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Agricultural Outlook Forum

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U.S. BROILER INDUSTRY AND THE AI CHALLENGE

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The primary challenge that AI presents to the U. S. broiler industry is the public perception of the danger of a human disease, as opposed to the actual threat of a devastating outbreak of an avian disease in our domestic flocks. Frankly, we are more afraid of an unjustified, unreasonable consumer flight from chicken than we are of getting the disease in our flocks. There are a number of reasons for this conclusion, on a number of levels, from our assessment of the current lack of public understanding of the situation to the reasons for our confidence in our security from the avian disease.

Concerning the public perception of this disease, a distinction should be made between the human disease and the avian disease. This distinction does not always come through clearly in media reports. Public opinion surveys and questions and comments to industry members from friends, family, acquaintances, and even employees and growers indicate that many people think this is a disease easily acquired by casual contact with or consumption of poultry. Currently, the Asian highly pathogenic H5N1 subtype of Avian Influenza (AI) (hereinafter referred as "Asian bird flu") is strictly an avian disease with only sporadic human infections. While the possibility of adaptation of this virus for efficient human transmission is a grave concern, and while public health agencies need to be preparing for a possible human pandemic (whether with Asian bird flu or some other subtype), many in the industry feel that certain experts and officials have overstated the current domestic threat. The media can hardly be blamed for reporting some of these sensationalistic predictions, and we fear a public overreaction to future reports of any type of AI in birds of any sort, as occurred in Europe after the announcement of the disease in the Danube delta in the fall of 2005. We do not mean to imply that reporting or discussion of this threat should be suppressed, only that the discussion should be based on science and reasonable probability, and reported in the proper context. As discussed subsequently, the Asian bird flu currently does not exist in North America, we do not expect the avian form of the disease to come here, we are prepared to detect it and eradicate it if it does gain entry, infected meat is very unlikely to reach the consumer even if we have infected flocks, and normal handling and cooking practices will preclude human infection even if one were to consume an infected bird. The industry and government agencies such as CDC and USDA are attempting to carry this message to the public, and we greatly appreciate the clear statement of the facts from these agencies. The public is more likely to accept such assurances from a government agency than from the industry that is trying to sell them its product. It is a difficult task to educate the public on such a complex issue, when the attention span of busy consumers is so short, and any mention of the subject immediately conjures up the doomsday scenarios that the media promote.

The public health infrastructure for pandemic human influenza certainly needs shoring up. The lack of capacity for human vaccine production in the United States represents a critical national security issue that demands immediate correction. Public knowledge that effective vaccines and drugs would be readily available would go far to assuage concerns. However, expending tremendous sums of money on stockpiling antiviral drugs that have a finite shelf life and that could potentially fall victim to viral resistance in a massive outbreak, while allowing the virus to continue to circulate at the source in the Asian poultry population seems counterintuitive. As long as the virus continues to circulate in Asian poultry, the threat remains indefinitely. The longer that situation exists, more opportunities for trans-

species infections will occur, and the greater the possibility that a human-adapted strain could eventually emerge. More resources should be devoted to attempts to control the problem at the source, in the Asian poultry population. Efforts to control and eliminate the avian form of the virus in domestic poultry in Asia, and to minimize the opportunities for human transfections, represent a more judicious application of resources compared to waiting for a human-adapted virus to emerge and then mounting a massive human pandemic response. Controlling Asian bird flu in the village flocks of developing Asian nations is a daunting challenge, but certainly no worse than the current prospects for confronting a massive human pandemic. The developed nations need to support the recommendations of the Food and Agriculture Organization, the World Organization for Animal Health (OIE), and the Asia Pacific Economic Cooperation for controlling this problem, with expert assistance on the ground, materiel resources, and yes, money.

Let us turn now to the reasons for our confidence in our security from a massive domestic outbreak of the avian disease, or any other highly pathogenic form of Avian Influenza. The domestic commercial poultry industries, in partnership with our state departments of agriculture and the United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services (USDA APHIS VS), are well prepared to prevent, detect, and contain the threat of Asian bird flu, as well as other H5 and H7 subtypes, in our poultry populations. There are multiple layers of protection currently in place.

