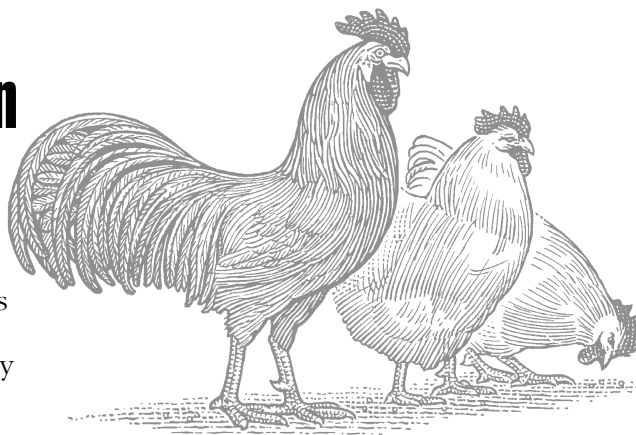


## Avian Influenza—What Can You Do To Prevent It?



Managing disease risk requires the input of a number of groups and individuals. Prevention really is the best bet in maximizing a grower's chances of excluding damaging disease. Many of the really deadly poultry diseases such as avian influenza are not present in our houses normally and prevention (exclusion) is the only viable method of avoiding problems.

From the prevention standpoint, a many-pronged attack is necessary to minimize the threat of disease. A short list of topics would look something like the following.

- Grower controls on-farm disease introduction.
- Integrator provides clean feed and chicks.
- Integrator controls threat of disease transmission in all company personnel and equipment that visit the farm.
- Necessary visitors use safety precautions.

Specifically, growers need to monitor the following areas to minimize disease risk.

- Exclude/control wild birds, rats, mice, flies, and litter beetles. All can bring in viral and bacterial diseases. They also remain as a disease reservoir between flocks.

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### AUNotes From Joe Hess, Extension Poultry Scientist

Alabama youth participated in various national poultry-related events last fall in Louisville, Kentucky. The Alabama 4-H Poultry Quizbowl Team finished fifth in the nation, narrowly missing a third place finish. Rob Coe from Alabama took second in Chickenque, while Egg Demonstration and Turkeyque participants took fourth and tenth, respectively. The Future Farmers of America Poultry Judging Team from J.B. Pennington won the state poultry judging competition, with Arab and Enterprise finishing second and third. The J. B. Pennington team, coached by Gary Aycok, represented Alabama at the national event in November in Louisville, finishing twenty-first. Congratulations to all participants and coaches for their fine finishes in each of these events.

- Control and document visitors of all types, neighbors included.
- Require visitors who enter the house to wear disposable boots. Disposable coveralls and hairnets may be necessary with some classes of poultry and during regional disease outbreaks.
- Use disinfectant footbaths and **keep them fresh and clean**. Police usage by employees and visitors.
- Spray tires with disinfectant if many farms are visited (equipment repair, propane delivery, dead bird pickup, cleanout crew) or if there is a disease outbreak in the area.
- Clean and disinfect all equipment leaving or entering the farm (poultry and nonpoultry uses). Nonpoultry-related equipment borrowed from or lent to other farms containing poultry (commercial, backyard, emus, migrating waterfowl) can be a risk.
- Remember disease risks when visiting local restaurants and stores that are frequented by other poultry producers and service personnel. Change clothes and shoes before visiting houses again.
- Think of poultry links associated with other agricultural businesses on the farm (beef cattle transactions, crop farming, crop consultants), and take appropriate actions to avoid disease introduction.
- Use house management (ventilation, cooling, drinker management, litter quality) to minimize stress on the birds. A healthy immune system will help birds fight off the more common disease problems.



*(Continued on page 2)*

Most poultry companies have relatively elaborate programs in place to safeguard field operations from diseases such as avian influenza. Vaccination programs (particularly for Newcastle disease) and controlled access to company facilities, such as the hatchery and feed mill, are common programs to avoid risk of disease introduction. Unfortunately, vaccination is currently not an option for avian influenza, making exclusion even more important. Sanitation programs (such as wearing disposable boots and coveralls) for those employees who visit farms are also designed to reduce the risk of disease spread. Screening employees for contact with backyard flocks or cage birds is important in reducing risks, as recent events in California with exotic Newcastle disease have shown all too clearly.

Poultry companies can also work with growers to keep everyone vigilant regarding disease prevention. Field service reports should contain weekly updates on biosecurity issues on each farm, both good and bad. Disease control through sanitation and exclusion benefits both the integrator and the grower through reduced levels of endemic disease in addition to reducing the risk of catastrophic disease.

A coordinated program of informing poultry growers regarding the risks of catastrophic disease should be considered in each operation. Company personnel should meet with each farm family individually to discuss the grower's role in avoiding devastating disease outbreaks. In addition, biosecurity discussions should be included in grower meetings held by the poultry company or county poultry grower associations. Poultry companies should also have a mechanism in place to keep all growers apprised of disease outbreaks regionally, nationally, and worldwide.

