

Poultry HEALTH REPORT

A National Institute for Animal Agriculture Publication

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Texas Discovers, Rids Exotic Newcastle Disease Case

State and federal animal health authorities are one step closer to releasing restrictions on birds in El Paso County, Texas, following an outbreak of exotic Newcastle disease in backyard birds in El Paso in early April. After testing more than 800 backyard flocks in El Paso and surrounding counties, state and federal veterinarians say they have sufficient scientific evidence that there is no additional END infection in the area.

"As of May 28, birds and poultry may be moved freely again within El Paso County," said Dr. Bob Hillman, state veterinarian and executive director of the Texas Animal Health Commission (TAHC), the state's livestock and poultry health regulatory agency.

Birds and poultry still may not be transported beyond the county borders, until state and federal quarantines are lifted.

"The task force in El Paso has submitted a request to the USDA for federal quarantine release, and the supporting documentation is being reviewed. We hope the process will take only a few days," said Hillman. Until the quarantines are released, birds and poultry still may not move out of El Paso and Hudspeth Counties in Texas, and Dona Anna, Luna and Otero Counties in New Mexico. The additional counties were quarantined to provide a buffer zone around El Paso County and because it is considered a "trade area" in which there is significant

movement of birds and poultry.

Poultry movement from five counties in Texas and New Mexico was prohibited after laboratory tests confirmed exotic Newcastle disease (END) had infected a backyard flock of chickens near El Paso in April. State and federal animal health officials destroyed the flock.

"USDA and state quarantines will be lifted simultaneously," said Dr. Max Coats, TAHC's deputy director for animal health programs. "A very small area within El Paso County, however, will remain quarantined until mid October...so that we can be assured no virus remains in the area, and to meet requirements for

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Quarantine Boundaries for END Revised by USDA

The United States Department of Agriculture announced May 16 that it has amended the quarantine boundaries for exotic Newcastle disease by removing Mohave and Uma Counties in Arizona, Nye County in Nevada, and portions of La Paz County in Arizona and Clark County in Nevada, from the list of quarantined areas. This action removes restrictions on the movement of birds and poultry from those areas.

Exotic Newcastle disease is a fatal viral disease that affects all species of birds, but poses no

human health risks. END was first confirmed in backyard poultry in southern California in October 2002 and in commercial poultry in December. It was later identified in Nevada and Arizona in January and February, respectively. In April, the disease was also diagnosed in Texas.

The outbreak has had a significant economic impact on the U.S. poultry industry. Prohibitions on U.S. poultry imports have been put in place by Canada, Mexico, China, Japan, Korea, the Philippines, Poland, Tahiti,

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Diagnostic Tool Helpful in Efforts to Contain END

Newly developed rapid diagnostic assays to detect exotic Newcastle disease (END) within hours have "significantly aided" containment of the poultry disease. That's the view of Dr. Alex Ardans, director of the California Animal Health and Food Safety Laboratory system based at the University of California School of Veterinary Medicine at Davis.

At the time of the END outbreak in California last October, available assays to identify the dis-

ease required six to 12 days, according to Ardans. Diagnosticians at U.C. Davis worked with researchers at Lawrence Livermore National Laboratory to develop an assay that allows identification of the virus within four hours of receiving the sample.

Also playing a key role were scientists at the Southeast Poultry Research Laboratory in Athens, Ga., who helped by designing sequencing probes for the assays. In conjunction with scientists at the National Veterinary Services Laboratories in Ames, Iowa, they assisted in validation of the test for official laboratory use throughout the country.

The rapid tests are being used to assist state and federal END task force personnel in disease detection and control efforts. Since October, over three million commercial egg-producing chickens have been euthanized in California because of END. More than 100,000 game birds and backyard poultry have also been

euthanized.

Ardans believes federal and state agriculture officials are making headway in the fight against END, with the number of new cases of infected "backyard birds" decreasing.

The faster detection method allows diagnosticians to more quickly identify affected animals and isolate them before the disease spreads. The rapid test is also proving useful in the rapid differentiation of exotic Newcastle disease virus from closely related Newcastle disease viruses used in vaccines or those causing less severe disease.

In addition to disease identification in affected birds, the rapid test is also now being used routinely in surveillance efforts in unaffected commercial flocks to assure their disease-free status. These efforts, involving nearly 600 different poultry houses, will continue after the outbreak is contained as a disease surveillance program to demonstrate that the state is free of the disease.



