OFFLU-STAR-IDAZ Consultation

Global animal influenza research agenda

Summary of Pre-Existing Research Agendas
USDA-STAR-IDAZ

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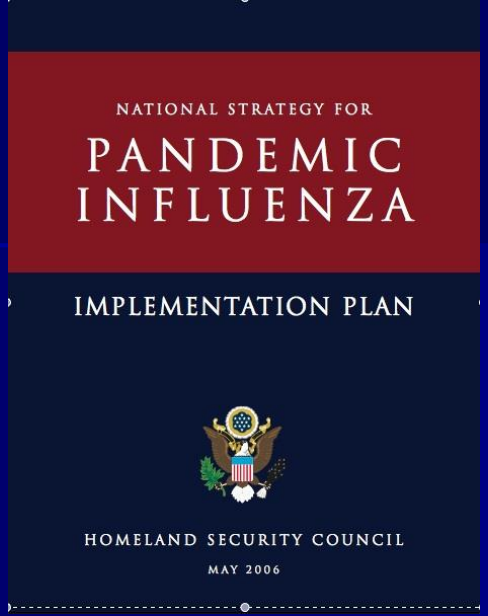
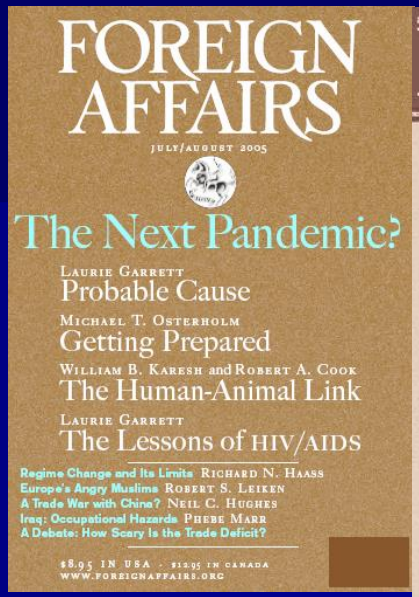
USDA

Pandemic Preparedness Plan





High-Consequence Foreign Animal Diseases and Pests

Tier 1

- African swine fever
- Classical swine fever
- Foot-and-mouth disease
- Avian influenza (any strain that is highly pathogenic or zoonotic)
- Virulent Newcastle disease

Tier 2

- Heartwater
- New World screwworm
- Rift Valley fever
- Venezuelan equine encephalitis

Tier 3

- African horse sickness
- Contagious bovine pleuropneumonia and contagious caprine pleuropneumonia
- Glanders and melioidiosis
- Henipaviruses (Hendra and Nipah)
- Rinderpest and peste des petits ruminants
- Tropical bont tick

National Veterinary Stockpile Completed Gap Analyses

Agricultural Agent	Date Completed	Date Updated
Avian Influenza (Tier 1)	October 2005	April 2013
Foot-and-mouth disease viru (1)	June 2007	December 2010
Rift Valley Fever (2)	September 2006	May 2009
Newcastle disease (1)	November 2007	
Nipah Virus (3)	May 2009	
Classical swine fever virus (1)	May 2008	
African swine fever virus (1)	August 2010	May 2013
Rinderpest virus		
African horse sickness virus		
Venezuelan equine encephalitis virus		
Contagious bovine pleuropneumonia		
***Cowdria ruminantium* (Heartwater)**		