It is important for each poultry company to become involved in biosecurity training for local vendors that visit poultry operations. Many people outside of poultry operations visit multiple farms daily, and the risk of disease spread can be a problem unless vendors are as informed about avoiding disease spread as are growers and company personnel. Sanitation standards for vendor employees and vehicles should be coordinated for all vendors. Company personnel should work with growers to develop and disseminate this information.

Alabama has a number of regions with concentrated areas of poultry production. The potential for catastrophic spread of a devastating disease organism like avian influenza exists and cannot be ignored. Only a tight control of disease threats by a number of groups (growers, integrators, and allied industries) will keep Alabama's poultry industry from being decimated by avian influenza or other catastrophic diseases.

*This information was provided by Joe Hess, Extension specialist in the Auburn Poultry Science Department, and is adapted from two articles titled "On-farm Steps to Reduce the Chance of Disease" and "Role of the Poultry Company in*

*Reducing the Threat of Catastrophic Disease" printed in the November 2003 and January 2004 issues of Alabama Poultry Monthly.*

## Farmers—The Unimportant Minority?

Almost four decades ago I came across a poem by John Carew called "In Balance with Nature." I was working on my Ph.D. in poultry science, and it struck a little note of terror in me. My future was being threatened and, in fact, so was society. It is as important now as it was then.

Since that time, I have read this poem to countless groups with the same result. The audience is always absolutely taken aback. Each year the disastrous predictions seem to be coming increasingly true. Most people in America have never faced starvation, as millions of others in the world have. Even during World War II, when food was rationed, the majority of our citizens never went to bed hungry. I feel that most take for granted that food will always be there, that they feel the farmer is an "unimportant minority." This is just not true!

In the early history of this country the farmer was very important. In fact, many signers of the Declaration of Independence were wealthy farmers. A good example is George Washington. Today the average farmer competes in a market that provides little profit. Many farmers have to take outside jobs just to make ends meet. The citizens have to be made aware of just how essential the farmer is to the future of this country. They must insist that the farmer be able to practice this age-old art with adequate resources, unrestricted by unnecessary laws provided good land stewardship is followed. After all, farmers are a most important minority and should be protected. If the American farmer is put out of business, society will suffer.

I have included the poem "In Balance With Nature" below. Please read it and share it with your friends, especially government officials who will be better educated as a result of being exposed to this powerful poem.

### IN BALANCE WITH NATURE

By John Carew

In the beginning  
There was Earth; beautiful and wild  
And then man came to dwell.  
At first, he lived like other animals  
Feeding himself on creatures and  
plants around him.  
And this was called IN BALANCE

*(Continued on page 3)*

WITH NATURE.  
 Soon man multiplied.  
 He built homes and villages.  
 Wild plants and animals were  
 domesticated.  
 Some men became Farmers so that  
 others might become Industrialists,  
 Artists, or Doctors.  
 And this was called Society.  
 Man and Society progressed.  
 With his God-given ingenuity, man  
 learned to feed, clothe, protect,  
 and transport himself more  
 efficiently so he might enjoy life.  
 He built cars, houses on top of each  
 other, and nylon.  
 And life was more enjoyable.  
 The men called Farmers became  
 efficient.  
 A single farmer grew food for 45  
 Industrialists, Artists, and Doctors.  
 And Writers, Engineers, and Teachers as  
 well.  
 To protect his crops and animals, the  
 Farmer used substances to repel or  
 destroy Insects, Diseases, and  
 Weeds.  
 These were called Pesticides.  
 Similar substances were used by Doctors  
 to protect humans. These were called  
 Medicine.  
 The Age of Science had arrived and with  
 it came better diet and longer,  
 happier lives for more members of  
 Society.  
 Soon it came to pass  
 That certain well-fed members of  
 Society  
 Disapproved of the Farmer using  
 Science.  
 They spoke harshly of his techniques for  
 feeding, protecting, and preserving  
 plants and animals.  
 They deplored his upsetting the Balance  
 of Nature;  
 They longed for the Good Old Days.  
 And this had emotional appeal to the rest  
 of Society.  
 By this time Farmers had become so  
 efficient, Society gave them a new  
 title:  
 Unimportant Minority.  
 Because Society could not ever imagine  
 a shortage of food

Laws were passed abolishing Pesticides,  
 Fertilizers, and Food Preservatives.  
 Insects, Diseases, and Weeds flourished.  
 Crops and animals died.  
 To survive, Industrialists, Artists, and  
 Doctors were forced to grow their  
 own food.  
 They were not very efficient.  
 People and government fought wars to  
 gain more agricultural land.  
 Millions of people were exterminated.  
 The remaining few lived like animals.  
 Feeding themselves on creatures and  
 plants around them.  
 And this was called IN BALANCE  
 WITH NATURE.