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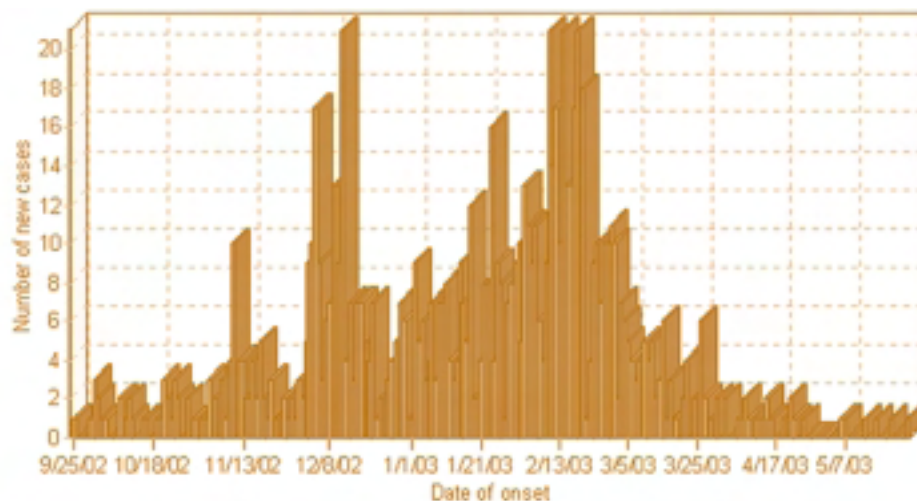
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**Epidemic Curve of Exotic Newcastle Disease
in the Southwestern US (9/26/02 to 5/27/03)**



Source: Exotic Newcastle Disease Task Force

Quarantine Boundaries for END Revised by USDA *(continued from page 1)*

Taiwan, the European Union, Argentina and Guam. The United States exports approximately \$2.5 billion worth of poultry a year.

END is considered to be one of the most infectious poultry diseases in the world. The virus is spread primarily through direct contact between healthy birds and the bodily discharges of infected birds. The disease is transmitted through infected birds' droppings and secretions from the nose, mouth and eyes.

Recent Actions:

- On May 13, operational activities at the Nevada Incident Command were officially complete and the Command was closed.
- On May 14, the USDA's Animal and Plant Health Inspection Service expanded the federal quarantine in California that regulates the interstate movement of all species of birds and poultry products to include a portion of Kern County.

- On May 15, operational activities at the Arizona Incident Command were officially complete and the Command was closed.

As of the end of May there were still over 15 thousand premises quarantined in California and nearly 1,000 personnel assigned to the containment and eradication efforts there. Of the quarantined premises, 156 backyard flocks and 16 commercial poultry operations are known to be END positive.

The Magnitude of END Outbreaks in the Southwest and Western United States

Cumulative Statistics	California	Texas	Arizona	Nevada	Total
Total Premises Quarantined	17,886	498	67	155	18,606
Total Premises Released	2,745	2	66	155	2,968
Total Positive Premises	919	1	1	10	931
Total Premises Depopulated	2,457	41	6	47	2,651
Total Birds Depopulated	3,493,195	1,871	269	2,746	3,498,081
Counties with Currently Positive and/or Contact Premises	Kern Los Angeles Riverside San Bernardino San Diego				

Source: USDA, May 29, 2003

Texas Discovers, Rids Exotic Newcastle Disease Case *(continued from page 1)*

regaining international trade status."

While END was diagnosed in a single backyard flock in Far West Texas, it impacted the commercial poultry industry, most of which is congregated in East Texas. "For the commercial chicken, turkey or egg producer, END has financially devastating consequences, even

when the disease strikes hundreds of miles away," explained Dr. Travis Cigainero, a veterinarian with Texas-based Pilgrim's Pride Corporation. "One infected flocks puts the entire commercial poultry industry in jeopardy..." He points out that Texas is the sixth leading exporter of poultry and poultry products in the U.S.

Texas follows California, Arizona and Nevada, states that have also diagnosed END during the past year. DNA sequencing analysis has confirmed that the Texas outbreak was caused by a separate introduction of virus and not by movement of virus from the western states.

APHIS Dedicates New Emergency Operations Center



Deputy Secretary of Agriculture Jim Moseley dedicated the APHIS Emergency Operations Center on April 3rd. The center is able to coordinate with USDA and the Department of Homeland Security. Behind Moseley in this photo, screens show the center's multi-site video teleconferencing capabilities. His remarks were broadcast to three remote locations which could be seen by attendees throughout the center.

A state-of-the-art facility that will significantly improve the Animal and Plant Health Inspection Service' (APHIS) capability to coordinate responses to animal and plant health emergencies was officially dedicated on April 3.

Located at USDA's Veterinary Services headquarters in Riverdale, Md., the emergency operations center (AEOC) will serve as the national command and coordination center for APHIS emergency programs' disaster management.