Gap Analysis Workshop
University of Georgia, April 2013

USDA

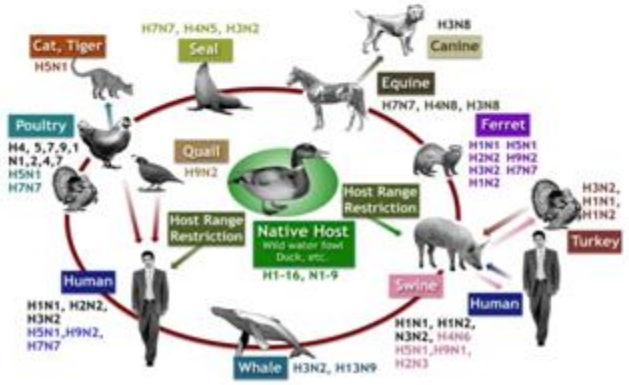
United States Department of Agriculture

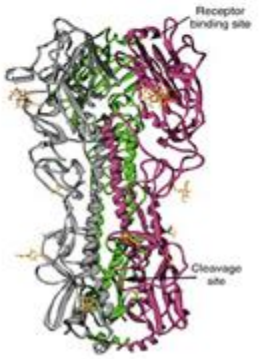
Agricultural Research Service

March 2014

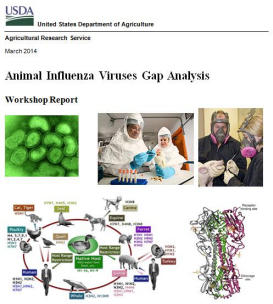
Animal Influenza Viruses Gap Analysis

Workshop Report

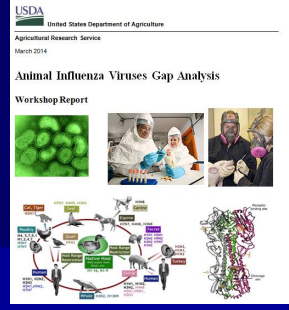




AIV Working Group

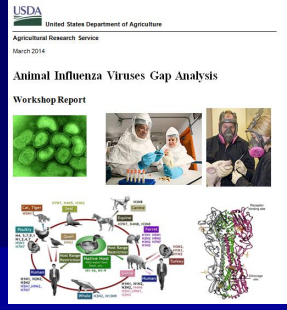


Gap Analysis



1. Define problem and situation
2. Identify what we know
3. Identify where we have gaps
4. Identify specific obstacles
5. Define priorities
6. Recommendations

Content



Background

- Situation worldwide
- Economic impact
- Public health

Gaps in the Scientific Information

- Virology
- Pathogenesis
- Immunology
- Epidemiology

Gaps in Available Countermeasures

- Vaccines
- Diagnostics
- Surveillance
- Drugs
- Depopulation and Disposal
- Disinfectants
- Personal Protective Equipment

Obstacles to Prevention and Control

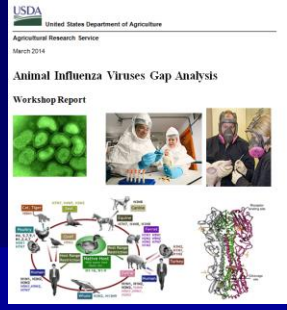
Countermeasures Assessment

- Vaccines
- Diagnostics
- Surveillance

Recommendations

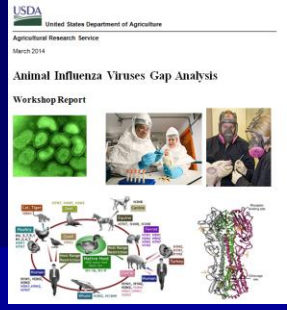
- Countermeasures Priorities
- Research Recommendations

Results



- Gap
  - The determinants that promote the transmission and adaptation of influenza A viruses between vertebrate hosts are essentially unknown.
- Obstacle
  - We do not have the predictive tools necessary to effectively mitigate the impact of new and emerging strains.
- Countermeasures priorities
  - Reverse genetics technology to rapidly develop a range of vaccine seed strains with hemagglutinin genes matching likely emerging viral threats from around the world with an egg or cell adapted high growth reassortant.
  - Develop a reliable test for the HA and NA subtype specificity of influenza virus antibody in target host serum
- Research priorities
  - Too many priorities to implement based on available resources

Next Steps



Priorities assessment of research priorities

1. Prediction
2. Forecasting
3. Surveillance systems
4. Countermeasures development
5. National regulatory organizations
6. Veterinary services
7. Public health community

Thank you!

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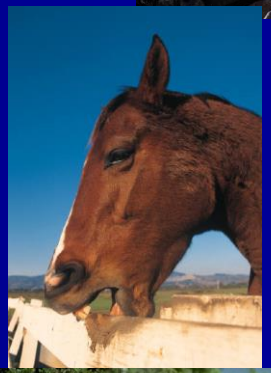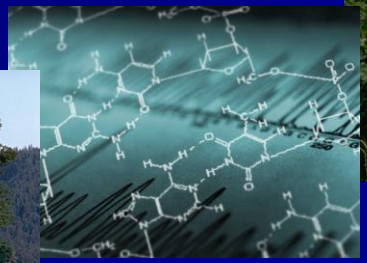
http://go.usa.gov/KpGP