AgCONNECT and its Role in Enhanced Passive Surveillance (EPS)

October 18th, 2014

John Korslund, DVM
EPS Program Manager/ USDA Deteelee to DHS
Chemical and Biological Defense Division
Science and Technology Directorate
202-254-6890; john.korslund@hq.dhs.gov
AgCONNECT

PERSPECTIVES

Biosurveillance
- USDA APHIS
- SAHOs
- Practitioners
- Industry

Emergency Response
- USDA NCAHEM
- USDA ADDs
- SAHOs

Business Continuity
- USDA ADDs
- SAHOs
- Industry

Laboratory Capacity
- USDA NAHLN
- Diagnostic Labs

USERS
Enhanced Passive Surveillance

Enhances situational awareness and demonstrates the usefulness of multiple-data stream syndromic surveillance by:

- Applying the power of real-time reporting and data aggregation to animal and wildlife surveillance
- Leveraging first responders (veterinarians) for animal and public health surveillance
- Estimating baseline prevalence rates of observed animal health anomalies for each stream
- Evaluating the significance of resulting signals as disease detection events
- Providing early warning information obtained from validated signaling activity to stakeholders to assist in making decisions
EPS System Concept

Data Collection
- Rapid Data Collection
- Data Standardization
- Data Compression

Data Stream Storage, Management, Privacy, Security, Access, and Processing
- Data Cleansing
- Semantic Data Integration
- Data Reduction and Transformations
- Querying Optimization Techniques

Interactive Decision Support
- Information Visualization
- Visual Analytics
- Multi-dimensional Analysis
- Cross Domain Analysis

Detection Event

Automated Decision Support
- Efficient Data Sharing
- Data Mining
- Predictive Analytics
- Agent-based Support

Stakeholders
EPS System Capabilities:
Industry/Veterinarians

Mixed Animal

Poultry

Equine
EPS System Concept: Integration of Data Streams

- **Surveillance Data**
  - Syndromic Reports
  - Production-level Indicator Data
  - Industry
  - Vet
  - Wildlife
  - Biologist

- **Laboratory**
  - Test Order Counts
  - Test Results

- **Environmental Data**
  - Season
  - Rainfall
  - Temperature
  - Vegetation
  - Soil

**Common Integrated Picture**
Analyst Workstation
• Expand to all major livestock/poultry industries & wildlife
• Work with partners to develop data confidentiality rules and processes
• Work with partners to design mobile applications and analyst workstation
• Integrate multiple data streams: field data, D-lab data, livestock market data, production-level data
• Integrate sophisticated analytical tools capable of processing complex/big data
• Work with partners to develop concepts of operations to support the implementation of a national EPS system
• Perform exercises to evaluate the efficacy/utility of the system
• Transition a low-cost, low-maintenance system to a third-party for long-term hosting, management, and support of the program