

# Poultry

# HEALTH REPORT

A National Institute for Animal Agriculture Publication

Special Issue 2004

## Biosecurity for the Birds

### APHIS Campaign Educating Bird Owners

Last spring, USDA announced the launch of Biosecurity for the Birds, a campaign to educate bird owners about biosecurity, provide tips on how to recognize exotic Newcastle disease (END) and avian influenza (AI), and urge bird owners to rapidly report sick birds.

"Many bird owners may be unaware of simple measures that can be taken to protect the health of their birds," said Dr. Thomas J. Myers, director of Veterinary Services (VS) Certification and Control Team. "Because of the potential transmission to commercial flocks, should there be an outbreak of AI or END, understanding about biosecurity is important to protect the entire poultry industry."

Additionally, the campaign

seeks to have bird owners report sick birds to an animal health professional.

This campaign came about as a result of the outbreak of END in California and other western states in 2002 and 2003. This highly contagious and fatal disease cost the states and federal government more than \$180 million to eradicate and it cost countless bird owners their livelihoods and, in some cases, their pets.

#### Targeting Audiences

According to Myers, the Biosecurity for the Birds campaign is directed to backyard poultry owners and small flock producers, specialty groups, pet bird owners, diverse ethnic groups and FFA/4-H groups. These are audiences that might not be considered in typical poultry production. The campaign is also reaching out to key influencers, such as veterinarians, extension agents, feed suppliers and markets.

#### An Active Campaign

Biosecurity for the Birds information has been dispersed in numerous ways by APHIS, including advertising in local and ethnic papers in states with high concentrations of backyard poultry, and in mainstream agricultural publications as well as bird and poultry related web sites and rural electric cooperative newsletters. Some 35 states have participated in this campaign. APHIS has also partnered



with other organizations in order to get the biosecurity messages to the groups that need it most. During the recent fair season APHIS used the campaign to remind poultry owners to protect their birds from END and AI. It partnered with local FFA groups to assist area and state veterinary offices with the distribution of materials.

"We cannot overemphasize the importance of practicing biosecurity," Myers said. "It's the key to prevention for everyone, but particularly for backyard flocks." A video entitled *Backyard Biosecurity: Practices to Keep Your Birds Healthy* has just been produced and is available in a DVD format as well. "We are planning widespread distribution of this video," Myers added.

Looking ahead, APHIS has plans to continue sharing the message of biosecurity. Initiatives in the works include:

- Outreach to feed suppliers hatch-

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## Disease Facts: Exotic Newcastle Disease

Exotic Newcastle disease (END) is among the most highly infectious diseases for poultry. Highly contagious and very fatal, END can affect all species of birds. According to USDA, a death rate of almost 100 percent can occur in unvaccinated poultry flocks, while many birds die without clinical signs of the disease. END can infect and cause death even in vaccinated poultry.

Respiratory, nervous, and digestive systems are attacked by the END virus, causing a host of symptoms in infected poultry. The incubation period for the disease ranges

from two to 15 days. Clinical signs of END can include:

- Respiratory: sneezing, gasping for air, nasal discharge, coughing;
- Digestive: greenish, watery diarrhea;
- Nervous: depression, muscular tremors, drooping wings, twisting of head and neck, circling, complete paralysis;
- Partial to complete drop in egg production;
- Production of thin-shelled eggs;
- Swelling of the tissues around the eyes and in the neck;
- Sudden death; and
- Increased death loss in a flock.

END is found in bodily discharges of poultry, causing high rates of transmission through direct contact of healthy birds with infected birds or their discharge.

Commercial operations and birds in confinement become highly susceptible to END, causing rapid transmission.

