

# California Poultry Letter

University of California • Cooperative Extension

November-December 2002

## Industry Cooperation the Key to Avian Influenza Control

Since the winter of 2000 poultry producers in California have experienced breaks with a low pathogenicity strain of avian influenza virus typed as an H6N2 strain. This virus was initially detected in February 2000 in commercial egg laying chickens in Southern California and was restricted in its spread. Probably, the spread of the virus was limited by biosecurity measures instituted by many producers and also by the relative inability of this virus to spread well between chicken flocks. By 2001 the flocks infected in 2000 no longer had virus although they still had antibodies.

In 2001 a few new cases appeared in laying chickens. The viruses that were isolated from these cases were still H6N2 and still typed as low pathogenicity strains, however, they had some genetic changes. In early 2002, the virus appeared again in egg layers in Southern California and spread much further than the original break in 2000. The virus isolated in 2002 was still an H6N2 low pathogenicity virus but more genetic changes had occurred. Poultry producers began to report that this new strain was causing more severe egg production drops and greater mortality in infected flocks. The virus was transmitted to commercial flocks in the Central Valley of California in the spring of 2002. In response to spreading disease, the commercial poultry producers in California developed a cooperative industry plan to control avian influenza. This plan has now been adopted by poultry producers all over the state.

The industry plan defines negative flocks as flocks that have never been infected, positive flocks as those that currently have virus and virus negative flocks as those that had virus but no longer do (they may still have antibodies). This control plan includes guidelines for communication, flock monitoring for the virus, the required response by farms in case of an outbreak and procedures to prevent infections in future flocks.

As an example of how this plan has controlled avian influenza in California, a recent outbreak with this virus appeared in September 2002. The producer detected the problem very quickly and immediately stopped all movements in and out of the farm. The flocks had been scheduled for push-out, which threatened exposure of many naïve flocks if they were transported to the slaughter plant. Instead, the producer cancelled the movement of the flocks and used on farm euthanasia and composting for depopulation. No other flocks have become positive in the area and we believe this producer's efforts prevented further spread of this virus. No new flocks have been placed at this location and this farm is now negative.

In the summer of 2002, the locations infected from January through May of 2002, became either virus negative or negative. Today, the majority of poultry producers voluntarily submit blood to the diagnostic lab for regular testing and thus know the avian influenza status of their flocks.

The avian influenza virus is not gone from California, although it has mostly disappeared from commercial flocks. As poultry veterinarians and avian scientists, we know that avian influenza virus will never be gone because reservoirs of the virus in wild ducks and geese are numerous. Avian influenza viruses are everywhere in the world and are frequently introduced into commercial poultry flocks. The most important aspects of preventing this disease from becoming a problem are 1) finding infections rapidly, 2) having a plan in place for what will happen if there is a break, and 3) preventing infections in future flocks. The California poultry industry has measures in place that will detect and control any future breaks of avian influenza in commercial poultry. If we are to be successful in controlling this virus in the future it is critical that these programs are continued.

*Dr. Carol Cardona*  
*Extension Poultry Veterinarian*

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# National Poultry Waste Management Symposium Report

The symposium was held in Birmingham, AL October 27-29. The program featured the latest technical information about all aspects of waste management related to the poultry industry. The proceedings of this meeting (380 pages) are available from John Blake, Department of Poultry Science, Auburn University, Auburn, AL 36849-5416; E-mail <[jblake@acesag.auburn.edu](mailto:jblake@acesag.auburn.edu)>; phone (334) 884-2640; FAX 334-884-2641. Bound copies are \$35 each; CD-ROM version \$20 each. Please make check payable to: National Poultry Waste Management Symposium.

The opening session had several excellent discussions of air quality issues related to poultry operations. Speakers commented on the increased social pressure on poultry producers to reduce air emissions of gases and particulates. David Brubaker, Agri-Business Consultant, discussed societal concerns about environmental issues related to poultry production. His summary contains an important message for producers **"The cost of meat, milk and eggs will be going up in the future, in terms of our direct cost at the grocery store. We are going to build a better system of animal production, and this will take time (although not as much time as you might think). There are tremendous opportunities ahead for those with the imagination and skills to lead the food revolution, and failure for those who deny obvious problems and wish to continue with business-as-usual"**.

Dr. Wendy Powers, Iowa State University discussed odors and mechanisms for odor remission. She indicated that Iowa may be the first state to regulate odor emissions from animal production farms. Odors are caused by volatile gases

and particulates which come from poultry houses and manure processing and storage areas. There are three basic strategies for odor mitigation: 1. Reduce odor generation at the source (e.g. drying or composting manure within houses or frequent removal), 2. Reduce the concentration of odors leaving the house or area (e.g. biofilters at the exhaust), and 3. Divert or dilute the odors reaching the source of the complaint (e.g. fixed or vegetative barriers).

## Mitigating Odor Complaints

Poultry and manure odors can often cause neighbors to complain and in extreme cases resort to legal action. Power ventilation systems usually produce an excellent environment for birds but also result in large volumes of air exhausted at high velocities. This air carries ammonia, particulates and gases all of which can cause complaints from neighbors. In the future these emissions may be regulated. There is an immediate need in some situations for methods to mitigate these problems. Ammonia and particulates inside the house also have a negative impact on the health of the birds and the people who work there.