According to Dr. Joseph Anelli, director of emergency programs for USDA, APHIS, Veterinary Services, the center can be used in both routine and emergency situations. "During an emergency, the AEOC can support 40 or more personnel and operate 24 hours a day, seven days a week," said Anelli. "When an emergency operation is not underway, the AEOC facilities will be used to monitor and report on international and domestic surveillance of pest pathogens and

disease conditions of concern and to conduct advanced training."

The AEOC will be used through all phases of an emergency, from initial situation assessment through response coordination and support and then to wrap-up phases.

The AEOC features advanced technology that allows AEOC team members to communicate with field personnel and USDA leadership. Communications capabilities include video teleconferencing, advanced computer interfaces, geographical information system mapping, and a strong multimedia component.

"Teams working in the AEOC now have a greatly enhanced ability to collect, analyze, and disseminate information, enabling them to meet any animal or plant health emergency with a well-orchestrated and technologically advanced emergency response."

"Teams working in the AEOC now have a greatly enhanced ability to collect, analyze, and disseminate information, enabling them to meet any animal or plant health emergency with a well-orchestrated and technologically advanced emergency response," said Anelli. He said national response management team can direct necessary resources and communicate with appropriate stakeholders by coordinating with other federal, state, and international organizations, including the Department of Homeland Security.

The spatial layout of the AEOC provides both large gathering areas and private workspaces. The Center for Intelligence Collection is a large, open space that includes the

projection area and 21 emergency operation stations. The Leadership Incident Coordination Center is used for assembling and briefing key leadership. Another room is dedicated to receiving and storing classified information. A briefing room, with seating for 25 to 30 people, can be used to assemble stakeholder groups. It can also serve as a training classroom. There are also conference rooms and a number of individual offices.

"AEOC team members are trained in incident command system procedures of emergency management and now have an enhanced ability to keep leadership informed of the status of emergencies," said APHIS Administrator Bobby Acord. "Having this world-class facility to coordinate and support emergency response helps APHIS to provide leadership during national emergencies and greatly enhances our ability to work with partners."

AEOC At-a-Glance

- Development started in September 1999.
- The size of the center is 8,800 square feet.
- It is supported by a 400-kilowatt generator as an emergency power source.
- It features four, 65-inch rear projection screens, 40 high-resolution computers, and global positioning system time-zone clock displays.
- The AEOC was designed at a cost of \$87,321. Construction cost was \$587,626. The advanced electronics systems cost \$2.6 million.

Alliance Develops Criteria for Assessing Animal Care Principles

The Animal Agriculture Alliance has announced completion of its science-based report on criteria to be used in assessing farm animal care programs. The report commissioned by the Alliance and conducted through the joint efforts of the Federation of Animal Science Societies (FASS) and the American Registry of Professional Animal Scientists (ARPAS) provides by-species criteria for the evaluation of animal care guidelines developed by the various producer organizations.

Kenneth E. Olson, Ph.D., PAS, was selected by FASS to serve as project coordinator and to chair the multi-disciplined steering committee and species committees, which included veterinarians, animal behaviorists and animal scientists from all disciplines.

According to Dr. Barbara Glenn, executive vice president and scientific liaison for FASS, "The report is designed to provide a means for evaluating producer animal care guidelines or programs to determine if they are consistent with current scientific understanding for animal well-being and for compliance with the Animal Agriculture Alliance Animal Care Principles."

The Alliance Animal Care Principles incorporate standards for care regarding food and water, health and veterinary care, environment, husbandry practices, handling and transportation.

Individual producer organizations have either established or are establishing animal care and well-being programs for their members. Don Dalton, president of the U.S. Poultry & Egg Association and immediate past chairman of the Alliance said, "By commissioning

FASS/ARPAS to develop this report, the Alliance is providing another tool for each producer organization to use in developing or further evaluating their respective animal well-being programs."

The FASS/ARPAS report includes general management principles and overarching criteria for animal well-being, in addition to species-specific criteria for beef cattle, dairy cattle, swine, broilers, layers, turkeys, ducks, sheep and veal producers.

In the second phase of this program, the Alliance has commissioned FASS/ARPAS to provide a process by which producer groups can request a review of their guide-

lines based upon the evaluation report. Each species group that requests a review will have its guidelines reviewed by the same species committee that developed its species evaluation criteria report. All associated costs will be paid for by the Alliance.

The Animal Agriculture Alliance, a 501(c)(3) tax-exempt organization, is a broad-based coalition of individual producers, producer organizations, private industry, packer-processors and retailers, whose mission is to support and promote animal agriculture practices that provide for farm animal well-being through sound science and public education.