Because the END virus is in high concentration in poultry discharge, direct bird contact is not the only means for transmission. Mechanical biosecurity remains highly important to prevent disease. Persons or equipment exposed to poultry discharge can pick up the disease and carry the virus to other sites. Often, vaccination and debeaking crews, manure haulers, rendering truck drivers, feed delivery personnel, poultry buyers, egg service people, poultry farm owners and employees can carry the virus from flock to flock. ●

Source: USDA



### Poultry HEALTH REPORT

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## Disease Facts: Avian Influenza

Avian Influenza (AI) has become quite prevalent worldwide, both in high pathogenicity (HPAI) and low pathogenicity (LPAI) classifications. Most AI virus strains are LPAI and typically cause little or no clinical signs in infected birds. However, some LPAI virus strains are capable of mutating under field conditions into HPAI viruses, which cause more illness in infected birds. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to keep HPAI from becoming established in the U.S. poultry population.

Birds affected with all forms of AI may show one or more of the following signs:

- Sudden death without clinical signs;
- Lack of energy and appetite;
- Decreased egg production;

- Soft-shelled or misshapen eggs;
- Swelling of the head, eyelids, comb, wattles and hocks;
- Purple discoloration of the wattles, combs and legs;
- Nasal discharge;
- Coughing, sneezing;
- Incoordination; and/or
- Diarrhea.

Multiple risks, such as exposure of poultry to migratory waterfowl and the international movement of poultry, poultry equipment and people may introduce AI into U.S. poultry populations. AI is spread by direct contact, as well as through bird exposure to contaminated persons, equipment or other objects. Biosecurity on all levels remains crucial to control of HPAI and LPAI. ●

Source: USDA

# Ending END: How California Dealt with the Disease

Whenever a devastating disease is discovered, the animal health world all but drops everything to focus on control and eradication measures focused on that disease.

The diagnosis of exotic Newcastle disease (END) in October 2002 changed the lives of many in the western U.S. poultry industry through resulting eradication efforts. Eleven months, more than \$200 million and 3.16 million depopulated birds later, the poultry industry has recovered from the devastating disease.

But how is such a serious problem dealt with? Let's take a look.

"Initially, there were reports of poultry dying unexpectedly in the Compton area in Los Angeles County," says Leticia Rico with the California Department of Food and Agriculture (CDFA). "Following initial results from the laboratory, we dispatched individuals to southern California."

As animal health officials investigated, more and more cases of the highly transmissible disease were found. As with any disease outbreak, the area was quarantined and the infected birds depopulated.

"Initially, we were dealing with backyard owners that were unknowingly spreading the disease," adds Rico. "We then began a public education campaign, both in English and Spanish to inform the backyard bird owners about controlling the disease."

In December 2002, a commercial flock in southern California was found with END. Since, 22 commercial flocks were destroyed in the eradication effort in the U.S. An Exotic Newcastle Disease Task Force was established and played a pivotal role in the eradication of END in southern California, with tireless testing of samples and con-

tinuing education throughout the communities struck with END. Costs to eradicate the disease were upwards of \$160 million in California alone. Nevada, Texas and Arizona also dealt with END, but on a smaller scale. Indemnification payments totaled \$23 million nation-wide.

By September 16, 2003,

## Since END Eradication...

It's been more than a year since exotic Newcastle disease was eradicated in the western part of the country. Much of the industry has returned to business as usual. However, California's Avian Health Program (AHP) continues to actively address biosecurity through a persistent surveillance program and a public education campaign. The campaign, which began prior to eradication, targets all bird owners, including pet store owners, feed stores and bird clubs, in addition to backyard bird owners and commercial producers and establishments.

The education program is a joint effort by the California Department of Food and Agriculture (CDFA) and the U.S. Department of Agriculture. AHP maintains a staff specifically focused on community outreach. The key message is biosecurity techniques. And the message is getting through, according to Leticia Rico of CDFA, utilizing both English and Spanish to spread the information.

The education campaign includes materials such as brochures, videos and a web page. Specifically, the web page provides visitors with an opportunity to take an interactive tutorial, complete with visual examples of what bird

California was declared free of END, allowing the \$1.3 billion industry to return to normal.