As of this writing in early January, 2006, the Asian bird flu has never been detected in any sort of bird, wild or domestic, commercial or non-commercial, in the United States. Furthermore, infections with any H5 and H7 subtypes are very uncommon and are not tolerated in US commercial poultry. We hope to keep it that way. Wild waterfowl are the natural hosts for AI, and various subtypes, including other H5 and H7 subtypes, have always been and always will be found in those populations. Detections in wild populations are expected. We have lived with this situation for years, and such detections, while they bear monitoring, should not be cause for undue alarm. Almost all birds in the US commercial poultry industries are raised in confinement in climate-controlled housing, and contact with wild waterfowl (or non-commercial poultry for that matter) is strictly prohibited. Commercial poultry growers who are bird hunters are instructed not to use any clothing, shoes, etc for hunting that is used on the farm, and to shower and change all clothing after hunting and before returning to the poultry facilities. There is only minor overlap of the Asian and North American wild bird migratory flyways, and wild bird populations are being monitored for the Asian bird flu in Alaska. Wildlife biologists are now saying that the evidence seems to indicate that migratory birds do not appear to be a major factor in disseminating this disease. Detection of the Asian H5N1 subtype in North American waterfowl would lead to further precautions to prohibit any contact with commercial birds.

Infections with various subtypes of AI also occur sporadically in non-commercial and backyard flocks. AI, including a low pathogenic H7N2 strain, circulates in the live bird marketing systems of the northeastern United States. The commercial industry also makes efforts to isolate itself from these operations. USDA APHIS VS, in cooperation with the involved states and the live bird marketing industry, has initiated an AI control program for the live bird marketing system. This program is reducing the incidence of AI in these systems, with the eventual goal of eradication.

The United States does not import poultry or poultry products from any regions affected by highly pathogenic AI. More than 99 percent of all the chicken consumed in the United States is produced in the United States, with the rest imported from Canada. Inspections have always been in place at all international ports of entry to exclude products that might represent a disease threat to domestic agriculture. No live birds of any species from affected regions are permitted entry to the United States,

and any live birds imported from disease-free regions are quarantined and tested to preclude the introduction of a foreign disease such as AI. It is common practice for U. S. broiler companies to discourage travel by employees and growers to areas with exotic poultry diseases, and/or to restrict contact with company poultry by persons who have traveled to such areas for 7 days after their return to the U. S. While an introduction of the Asian bird flu virus into the commercial poultry of the United States is not impossible, the likelihood is currently very low. A good test of this system is Exotic Newcastle Disease (END). This disease is endemic around the world, including in numerous countries immediately to the south of us in this hemisphere. While sporadic incursions have occurred, mainly via smuggling and contact with the backyard/game bird populations, the exclusion system has been effective. The most recent incursion in California served to heighten our sensitivity and strengthen the system. In particular, education of the backyard and game bird owners and increased surveillance of that segment have resulted, and should increase our level of protection.

In the unlikely event that an introduction were to occur, we are prepared to detect it quickly and respond rapidly. Our industries have biosecurity programs in place to minimize introductions of common domestic diseases such as infectious bronchitis or infectious laryngotracheitis into individual flocks. These programs also serve to decrease the risks of exposure to introduced exotic diseases. Growers are trained to restrict visitors, minimize their own contact with other birds and farms, use dedicated protective clothing, disinfect shared equipment, and restrict access by rodents, wild birds, pets, livestock, and feral animals. Most companies prohibit growers and employees from owning pet birds or keeping any sort of poultry other than those supplied by the company. Essentially all commercial producers use all-in-all-out systems. There is a complete break between each and every flock. In the U. S. integrated system, the hatcheries, feed mills, live haul operations, and supervisory and support personnel are fully dedicated to a single production complex, so there is little crossover between different companies. This segregates the industry in a given area into smaller units in terms of personnel contact. Contact via ancillary services such as utilities, bedding suppliers, and so forth, and by other routes such as airborne exposure, remain a concern because the farms allied to different complexes may be geographically intermingled. However, in areas with multiple companies, it is becoming common practice to develop industry disease control committees. Such committees contain at least one representative from each producing company (often the company veterinarian and/or live production managers), and are often organized under the auspices of the state poultry federation, state department of agriculture, or the state or university diagnostic laboratory system. These committees exist to develop industry-wide approaches to disease control, and are particularly effective because the procedures are developed and agreed upon by the industry. One of the most outstanding examples of this approach is the Delmarva Poultry Industry, Inc. (DPI). This industry group was largely responsible for containing the incursion of low pathogenic H7N2 AI in Delaware and Maryland in 2004, and did an outstanding job. DPI has also pioneered in the area of individual farm risk assessment and mitigation. A comprehensive survey instrument has been developed to score individual farms for disease risk. Companies can then systematically address those farms with the highest scores, and progressively reduce company and area-wide risk. All risks are listed and evaluated, but mitigation efforts are focused on those that are amenable to correction. For instance, proximity to heavily traveled highways is a risk, but little can be done to mitigate it, whereas failure to control rodent harborages can be addressed. All of these procedures will minimize the initial spread of any introduced foreign disease prior to its detection in the signal flock.