Animal Care Principles

To promote animal well-being and produce animal food products of the highest quality, the Animal Agriculture Alliance recommends adherence to the animal care principles that follow. These principles are the essential building blocks for professional animal care. Owners and managers of animal operations are committed to these principles.

The health and well-being of animals raised for food may be judged using science-based behavioral, physiological, biochemical, pathological criteria, and other characteristics. These criteria are all used to assess well-being; all have shortcomings when used individually. A combination of these criteria generally provides the best assessment of animal well-being.

- **Food and Water.** Provide access

to good quality water and nutritionally balanced diets as appropriate for the species.

- **Health and Veterinary Care.** Implement science-based animal health programs, including prudent product use, and provide appropriate veterinary care when required.
- **Environment.** Provide living conditions sufficient to meet the well-being needs of the animal as appropriate to each species.
- **Husbandry Practices.** Implement science-based husbandry practices appropriate to the species.
- **Handling.** Ensure proper handling practices throughout the life of the animal as appropriate to each species.
- **Transportation.** Provide transportation that avoids undue stress as appropriate to each species.

World Poultry Meeting to Convene in Denver in July



The XIII Congress of the World Veterinary Poultry Association will be held in Denver, July 19-23, 2003, in conjunction with the annual meetings of the American Veterinary Medical Association and the American Association of Avian Pathologists.

Participation by veterinarians and scientists from more than 40 countries is expected. The program will include over 400 technical presentations, divided between

keynote lectures, oral papers and poster presentations.

Highlights will include the Houghton Lecture, given by Dr. Vladimir Zelnik of the Institute of Virology in Bratislava, Slovakia, and the Lasher History Lecture, given by Dr. Peter Biggs from the United Kingdom.

Information on registration and social events can be obtained from the Congress website: www.avian.uga.edu/~wvpa/index.htm.

Gamebird Industry Put on Notice

A prohibition on the interstate and international movement of animals for fighting, which directly addresses gamefowl movements for fighting, was published in the Federal Register on May 12, 2003. The Animal and Plant Health Inspection Service published the notice to increase public visibility of the additional AWA provisions regarding animal fighting venture prohibitions.

The Farm Security and Rural Investment Act of 2002 amended section 26 of the Animal Welfare Act (AWA) by adding specific provisions regarding the sale, purchase, transportation, delivery, or receipt of live birds in commerce for participation in animal fighting ventures in states where the practice is permitted by law.

In general, it is unlawful for any person to knowingly sponsor or exhibit an animal in an animal fighting venture, if any animal in the venture was moved interstate or foreign commerce. States that allow bird fighting are not excluded from the interstate/foreign commerce provision.

USDA Proposes Amendment to National Poultry Improvement Plan

The U.S. Department of Agriculture is proposing to amend the National Poultry Improvement Plan and its auxiliary provisions by providing new or modified sampling and testing procedures for NPIP participants and participating flocks.

The proposed changes were voted on and approved by the voting delegates at the NPIP 2002 Conference. The changes would keep the provisions of the Plan

current with changes in the poultry industry and provide for the use of new sampling and testing procedures.

The proposed rule is published in the May 23 *Federal Register*. Consideration will be given to comments received on or before July 22. The proposed rule, Document # 03-017-1, can be viewed on the Internet at www.aphis.usda.gov/ppd/rad/webreport.html, or call 202-690-2817.

VS "Safeguarding Animal Health in 2002" Report Now on the Web

USDA's Animal and Plant Health Inspection Service's Veterinary Services

(VS) has made available its annual report for fiscal year 2002.

The report highlights VS activities in domestic detection and surveillance, exclusion, international information, response, regional highlights, and communications and outreach.



VS is charged with protecting the \$100 billion-a-year livestock industry from foreign and domestic animal diseases and supports USDA's efforts in opening new markets for U.S. animal products.

The report, *Safeguarding Animal Health in 2002*, is available on the Internet at www.aphis.usda.gov/vs.

ARS: New Vaccine To Fight Salmonella in Eggs

Developing an oil emulsion vaccine to reduce the possibility of *Salmonella enteritidis* entering chicken eggs is the aim of scientists at the Agricultural Research Service's Southeast Poultry Research Laboratory in Athens, Ga. Immunologist Peter Holt, retired veterinarian Henry Stone and immunochemist Cam Greene have developed an oil emulsion vaccine of inactivated *S. enteritidis* that protected hens exposed to the organism.

Hens infected with *Salmonella* can transmit the organism into their eggs. People who eat infected eggs can get salmonellosis, a disease characterized by nausea, vomiting and severe diarrhea.