Although economic analysis shows that overall impacts could have been much more severe, lessons from END proved a difficult but valuable lesson for disease prevention and eradication. ●

See *END* | page 6

## END by the Numbers

**262,000,000**

dollars in estimated losses due to END

**3,160,000**

birds depopulated

**18,435**

premises quarantined

**3,182**

people received biosecurity training in California

**899**

backyard flocks depopulated

**22**

commercial flocks depopulated

**11**

months from discovery to eradication

# Biosecurity Tips: Six Ways to Prevent Disease

Unsure of biosecurity practices? USDA's Veterinary Services has developed six easy guidelines for preventing poultry disease as part of a biosecurity initiative.

**1. Keep Your Distance.** Restrict access to your property and your birds. Consider fencing off the area where you keep your birds and make a barrier



USDA Photo

area if possible. Allow only people who take care of your birds to come into contact with them. If visitors have birds of their own, do not let them near your birds. Game birds and migratory waterfowl should not have contact with your flock because they can carry germs and diseases.

**2. Keep It Clean.** Wear clean clothes, scrub your shoes with disinfectant, and wash your hands thoroughly before entering your bird area. Clean cages and change food and water daily. Clean and disinfect equipment that comes in contact with your birds or their droppings, including cages and tools. Remove manure before disinfecting. Properly dispose of dead birds.

**3. Don't Haul Disease Home.** If you have been near other

birds or bird owners, such as at a feed store, clean and disinfect car and truck tires, poultry cages, and equipment before going home. Have your birds been to a fair or exhibition? Keep them separated from the rest of your flock for at least 2 weeks after the event. New birds should be kept separate from your flock for at least 30 days.

**4. Don't Borrow Disease From Your Neighbor.**

Do not share birds, lawn and garden equipment, tools, or poultry supplies with your neighbors or other bird owners. If you do bring these items home, clean and disinfect them before they reach your property. And remember to clean and disinfect borrowed items before returning them. Never share items such as wooden pallets or cardboard egg cartons because they are porous and cannot be adequately cleaned and disinfected.

**5. Know the Warning Signs of Infectious Bird Diseases.**

Many bird diseases can be difficult to diagnose. Early detection of signs is very important to prevent the spread of disease.

- Sudden death
- Diarrhea
- Decreased or complete loss of egg production; soft-shelled, misshapen eggs
- Sneezing, gasping for air, nasal discharge, coughing
- Lack of energy and appetite
- Swelling of tissues around eyes and in neck
- Purple discoloration of the wattles, combs, and legs
- Depression, muscular tremors, drooping wings, twisting of head

and neck, incoordination, complete paralysis

**6. Report Sick Birds.** Do not wait to report unusual signs of disease or unexpected deaths among your birds. Call your agricultural extension agent, local veterinarian, the State Veterinarian, or U.S. Department of Agriculture (USDA) Veterinary Services office. USDA operates a toll-free hotline at 866-536-7593 with veterinarians prepared to help you. USDA wants to test sick birds to make sure they do not have a serious poultry disease. There is no charge for this service.

## Disinfectants

Cleaning and disinfecting is one of the most important steps you can take in practicing backyard biosecurity. Below are some examples of disinfectants available on the market. Follow the directions on the label carefully for the best results.

Thoroughly clean and scrub objects before applying disinfectants. Disinfectants cannot work on top of caked-on dirt and manure, so thoroughly wash surfaces before disinfecting.

Apply disinfectants using brushes, sponges and spray units. Allow adequate contact time (fol-



USDA Photo

low manufacturer's instructions.)

Dispose of used disinfectant according to local regulations.

Examples of Disinfectants

- Roccal®: Mix 1/2 fluid oz of Roccal per gallon of water.
- Nolvasan® (chlorhexidine diacetate 2 percent): Mix 3 fluid oz of Nolvasan per gallon of water.
- Household bleach (sodium hypochlorite 6 percent): Mix 3/4 cup of household bleach per gallon of water.
- Lysol® spray for footwear
- Purell® hand pump for hand disinfection

*Note: Trade names mentioned here do not constitute an endorsement, guarantee, or warranty of these products. USDA bears no responsibility resulting from the use of the described products. These procedures are not guaranteed to prevent highly contagious diseases from affecting your birds; however, they will reduce the risks.*

### Why Be Concerned?

An outbreak of a bird disease such as exotic Newcastle disease or highly pathogenic avian influenza could not only harm or kill your birds, it could spread quickly and kill other nearby birds.