Our commercial poultry populations have been actively monitored for the presence of AI for a number of years, to meet international trade requirements. Large numbers of broiler flocks have been tested for export to Mexico. A National Poultry Improvement Plan (NPIP) monitoring plan for breeder hens has been in existence for several years. This program is especially useful because breeders serve as a

sensitive sentinel system, due to their long lives. A number of states have separate breeder monitoring programs in addition to the NPIP program. These monitoring programs are now being intensified and expanded to commercial broiler, turkey, and layer flocks. In response to the low pathogenicity H7N2 AI outbreak in Virginia in 2002, the NPIP has developed an active and passive monitoring and containment program for commercial broilers, turkeys, and layers. At this writing, this program is in the final stages of approval and implementation. We urge USDA to proceed with all due speed in implementing this expanded NPIP AI program.

The National Chicken Council (NCC) has developed and promoted to both members and non-members a testing program to ensure consumers that chicken flocks and the food products made from them are free of potentially hazardous forms of AI. The NCC represents integrated chicken producer-processors, the companies that produce, process and market chickens. Member companies of NCC account for approximately 95 percent of the chicken sold in the United States. The NCC program is based on the NPIP program and is being implemented pending final approval and implementation of the NPIP program. Under the NCC program, participating companies will take samples from each flock while it is still on the farm. Tests will be conducted at approved laboratories. Any flock found to have avian influenza of the H5 or H7 subtypes will be promptly and humanely destroyed on the farm and disposed of in an environmentally acceptable manner. None of the birds will be sent to the processing plant or otherwise enter the food chain. The NCC plan calls for the establishment of a control zone two miles around any affected flock in which other flocks would be held and tested weekly until slaughter, ensuring that flocks are clear of H5/H7 avian influenza before going to market. Companies are required to report their findings monthly to NCC, to keep records of flocks tested under the program, and to have audits conducted by independent, third party auditors at least once per year.

Most diagnostic laboratories have been testing flocks with any signs remotely suggestive of AI for the disease, and such passive monitoring programs are required in the proposed NPIP program. Finally, the signs of a disease such as the Asian bird flu are so dramatic that there is almost no possibility that it would go undetected in the integrated commercial system. The industry has conducted awareness programs for growers and industry supervisors and managers. Growers and managers are continuously concerned with the health and performance of their flocks for economic reasons, and for that reason alone tend to be very vigilant. Industry managers and veterinarians are cognizant of the steps necessary to quarantine suspect flocks and obtain a rapid diagnosis.

