

Surveillance for Low Pathogenicity H5 and H7 Subtypes of Avian Influenza Virus through the Prevention and Control Program in the Live Bird Marketing System

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A program to prevent and control low pathogenicity avian influenza (LPAI) has been under development for a number of years. It started in 1998 with the work of the original Live Bird Market Working Group (LBMWG), consisting of State, Federal, and industry representatives. The LBMWG has met three to four times per year within the Northeast since 1998, except for a brief hiatus between early 2002 and 2003 when poultry interests were being devoted to the control of avian influenza in the Shenandoah Valley and to the enzootic Newcastle disease outbreak in California. The purpose of the LBMWG has been to address the issues involved with the prevention and control of LPAI H7N2 in the live bird marketing system (LBMS). The focus has been on the live bird markets (LBMs) in New York and New Jersey. The incidence of H7N2 in these markets has ranged from 25% to 80%, depending on the market and the season of the year.

Outbreaks of H7N2 avian influenza have occurred within the commercial poultry industries in Pennsylvania, Virginia, North Carolina and West Virginia from 1997 through 2002. Links between these outbreaks and the LBM system were thought to exist. The LBMWG arranged for the first coordinated LBM closures in January 2002. At this time all markets agreed to depopulate their birds, close for three days, and clean and disinfect their premises and equipment. Subsequent testing of market environments showed that cleaning and disinfection were successful in eliminating avian influenza viruses from the markets. Markets remained free of the virus for several subsequent tests before gradually becoming contaminated again with H7N2.

In December 2002, the United States Animal Health Association (USAHA), Transmissible Diseases of Poultry Committee provided APHIS with its recommendation for a model control and eradication program for low pathogenicity H5 and H7 subtypes of avian influenza. The program addressed LPAI from two perspectives: one from the commercial industry, under the National Poultry Improvement Plan (NPIP), and one from the LBMS. An APHIS response to the LBM portion of the program was presented to the USAHA Poultry Committee in 2003. The Committee appointed a Subcommittee to work with APHIS and the LBMWG to “fine-tune” the program. Program efforts were directed toward the LBMS in the Northeast because the disease had existed in these markets for many years. APHIS worked with the LBMWG to develop the *Uniform Standards for the Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza Virus in the Live Bird Marketing System*, which is strongly based on the USAHA recommendations. The program standards were published in October 2004 and presented at the USAHA meeting to the Transmissible Diseases of Poultry Committee.

Appeals by the commercial poultry industry through their political contacts have resulted in the appropriation of funds for the LPAI programs for commercial industry and live bird markets. The commercial industries recognize that they are at risk for avian influenza because of the

presence of LPAI in the LBMS. The long term goals of the program are to lower the incidence of LPAI in the commercial industry, thus enhancing foreign trade markets and reducing the risk of mutation of the virus towards high pathogenicity.

The commercial poultry segment of this program is being managed through the National Poultry Improvement Plan. At the NPIP biennial meeting in July 2004, the participants adopted a new LPAI program that would provide for H5 and H7 AI monitoring of participating broiler, table egg, and turkey production flocks, in addition to the existing program for the breeder birds for each of these industry groups. This program is currently proceeding through the regulatory process that will fully establish this voluntary program as part of the NPIP.

For the LBMs, the program standards are being implemented through cooperative efforts of State, Federal, commercial industry, and members of the LBMS working within the structure of the LBMWG. The issues of control and prevention of LPAI have been addressed equally between the market suppliers, the distributors, and the LBMs. The program requires that all three of these components of the LBMS fulfill standards for licensing, education and training of personnel; bird testing and record keeping; sanitation and biosecurity; surveillance and inspections; and response to positives when they occur. Bird testing in the markets and at distributor sites in the program relies on a rapid virus identification test (RRT-PCR), which is performed in four area laboratories. The LPAI budget supports development of cooperative agreements with the States to assist them in filling field personnel and laboratory resource needs. The LBMS program requires that States submit quarterly surveillance reports. The reports include the number of LBMS premises tested, including producers and suppliers, dealers and haulers, auction markets, wholesalers and LBMs. The number of samples that tested positive for H5 and H7 subtypes are also reported. When H5 and H7 subtypes are detected on RRT-PCR in the LBMS, specimens are forwarded to National Veterinary Services Laboratory for further characterization of the virus, in order to monitor for changes in pathogenicity.

While the LPAI program for the LBMS has been focused on the businesses in the Northeast, State and Federal officials from States across the U.S. are participating in the LBMWG process. When the program has been shown to work in the Northeast, then it is anticipated that it will begin to evolve into a broader-based national program. The participating States outside of the Northeast are providing the information needed to modify the Uniform Standards in order to serve their specific market system needs, using the knowledge of what worked in the Northeast.

Bird identification will be necessary in the program in order to trace positives. A Bird Identification Working Group is working to develop bird identification standards under the National Animal Identification System for both commercial and non-commercial poultry groups.

The next meeting of the LBMWG will be in conjunction with the NE USAHA meeting, April 15, 2005 in Mystic, CT. For more information, please contact: Dr. Fidel Hegngi (301)734-6573 or Fidelis.N.Hegngi@aphis.usda.gov