Early detection and reporting is the most important step in containing and eradicating a disease outbreak. Don't be afraid to report disease. State and Federal veterinarians want to hear about sick and dying birds.

There is no charge for USDA veterinarians to work with you to conduct a disease investigation. Call 866-536-7593. ●

Source: USDA, APHIS, Veterinary Services

## Biosecurity | VS Launches New Program

(continued from page 1)

eries and Hispanic communities

- Development of webinar (web-based seminar) with Petsmart Charities
- Outreach to bird clubs with distribution of a PowerPoint presentation and related materials.
- Continue targeted advertising and public relations efforts
- Continue assistance to states and federal agencies

### Surveillance

Surveillance is a crucial part of disease prevention and control.

APHIS' Veterinary Services is working with individual states on an emergency national disease surveillance program aimed at non-commercial poultry and bird owners.

In partnership with states, VS anticipates the campaign will encourage rapid reporting of clinical signs of disease, particularly in states where there is a large presence of backyard poultry. Bird and poultry owners can report sick birds to their veterinarian, a local extension agent, their State Veterinarian, or the Federal Area Veterinarian toll free at 866-536-7593.

### Resource Information

Informational materials on the topics of biosecurity, END and AI have been created for this cam-

campaign and are available electronically as well as in hard copy.

Campaign Materials are on the Internet at [www.aphis.usda.gov/vs/birdbiosecurity/materials.html](http://www.aphis.usda.gov/vs/birdbiosecurity/materials.html) All materials are free of charge. To order, e-mail [birdbiosecurity@aphis.usda.gov](mailto:birdbiosecurity@aphis.usda.gov) and include name, address and phone number and the name and quantity of materials. Materials include:

- DVD/Video, *Backyard Biosecurity: Practices to Keep Your Birds Healthy*. This video will take viewers through six simple steps that can incorporate into everyday practice in order to protect their birds against disease.
- PowerPoint presentation, including slides and notes, *Biosecurity For the Birds: A Step By Step Approach*. It is designed for individuals to present to groups such as bird clubs or 4-H. It is available as a CD (ready in December) or via e-mail.
- Brochure, *Backyard Biosecurity: Practices to Keep Your Birds Healthy*.
- Poster, *Backyard Biosecurity 6 Ways to Prevent Poultry Diseases*
- Card, Avian Influenza
- Card, Exotic Newcastle Disease

All printed materials are available in English and Spanish. To see all available materials, go to the Internet at [www.aphis.usda.gov/vs/birdbiosecurity](http://www.aphis.usda.gov/vs/birdbiosecurity). ●



USDA's Biosecurity for the Birds campaign encourages bird owners to look for signs, practice backyard biosecurity and report sick birds.

## USDA, ATA Release Biosecurity Guidelines for Transporters

The U.S. Department of Agriculture (USDA) has announced the release of voluntary security guidance for over-the-road transporters of agricultural and food commodities to bolster national security and safeguard public health. The guidance was developed in partnership with the Agricultural and Food Transporters Conference (AFTC) of the American Trucking Association (ATA).

The Guide for Security Practices in Transporting Agricultural and Food Commodities is designed to enhance security measures practiced by the nation's approximately 27,000 commercial transporters of agricultural and food-related products across the nation each year. Although issued by USDA, the recommendations apply to agricultural commodities and food products of all types, whether regulated by USDA or the Food and Drug Administration (FDA).

"These guidelines are practical, flexible and proactive," said Agriculture Deputy Secretary Jim Moseley.

Fletcher Hall, executive director of ATA's Agricultural and Food Conference, said the fact that the voluntary guidelines were a partnership between the private sector and government is significant.

In February 2003, the White House Office of Homeland Security identified food and agriculture as one of 11 critical infrastructures in the U.S. that terrorists may seek to target. Agricultural and food commodities in transport are thought to be significant target for terrorists.

The guidelines provide a basic blueprint for planning for and implementing risk-based security management practices to ensure the



USDA Photo

continued safety and security of these products, the people who transport them and the communications systems that enable their movement.