In studies at Athens, birds were vaccinated twice and then exposed to *S. enteritidis*. The new vaccine reduced *S. enteritidis* shedding in the birds' feces by 10 to 40 percent. A patent for the vaccine has been

filed and is available for licensing.

The experimental oil emulsion vaccine is more effective than commercial vaccines because it boosts levels of antibodies that the hens produce to fight the infection, reducing *S. enteritidis* inside their intestines. This, in turn, decreases the chance that the bacterium will spread further through the birds' bodies, or that it will be shed in their feces.

An improved vaccine that reduces *Salmonella* shedding would be helpful to the poultry industry, since this is the primary method by which *Salmonella* infection spreads through a flock. Vaccinating poultry flocks against *Salmonella* is an important practice within the industry today.

Approximately 25 million doses of *S. enteritidis* vaccine are used annually in U.S. poultry, while 50 to 75 million doses are used worldwide.

USAHA Announces 2003 Annual Meeting

The 107th annual meeting of the United States Animal Health Association will be held Oct. 9-16 in San Diego, Calif. As in past years, the meeting will be held in conjunction with the 46th annual meeting of the American Association of Veterinary Laboratory Diagnosticians.

According to USAHA President Bob Frost, a special session on international agricultural trade will feature a presentation by Dr. Bernard Vallat, Director-General of the Office Internationale des Epizooties (OIE). Headquartered in Paris, France, OIE is the organization that sets international animal health standards. Established in 1924 with 28 signatory countries, OIE now includes 162 member nations.

Frost also said that USAHA and AAVLD members will continue to address implementation of a national animal health laboratory network. Such a network will facilitate the early diagnosis of potentially devastating livestock and poultry diseases and therefore be of great aid in combating all types of diseases.

Additional topics that will be discussed include the continuing threat of bioterrorism, animal disease surveillance, and the ability to trace the movement of animals.

The USAHA annual meeting is open to animal health officials, producers, practicing veterinarians, scientists, laboratory officials, allied organizations and others with an interest in these subjects. For registration and hotel information, call (804) 285-3210 or log on to www.usaha.org.

Study Shows Reduction in Salmonella Incidence

Data released from the U.S. Department of Agriculture's Food Safety and Inspection Service shows that overall, the regulatory sampling prevalence of *Salmonella* in raw meat and poultry continues to decrease.

In 2002, FSIS took 58,085 *Salmonella* samples, compared to 45,941 in 2001; a 26.4 percent increase in the number of samples taken. However, the percentage of samples testing positive for *Salmonella* across all commodities dropped from 5.0 to 4.3 percent. Positive

Salmonella samples from very small broiler plants showed the greatest decrease, from 37.2 percent in 2001 to 8.4 percent in 2002.

FSIS collects and analyzes regulatory *Salmonella* samples in seven categories: broilers, market hogs, cows/bulls, steers/heifers, ground beef, ground chicken, and ground turkey. Six of the seven categories showed improvement between 2001 and 2002, with only ground chicken showing an increase in positive test results.

New Test Will Aid Rapid Detection of AI in Live Bird Markets

A strain of avian influenza that has been endemic in live bird markets can now be detected quickly using a new laboratory test developed by an Agricultural Research Service scientist.

ARS veterinary medical officer David Suarez developed the test to quickly identify birds infected with the avian influenza strain H7N2, which has been found among birds in northeastern U.S. markets since 1994. Live bird markets in New York City and other areas sell a broad variety of poultry.

The laboratory test, called the real-time reverse transcriptase-polymerase chain reaction test (RT-PCR), uses a fluorescent probe and produces results in less than three hours.

For poultry, influenza infections can range from mild to severe, causing production losses or, in severe cases, sickness and death. The deadly form is called highly pathogenic avian influenza (HPAI). The mild form is hard to differentiate from other, more common health characteristics in a flock. Suarez's test uses the virus's genetic code to identify it.

In Virginia recently, a mild form of avian influenza infected 197 flocks, forcing authorities to humanely euthanize 4.5 million birds as a precaution. The virus remained as a mild strain, but had the potential to mutate and decimate flocks in as little as a week.

Live bird markets serve as central mixing areas for avian influen-

za viruses. The markets can harbor viruses and act as virus "reservoirs" from which the disease organisms can spread to larger commercial facilities.

The mild form H7N2 virus has been found in commercial poultry operations at least three times in the last five years, causing disease and serious economic losses for the industry. A 1983 outbreak cost \$63 million in federal funds and \$350 million in increased consumer costs. This new test may aid in identifying the viruses earlier and with more accuracy, therefore helping to control the disease and reduce such economic losses.

By Sharon Durham, ARS

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