Some of the methods discussed to reduce emissions from the manure were improved litter management, litter additives and dietary changes to reduce nitrogen excretion. Litter emissions can be minimized by improved ventilation in houses to keep litter moisture in the optimum range. When litter is too wet additional ammonia is generated, when it is too dry dust is generated and the particulates in the exhaust stream are increased. Litter additives are currently in wide use in the industry to reduce ammonia and pathogens in the litter. Most additives acidify the litter causing

the ammonia to be converted to ammonium compounds that do not volatilize and stay in the litter. Changes in the feed may be possible to more exactly match the amino acid content of the feed to the needs of the birds so that less nitrogen is excreted. Research continues to examine the economic feasibility of this approach.

Gases and particulates can be reduced at the house exhaust by use of biofilters although this technology is still in the developmental stages and is probably not currently cost effective. The odors and particulates reaching the neighbors can be decreased by use of air diversion or natural filtration of the air between the house exhaust and the property line. Vegetative barriers are under investigation by Bud Malone and coworkers in Delaware with the hope that air quality leaving the premises can be improved. Other studies have examined the use of solid barriers 20 to 40 feet from the fans to deflect the air so that it slows and drops more of the particulates. Straw bales and fabric fences were tested for this purpose. These approaches seem to have potential but good data is lacking on their effectiveness.

I picked up samples copies of leaflets on poultry litter additives issued by Auburn University. These are numbered ANR-1202, ANR-1208 and ANR-1209 and discuss Aluminum Sulfate, Sodium Bisulfate and Poultry Guard respectively. The leaflets are available online at: <http://www.edu/department/extcomm/publications/anr/anrps.php>

*Ralph Ernst  
Extension Poultry Specialist*

## C.R. (Dick) Grau 1920 - 2002

Dick passed away in the hospital from complications associated with pneumonia on November 16, 2002. He was 82. Dick received a Ph.D. degree in nutrition from UC Berkeley in 1946. He joined the faculty of the Poultry Husbandry Department in Berkeley and later moved to the Davis Campus. Dick conducted research on amino acid requirements, feed ingredients, toxicants in feedstuffs, chick embryo nutrition, egg formation, pet bird nutrition and the effects of oil and pesticides on sea birds. He was a dedicated teacher and served as Chair of the Avian Sciences Department for 6 years. He was a member of several professional organizations including the Poultry Science Association.

Dick and his wife Lois were well known in the Davis and Sacramento area for their charitable work. They were members of the Davis group serving meals at Loaves and Fishes, a program serving the homeless and poor in Sacramento. They also worked for Citizens Who Care and STEAC, both voluntary organizations serving Yolo County. In 1978, the Graus received the C.A. Covell Trophy as Citizens of the Year as recognition of their partnership in service to the Davis Community.

Dick is survived by his wife of 61 years Lois Sandner Grau, four children and five grandchildren. In lieu of flowers the family suggests that contributions be made to STEAC, P.O. Box 1047, Davis, CA 95617 or Loaves and Fishes c/o The Unitarian Church of Davis, 27074 Patwin Rd., Davis, CA 95616.

## California 4-H Avian Bowl Team Finishes First at National 4-H Poultry and Egg Conference

California's 4-H Avian Bowl team placed first in the National 4-H Avian Bowl Competition in Kentucky, winning every round it played. The 4-H members on the team were Rachel Teagle, Captain, Rebecca King and Katrina Castaneda. The team was coached by Dr. Linda Teagle.

The California Poultry Judging Team did very well with an overall placing of 4<sup>th</sup> in the contest. **This is the highest California has ever placed.** The team consisted of Samantha Downey, Marta Kroger, Megan

Wright, Sara Leisgang and Sam Silva as an alternate. In production judging the team was 4<sup>th</sup> with Marta Kroger having the highest individual score in the contest. In the egg contest the team was 3<sup>rd</sup> with Samantha Downey 4<sup>th</sup> highest individual and Marta Kroger 6<sup>th</sup> highest individual. In the market poultry the team was 5<sup>th</sup> with Samantha Downey 7<sup>th</sup> and Marta Kroger 8<sup>th</sup>. We are very proud of all of these outstanding 4-H members!

## Calendar

**January 22-24, 2003** - International Poultry Exposition, Atlanta, GA. Information at: <http://www.poultryegg.org/Exposition/exposition.html>.

**February 1, 2003** - UC Davis Avian Science Day, Rm 2205 Haring Hall, Davis Campus.

**February 24-27, 2003** - PePa 79th Annual Convention, Doral Resort, Palm Springs, CA. For more information contact Debbie Murdock <[dmurdock@cgfa.org](mailto:dmurdock@cgfa.org)>.

**March 9 - 11, 2003** - Western Poultry Disease Conference, Capitol Plaza Holiday Inn, Sacramento. Online submission of paper titles and other information at: <http://conferences.ucdavis.edu/wpdc>.

**May 7-8, 2003** - California Animal Nutrition Conference, Radisson Hotel, Fresno, CA.

**May 19-22, 2003** - National Egg Quality School, San Antonio, TX.

**June 17-19, 2003** - Northwest Poultry Council Annual Convention, The Resort at the Mountain, Welches, OR.

Visit our website at:

<http://animalscience.ucdavis.edu/avian>

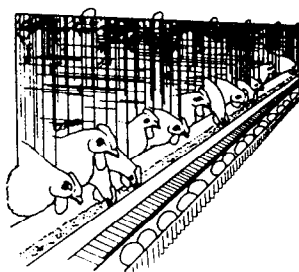
**Ralph A. Ernst, Technical Editor  
Extension Poultry Specialist  
Department of Animal Science  
University of California  
One Shields Avenue  
Davis, CA 95616-8521  
Tel: (530) 752-3513  
Fax: (530) 752-8960  
E-mail: [raernst@ucdavis.edu](mailto:raernst@ucdavis.edu)**

Department of Animal Science  
University of California  
Davis, CA 95616-8521

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