The guidelines emphasize a four-part approach of awareness of potential terrorist behavior and emergency response plans, recognition of terrorist activity in progress, communication of potential threats within companies and to proper authorities, and action to be taken if and when these situations occur.

The document is available on the Internet at [www.usda.gov/homelandsecurity/aftcsecurguidfinal19.pdf](http://www.usda.gov/homelandsecurity/aftcsecurguidfinal19.pdf). Additionally, the ATA/AFTC website offers information for acquiring the guide at [www.truckline.com/cc/conferences/atc](http://www.truckline.com/cc/conferences/atc). ●

## END | Since Eradication

(continued from page 3)

tering the test in person as well, as part of the outreach campaign.

"To date, 3,182 people have received biosecurity training," notes Rico. "This figure includes a mix of commercial poultry facility managers and employees, swap meet vendors, pet store personnel, animal control officers, custom slaughter plants, feed store personnel, and backyard bird owners."

The video also has become a valuable tool in educating commercial producers in California.

"Producers can use the video to educate employees about the importance and techniques of biosecurity," says Rico. "Management training is a big part of this as well."

California's ongoing surveillance program, operated through the AHP, is critical to finding a potential disease and controlling it before it becomes a full-scale outbreak with major economic impacts. No additional cases have been found. However, CDEFA is still encouraging bird owners to call the hotline if there are potential cases throughout the state. ●

## LPAI Uniform Standards Published

USDA has recently released uniform standards for Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza (LPAI) in the Live Bird Market System. The standards are designed as a guideline specifically for live bird market operators. This cooperative state-federal-industry program will ideally provide an added layer of protection

for U.S. poultry in dealing with avian influenza. The standards became effective on October 20 of this year, and apply to anyone involved in a live bird market system, from suppliers to transporters to the markets themselves. Look for more information regarding the LPAI program in the Fall 2004 issue of *Poultry Health Report*.

# Avian Influenza Influencing the United States

The United States has a good record in controlling outbreaks of AI across the country, minimizing the spread once it has manifested in a flock. When HPAI hit in Texas in February of this year, fast action by the producer and the state helped to minimize the effects of HPAI. Texas achieved eradication within about five weeks.

"We were very fortunate that this outbreak included only one farm," said Dr. Max Coats, a veterinarian with the Texas Animal Health Commission, following the eradication. "The flock owner acted quickly when he noticed higher than normal death losses."

The eastern seaboard has also been dealing with AI, however this is low pathogenicity AI. Cases have been reported in both commercial and non-commercial flocks, as well as live bird markets.

Aside from challenges in quarantine and depopulation of affected flocks, trade issues have risen to the forefront of dealing with AI infections. Thus, many countries still have trade bans on U.S. poultry, either nationwide or region-specific.

Dr. Peter Fernandez, associate administrator of USDA's Animal and Plant Health Inspection Service, reported to the World Organization for Animal Health (OIE) that the H7N2 strain of AI that struck Delaware and Maryland was eradicated as of mid-May. This was a big step in lifting trade bans on the U.S.

The latest report from APHIS shows that some of the U.S.' key trading partners, such as Japan, China and Mexico maintain trade bans related to past experiences with avian influenza in California, Connecticut, Delaware, Maryland,

Missouri, New Jersey, Pennsylvania, Rhode Island and Texas. Japan has recently lifted bans on Rhode Island, Maryland and Delaware.

USDA's Economic Research Service has reported a 14 percent decline in broiler exports in the second quarter of 2004. The first half of this year also brought a nearly 70 percent decline in broiler exports to Asia. This is likely attributable to the partial or whole

poultry trade bans in China, Hong Kong, Korea and Japan.

Internationally, avian influenza continues to devastate countries such as Thailand and Malaysia. The HPAI strains affecting these countries have also had zoonotic effects, with human deaths being reported from those areas. Overall, the U.S. has been fortunate in minimizing AI effects. ●

## Partnership Provides Safeguards for Animal Health

Now that the National Animal Health Laboratory Network is up and running, authorities are better positioned to respond to animal health emergencies whether they might be bioterrorist events, emergence of new domestic diseases or the introduction of a foreign animal disease.

