conyers, GA 770-922-3496
- **H5/H7 LPAI surveillance program under development through the National Poultry Improvement Plan (NPIP)**
 - **Adopted at biennial conference July 2004**
- **AI programs for chicken & turkey breeders already in place (since 1998)**



NPIP Program would consist of:

- **AI Monitored certification program for**
 - **Table-Egg Layers**
 - **Meat-Type Chickens- broilers, roasters, cornish, and fryers**
 - **Meat-Type Turkeys**
- **Guidelines for State diagnostic surveillance program**
- **Guidelines for State initial response and containment plan**

Guidelines for State diagnostic surveillance

- Low Path Avian Influenza would be a disease reportable to the State
- State laboratories would test for AI in all submitted cases of respiratory disease, unexplained egg production drops, and unexplained severe mortality



Photo: Nathaniel Tablante

Guidelines for State initial response and containment plan

- **State should establish:**
 - **Standing emergency disease management committee**
 - **Minimum biosecurity plan**
 - **Public awareness and education programs**
 - **Detailed procedures for initial handling and investigation of suspicious cases**
 - **Strict Quarantine with Control/Monitoring Zones**
 - **Access to adequate diagnostics**
 - **Detailed plans for depopulation, disposal, C & D, repopulation and monitoring**



Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza In the Live Bird Marketing System

**Uniform Standards for a State-Federal- Industry
Cooperative Program**

Contact:

Dr. Lynne Siegfried and

Dr. Fidelis Hegngi, Staff Riverdale, MD

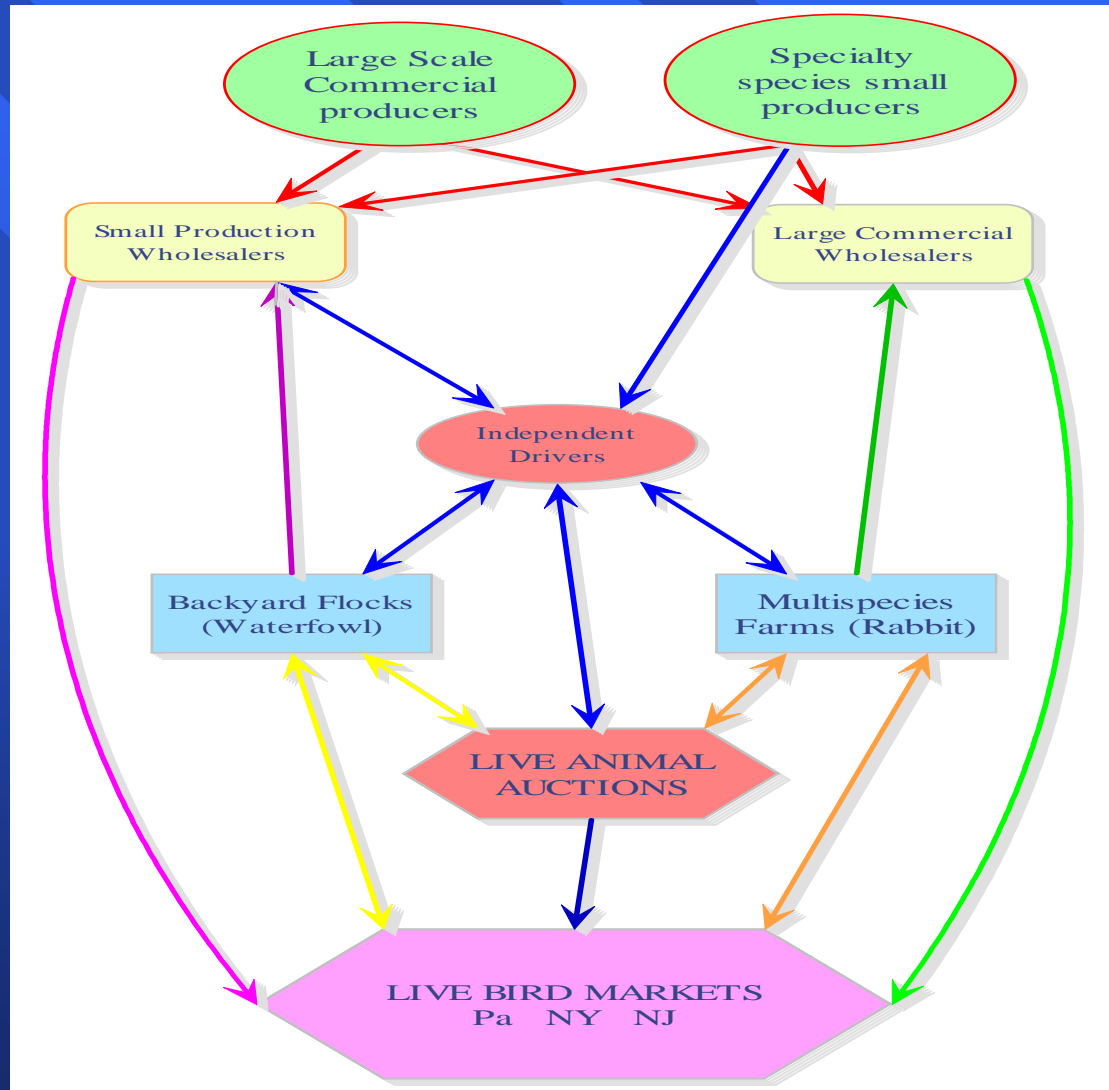
301-734-6188

Dr. Andrea Miles, ERO Raleigh, NC

919-855-7250



Schematic of Components of the LBM System



Where are the Live Bird Markets?

- **Northeastern U.S. – 72% of the retail operations**
- **Southeast – Miami – 22%**
- **California – 6%**
- **Also Texas**
- **Others ?**
- *** Based on 1998 survey**

Production Farms

Red and White Broilers



Photo: David Henzler

Red and Grey Broilers



Photo: John Coakley

Wholesalers and Dealers



Photos: Andrea Miles

Auctions, Small Sales, Flea Markets, Farmers Markets, Swap Meets



Photo: David Henzler

Live Bird Markets: Boston MA



Photos: Andrea Miles

Inside a Live Bird Market



Photos: Andrea Miles
and Martin Smeltzer

LBM System – Uniform Standards

- **Federally based and State assisted**
- **Uniform Standards published October 2004**
- **Provides guidelines for markets, dealers and producers:**
 - **Licensing requirements and education**
 - **Bird testing and recordkeeping**
 - **Sanitation and biosecurity**
 - » **Quarterly closure and C/D of markets**
 - **Surveillance and inspections**
 - » **Quarterly testing of markets**
 - **LPAI positive facilities depopulated, C/D and subject to more frequent surveillance and inspection**

Indemnification



- Both the Commercial program and the LBM program provide for indemnification of depopulated facilities
- Current regulations (9 CFR part 53) provide for
 - 50% of appraised value of birds and costs of depopulation and disposal
- Language adopted at NPIP biennial conference proposes increasing reimbursement to 100%
- Participation should guarantee Federal assistance and indemnification
 - Indemnity funds available now on an emergency basis; proposed in FY 2005 budget

Foreign Strain Prevention

- **USDA requires imported birds (poultry, pet birds, bird exhibited in zoos, and ratites) be quarantine and tested for AI virus before entering the country**
- **Prevents foreign strains from being introduced in the United States.**

AI Vaccine Bank

- Vaccine bank contract awarded to Fort Dodge Animal Health
 - \$800 K for 40 M doses of antigen
 - 2 H5's & 2 H7's
- Expansion of bank in subsequent years
- Will help keep HPAI from becoming established in the U.S.
- Under APHIS supervision or control as part of an official animal disease control program



Summary

- Biosecurity is a team effort and a shared responsibility
- Biosecurity should be an ongoing process and must be followed at all times
- Each step should be carried out judiciously to effectively reduced disease contamination
- Optimum biosecurity measures need to be developed and implemented to help both disease prevention and control
- The mark of a good biosecurity program is:
 - to maximize the health of a flock
 - Minimize the risk of disease spread
 - Insure the production of a clean product
- **Biosecurity is an investment, not an expense**

Acknowledgements

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- Lynne Siegfried – USDA, APHIS, VS
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- David Suarez – USDA, ARS, SEPRL
- David Swayne – USDA, ARS, SEPRL
- Dennis Senne – USDA, NVSL



Additional Information

- For more information about avian influenza or biosecurity practices, contact:

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■ Questions??