In the event of a case of any H5 or H7 subtype AI in broilers, whether under the NCC program, the NPIP program, or federal, state, or local programs, the flock would be quarantined and destroyed on site. A low pathogenic outbreak is more likely than a highly pathogenic outbreak, but in either case the flock would be destroyed. Proven methods for accomplishing this unpleasant task in a humane, expeditious, environmentally sound, and safe manner are now in place in most major broiler producing areas. A quarantine zone around any infected flocks would be established and intensive monitoring begun. The most recent incursions, in Delmarva and Texas, were quickly detected and eliminated in this manner. Most areas are now prepared to respond as quickly, and any outbreak in commercial poultry would be rapidly contained. We have new information about protecting the workers that would be necessary to deal with the infected flocks. One advantage to the US commercial system is that relatively few people are exposed to the live birds during the production of tremendous amounts of poultry product, making the sorts of human infections seen in Asia even less likely. It is also highly unlikely that any infected birds would ever make it to slaughter, so exposure of processing plant workers or consumers to infected raw meat is unlikely. Finally, if some infected birds did manage to make it past all these hurdles, normal safe handling and cooking practices would effectively preclude a human infection among consumers.

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In summary, the risk of an introduction of Asian bird flu into our commercial poultry is currently very low, and we are well prepared to detect and expeditiously handle any incursion that does occur. Finally, even in the event of an outbreak, the risks to the farmers, workers, and consumers in our system would remain minimal.

U. S. BROILER INDUSTRY AND THE AI CHALLENGE

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Primary Challenge: Public Perception

- We fear an unjustified consumer flight from chicken more than the risk of a devastating disease in our domestic flocks
- There are a number of reasons for this conclusion, on a number of levels:
 - Assessment of the current lack of public understanding
 - Confidence in our security from the avian disease

Public Perception: Human vs. Avian Disease

- Asian highly pathogenic H5N1 bird flu is an avian disease with sporadic human cases in persons with intimate contact with diseased birds
- While the possibility of adaptation for efficient human transmission is a real concern, and
- While public health agencies need to be preparing for the next pandemic (whether H5N1 or another strain)...

Human vs. Avian Disease

- Many in industry feel that some experts and officials have overstated the current domestic threat, and the media respond
- We fear a public overreaction to future reports of any type of AI in birds of any sort
- Discussion/reporting should be based on science and reasonable probabilities and reported in the proper context

Current Situation

- Asian H5N1 does not exist in N. America
- We do not expect it to come here
- We are prepared to detect and contain it should it gain entry
- Infected meat is extremely unlikely to reach the consumer
- Proper handling and cooking precludes infection

Consumer Assurance

- Industry, CDC, USDA are carrying this message to consumers
- The government is more credible than the industry that has the product to sell
- Public education is difficult—complex issue, short attention spans, immediate recollection of sensationalistic sound bites

Public Health Infrastructure Needs Improvement

- Lack of domestic human vaccine capacity is a critical national security issue
- Ready availability of vaccines and drugs would assuage public concerns
- Stockpiling drugs (with a finite shelf life and susceptibility to resistance) while allowing continued viral circulation at the source is counterintuitive

Public Health Approach

- As long as the virus circulates in Asian poultry, the threat remains; the longer it persists, the more opportunities for human infections occur, and the greater the chances of eventual emergence of a human-adapted strain

Public Health Approach

- More resources should be devoted to control at the source—Asian poultry populations
- Control in Asian poultry, and reduction of human exposure, is a more judicious application of resources vs. waiting for emergence of a human-adapted virus and mounting a human pandemic response

Public Health Approach

- Controlling AI in the village flocks of developing Asian nations will be a daunting challenge; severe lack of infrastructure
- Is it any more daunting than the current prospects for confronting a massive human pandemic?
- FAO, OIE, and APEC have made recommendations; these need support

Domestic Industry Preparedness

- The domestic commercial poultry industries, with the states and the USDA APHIS VS, are well prepared to prevent, detect, and contain Asian bird flu, as well as other H5 and H7 subtypes
- Multiple layers of protection are in place
- These protections need continued funding support

Current Domestic Threat Level

- Asian high path H5N1 has never been detected in any sort of bird, wild or domestic, commercial or non-commercial, in the United States
- H5 and H7 are very uncommon, and are not tolerated, in US commercial poultry
- While wild waterfowl are the natural hosts, US commercial birds are isolated from wild birds
- There is only minor overlap of Asian and North American flyways, and wild birds are being monitored in Alaska; role of migratory waterfowl is currently being questioned

