2006 International Livestock Congress

The Global Prevention & Management of Foreign Animal Disease

AVIAN INFLUENZA (AI)

A White Paper Based On Think Tank Discussions Held During The The Global Prevention & Management of Foreign Animal Disease" Meeting
On March 1-2, 2006 in Houston, TX
At The
2006 International Livestock Congress

INTRODUCTION

During the "The Global Prevention & Management of Foreign Animal Disease" meeting that was held in Houston, TX on March 1-2, 2006 as part of the 2006 International Livestock Congress, think tank sessions were held regarding the following three areas: Avian Influenza (AI); Bovine Spongiform Encephalopathy (BSE); and Foot and Mouth Disease (FMD). This paper will discuss the findings from the Avian Influenza group.

Participants in the group consisted of representatives from: the Poultry Industry (both domestic and international); Governmental Agencies (US and Canada); Food Service; Distributors; Academia; Trade Associations; Vaccine Manufacturers; Consultants; and Student Fellowship Winners. Additional information was provided by Dr. Elizabeth Krushinskie, US Poultry & Egg Association and Dr. Will Hueston, Center for Animal Health and Food Safety, University of Minnesota who were unable to attend. The list of the think tank participants is attached.

BACKGOUND

According to the USDA FACT SHEET [1]:

■ Avian Influenza (AI) is a virus that causes disease in various types of birds, thus the common name "bird flu". AI viruses can infect chickens, turkeys, pheasants, quail, duck, geese and guinea fowl as well as a wide variety of other birds, including migratory waterfowl.

■ AI viruses are classified by a combination of two groups of proteins found on the surface of the virus: hemagglutinin proteins (H), of which there are 16 (H1-H16), and neuraminidase proteins (N), of which there are 9 (N1-N9). AI strains also are divided into two groups based on the pathogenicity of the virus--the ability of the virus to produce disease.

■ Low Pathogenicity Avian Influenza (LPAI): Most AI strains are classified as low pathogenicity and cause few clinical signs in infected birds. LPAI generally does not pose a significant health threat to humans. However, LPAI is monitored because two strains of LPAI—the H5 and H7 strains–can mutate into highly pathogenic forms.

■ High Pathogenicity Avian Influenza (HPAI): This is a more pathogenic type of avian influenza that is frequently fatal to birds and easily transmissible between susceptible species. The strain that is currently of concern in East Asia & the Pacific, Africa, Europe & Eurasia, Near East and South Asia is the H5N1 HPAI virus.

■ Transmissibility: AI is primarily spread by direct contact between healthy and infected birds through respiratory secretions and feces. The disease also can be spread through indirect contact if healthy birds are exposed to contaminated equipment or materials.

The HPAI H5N1 virus can be spread from birds to people as a result of extensive direct contact with infected birds. Broad concerns about public health relate to the potential for the virus to mutate, or change into a form that could spread from person to person.

According to the World Health Organization (WHO) [2], domestic ducks and some migratory waterfowl have acquired the ability to resist the disease caused by these strains and are now capable of excreting large quantities of highly pathogenic virus without showing the warning signs of the illness. In endemic countries, this altered role of domestic ducks and migratory waterfowl is now thought to contribute to the perpetuation of the transmission cycle.

The H5N1 virus can survive in feces for at least 35 days at low temperature (4°C); while at 37°C, viruses could survive for 6 days in stability tests on fecal samples. AI viruses can also survive on surfaces, such as within the poultry house environment, for several weeks [3].

SCOPE

The scope of this paper will be the animal implications of High Pathogenic AI and not the pandemic (or zoonotic) implications to human disease. Additionally, the information will be related to North America using the learnings from Global experiences and programs.

EVENTS THAT WILL PROBABLY OCCUR

The consensus of the group was that:

• H5N1 will arrive in North American waterfowl in the near

future.

• If it invades commercial poultry systems, it will be quickly identified, contained and controlled at the local level. This will be accomplished with effective bio-security in production systems, through testing of commercial flocks, aggressive surveillance and rapid response

• Media driven consumer over reaction will occur and the industry will suffer from consumers seeing flocks destroyed and the expected loss of consumer demand over the false fear of contracting AI from eating poultry.

CONCERNS

The following are concerns that were raised:

• Impact from recreational fowl (gamecocks, waterfowl and upland game birds such as quail and pheasants) and back yard flocks (which include free-range, live/wet markets) will be the primary factor in failure of containment-control strategies.

• There is a considerable amount of information available (USDA, CDC. WHO, OIE, Trade Associations, Academia, SSAFE, etc.) but planning strategies of constituencies (industry, government, trade associations, research) are not unified, consistent or effectively communicated and focused.

• Do we have sufficient capacity in our veterinary services at the national and state levels to address this situation if it occurs?

• Industry lacks credibility as viewed by the consumer.

• Media spins may be biased.

OPPORTUNITIES

The following areas were identified as requiring attention:

• Policies are needed to better control non-industrial fowl, in both normal productions and also in containment-control actions.

• Assure that bio-security measures are in place and functioning properly.

• Contract growers require more training and incentives to utilize defined and proven bio-security measures.

• Effective leadership is needed to:

- Link the constituents (industry, regulatory, non-governmental agencies, trade associations, etc) to drive planning and communications efforts prior to emergence of infection in North America. A group, company or person will have to take the lead to do this.

- Guide programs for crisis planning and risk communication.

- Select spokespeople who are credible to the public, e.g. USDA, CDC

• Immediately begin to have more interaction through meetings between government and industry so that the information provided to the public and the activities that go forward to contain the situation, if it occurs, is done in the most effective and efficient manner possible. Efforts should be made to avoid confusion as to the message that is communicated to the public.

• Conduct an "emergency AI tabletop exercise" with appropriate stakeholders to identify strengths and weaknesses of the identified approaches and address them before an actual crisis has occurred.

• Public Interest Groups should be engaged in discussions to gain their viewpoints so that communication to the consuming public can be as consistent as possible.

• A credible Risk Assessment is needed, similar to the Harvard/Tuskegee BSE Risk Assessment [4], to bring better focus to science-based decisions and to support risk communication facts to the public.

REFERENCES

[1] USDA Fact Sheet, Release No. 0511.05, "Avian Influenza" November 2005.
[2] World Health Organization, "Avian influenza: significance of mutations in the H5N1 virus", February 20, 2006.
[3] World Health Organization, INFOSAN Information Note No. 7/2005 (Rev1.5 Dec) - Avian Influenza, "Highly pathogenic H5N1 avian influenza outbreaks in poultry and in Humans: Food safety implication", November 4, 2005.
[4] "Evaluation of the Potential for Bovine Spongiform Encephalopathy in the United States", November 26, 2001. Harvard/Tuskegee.

AI THINK TANK PARTICPANTS

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