The NAHLN is part of a strategy to coordinate the extensive infrastructure of State and University animal health laboratories into a national network with the National Veterinary Services Laboratories (NVSL) as the central reference laboratory. NVSL coordinates activities, participates in method validation and provides assistance for NAHLN.

"The NAHLN will help assure that we have the capacity and capability to adequately respond to an animal health emergency," says Dr. Barb Martin, coordinator of the NAHLN. "A tremendous amount of skill and talent exists in the veterinary diagnostic laboratories throughout the U.S. Forming an animal health labora-

tory network allows us to work together to protect the health of our national herds."

The network began in FY 2002, when USDA used funding from the Department of Homeland Security to establish the network. The laboratories focused on rapid assays for eight foreign animal diseases. In just two years, the network has evolved into a multifaceted laboratory network of 43 laboratories in 37 states, which are available to assist the NVSL in providing animal diagnostic services when emergencies arise, taxing the federal laboratory diagnostic capabilities.

A NAHLN Steering Committee provides oversight to the network, including representatives from the National Veterinary Services Laboratories, the American Association of Veterinary Laboratory Diagnosticians, Cooperative State Research, Education and Extension Service and the U.S. Animal Health Association.

# Poultry 2004 Survey Gets Underway

The U.S. Department of Agriculture's Centers for Epidemiology and Animal Health (CEAH) is embarking on a national study of the nation's nontraditional poultry industries. Poultry 2004, a study conducted by CEAH's National Animal Health Monitoring System (NAHMS), will take an in-depth look at small-production backyard flocks and live poultry markets.

Data will be collected via questionnaires on biosecurity practices and on the health and movement of various bird species. NAHMS is operated by the National Center for Animal Health Surveillance at CEAH's headquarters in Fort Collins, Colo.

The three goals of the Poultry 2004 Study are:

- Help provide information to improve management practices that affect bird health,

- Assist animal health officials and industry members in identifying research needs, and
- Provide owners of small-production or backyard flocks with information on avian influenza, exotic Newcastle disease and effective biosecurity practices.

NAHMS will use a random sample of commercial poultry operations from 18 of the top poultry producing states. These include Alabama, Arkansas, California, Delaware, Georgia, Iowa, Indiana, Maryland, Minnesota, Missouri, Mississippi, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas and West Virginia. A questionnaire is being administered currently to non-commercial oper-

*"Whether you raise poultry on a large commercial basis or on a smaller, home-hobby scale, the information acquired through this survey will be beneficial to the pursuit of healthy and thriving bird populations."*

—DR. CHARLES BEARD  
U.S. POULTRY AND EGG ASSN.

ations within a 1-mile radius of the randomly selected commercial operations. Data will also be collected from live-poultry markets beginning in 2005.

"The small-production backyard flock is an integral part of the U.S. poultry industry," said Dr. Charles Stoltenow, president of the American Association of Extension Veterinarians. "This study will help to identify the research needs of these small flocks."

Dr. Charles Beard, vice presi-



USDA Photo

*The Poultry 2004 Study, conducted by the National Animal Health Monitoring System, will address smaller production operations.*

dent for research and technology with the U.S. Poultry and Egg Association, said there is no good substitute for accurate information. "Whether you raise poultry on a large commercial basis or on a smaller, home-hobby scale, the information acquired through this survey will be beneficial to the pursuit of healthy and thriving bird populations."

The National Center for Animal Health Surveillance performs studies each year on major species in the United States. NAHMS was initiated in 1983 to collect, analyze, and disseminate data on animal health, management, and productivity across the United States. The NAHMS Program Unit conducts national studies on the health and health management of America's domestic livestock populations. The last NAHMS poultry-related study was completed in 1999, focusing on layers. All NAHMS participants are kept confidential and are voluntary.

For more information on the study, go on the Internet at [www.aphis.usda.gov/vs/ceah/cnahs](http://www.aphis.usda.gov/vs/ceah/cnahs). ●

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