Current Domestic Threat Level

- AI occurs sporadically in non-commercial (backyard) flocks; low path H7N2 circulates in the northeastern live bird marketing system (LBMS)
- Commercial birds are also isolated from these flocks
- A state-federal-industry program to control and eliminate H5/H7 AI from the LBMS is reducing the incidence, with the goal of eradication

Current Domestic Threat Level

- The US does not import any live birds or poultry products from regions affected with HPAI
- Inspections at all points of entry are intended to exclude all foreign plant and animal diseases that threaten domestic agriculture
- Animals and birds imported from disease-free regions are quarantined and tested to exclude foreign diseases
- Companies limit employee travel to affected areas

Domestic Industry Preparedness

- Summary: while an introduction of Asian bird flu into domestic poultry populations is not impossible, it currently is highly unlikely; Example: END control has been largely successful
- What if it still gained entry? We are prepared to detect it quickly and respond rapidly

Domestic Industry Preparedness

- Existing biosecurity programs, designed to limit spread of common endemic diseases, should also limit spread of an introduced disease prior to detection
- Restriction of visitors, prohibition of contact with other birds and farms, protective clothing, disinfection of equipment, rodent/feral animal control, etc.

Domestic Industry Preparedness

- Growers and employees are prohibited from owning pet birds or other poultry
- All-in-all-out systems provide a complete break between flocks
- Integrated structure isolates all production steps into discrete packages
- Ancillary services and geographical overlap remain a concern

Domestic Industry Preparedness

- In areas with multiple companies, industry disease control committees are common
- \geq One rep from each company, under auspices of poultry federation, state ag dept, or state/university diagnostic lab system
- Develop industry-wide disease control programs; effective because of industry buy-in; DPI is an excellent example

Domestic Industry Preparedness

- Active monitoring for AI has been ongoing for years:
 - Testing of broiler flocks for Mexican export
 - NPIP “US AI Clean” program for breeders
 - State monitoring programs
- These programs are being intensified and an NPIP program is expanding to production flocks of broilers, turkeys, and egg layers

NCC Testing Program

- Program to ensure consumers that flocks and the food products from them are free of potentially hazardous forms of AI
- NCC members produce 95% of US chicken
- Each flock is sampled on the farm, tests conducted at approved labs
- Any flock with any H5 or H7 will be humanely destroyed on the farm

NCC Testing Program

- No infected birds will be sent to processing or otherwise enter the food chain
- A two-mile control zone will be established around any infected flock, and all flocks in the zone tested weekly until slaughter
- Monthly reports submitted to NCC
- Yearly audits by independent auditors

Domestic Industry Preparedness

- Passive surveillance, consisting of diagnostic tests on any flock with signs remotely resembling AI, has been in place for several years in most states, and is incorporated into the new NPIP program
- Such a dramatic disease is very unlikely to go undetected in the commercial system

Domestic Industry Preparedness

- Growers and managers have an economic stake in the health and performance of the birds, so tend to be very vigilant
- The industry has conducted grower and management awareness training
- Managers and veterinarians are well versed in the procedures to quarantine suspect flocks and obtain a rapid diagnosis

Handling of an actual case

- Any case of H5 or H7 AI in a domestic flock would result in immediate quarantine of the flock with destruction on site
- Low path is more likely, but would be handled the same
- Proven methods of large-scale euthanasia and disposal that are humane, expeditious, environmentally sound, and safe for workers are available

Handling of an actual case

- A quarantine zone would be established around all cases, with intensive monitoring
- Worker protection is now a priority
- In the US commercial system, relatively few people are exposed to the live birds during the production of tremendous amounts of poultry products, making human exposure less of a problem than in Asia

Handling of an actual case

- It is highly unlikely that any infected flocks would make it to slaughter, precluding exposure of plant workers or consumers to raw meat from infected birds
- Finally, if all these hurdles were breached, and meat from infected birds made it to market, proper handling and cooking procedures would preclude infection

Summary

- The risk of introduction of Asian bird flu into the domestic commercial poultry population is currently very low
- We are well prepared to detect and contain any incursion that might occur, but funding is critical
- Even in the event of an outbreak, the risks to farmers, poultry workers, and consumers is minimal under the US system