*This information was provided by Robert Voitle of the  
 Auburn University Poultry Science Department.*

## Avian Cellulitis—An Old Problem Returns

Avian cellulitis is an infection that occurs under the skin of poultry damaged by cuts or scratches. Although cellulitis can occur in birds of any age, lesions observed at processing generally occurred in the previous two to three weeks. In the last several years the problem of cellulitis was discussed less frequently, although the problem did not actually diminish. Most processing operations learned to live with the problem by adding additional carcass trimming and salvage capacity. Again, however, the problem of cellulitis has emerged more prominently in some operations. Therefore, it appears appropriate to review what we know.

Avian cellulitis can be caused by a wide variety of bacteria, although *Escherichia coli* is most commonly isolated. Regardless of the bacteria that cause the infections, none can penetrate intact skin. Once the defenses are bypassed, through a cut or abrasion, the bacteria quickly colonize and proliferate. The immune reaction of the bird is very rapid and lesions, which initially are a mixture of bacterial cells and immune-related cells and fluids, can form very rapidly. Experiments at Auburn University revealed that characteristic cellulitis lesions, often called plaques, could form in as little as two to three hours in some cases. This finding was particularly significant because it indicated the possibility that some cellulitis plaques could have formed in the time it would take a bird to be transported to processing. In other words, a bird that otherwise might be devoid of cellulitis lesions,



*(Continued on page 4)*

could theoretically be scratched during catching and by the time the bird was processed two to three or more hours later, the lesions could have developed. It was also found that other, more slowly developing lesions could result from contaminated scratches occurring eight to 10 hours prior to slaughter. Data from both field studies and controlled experiments indicate that the majority of scratches observed at processing are less than two weeks old.

Cellulitis management and prevention has had a difficult history, largely due to the lack of scientific investigation when the problem began to emerge in the United States. That rapidly changed when research at Auburn revealed the problem was not due to hatchery-borne infections, as first conjectured, but occurred primarily due to scratches. Cellulitis is a growout problem first and foremost. Although the importance of overall chick quality should be considered essential for overall bird health, other strategies should be used for addressing the problem. The primary goal in a cellulitis prevention program is to minimize the risk of birds scratching each other.

Cellulitis is often a problem associated with a given farm or house. While management quality is sometimes an issue, it is frequently observed that the best managers with the biggest birds experience elevated levels of cellulitis. The explanation is simple—bigger, faster-growing birds are generally more aggressive and always more crowded. Managers who can achieve the growth targets earlier have to consider themselves at higher risk for cellulitis and adjust accordingly. Meal feeding or lighting programs, which cause dramatic behavior changes at feeding time, must be modified to minimize aggressive behavior. Birds that are scrambling over each other will have higher rates of cellulitis. Males will have higher rates of cellulitis, again due to the inherent aggressiveness,

compared to females. In houses with older equipment, careful and regular examination for sharp edges and objects is necessary. Noise and startling movements of personnel and equipment should be minimized. One farm situated close to a road was experiencing significant cellulitis problems. A survey of the farm revealed that birds were frightened multiple times each day when trucks passed nearby. The birds suffered from very high rates of scratches. In houses with side curtains, dark curtains have been shown to lessen the frequency of scratches. Reduced lighting levels will always help minimize aggressive behavior. Anti-migration barriers may also be useful in eliminating movement, therefore minimizing the risk of birds jostling each other. Anything that will diminish the number of scratches should be considered the first step in diminishing cellulitis problems.

*This information was provided by Robert Norton of Auburn University's Poultry Science Department.*

## Research Shorts .....

### Recent Research of Interest to Poultry Managers

Chamblee, T.N. and J.B. Yeatman, 2003. Evaluation of rice hull ash as broiler litter. *Journal of Applied Poultry Research* 12:424-427.

Rice hull ash, a byproduct of burning rice hulls for energy generation, can be locally available and relatively inexpensive. This research evaluated broiler performance and litter nutrients with rice hull ash alone and mixed with pine shavings. Although some feather discoloration occurred, broiler performance was not altered. Rice hull ash may provide an inexpensive way to reduce dependence on pine shavings.

Berrang, M.E., R.J. Meinersmann, R.J. Buhr, N.A. Reimer, R.W. Philips, and M.A. Harrison, 2003. Presence of *Campylobacter* in the respiratory tract of broiler carcasses before and after commercial scalding. *Poultry Science* 82:1995-1999.

*Campylobacter* is present in the respiratory tract of broilers before and after scalding. This indicates that campy may be spread by dust, etc. in the broiler house and during transport. This may become important as we look for ways to reduce this human pathogen in broilers coming into the broiler processing plant.

Thornton, Gary, 2003. House of the future: wide-span, all-steel structure. *Watt Poultry USA*, December.

This article reviews the utilization of an all-steel broiler house installed by growers in Delaware. This house holds 44,000 birds at 0.75 sq. ft./bird. As this type of housing becomes more common, standard widths and lengths of broiler houses may change dramatically.

Batal, A. and N. Dale, 2003. Mineral composition of distillers' dried grains and solubles. *Journal of Applied Poultry Research* 12:400-403.

Experts expect to see a large increase in the amount of DDGS entering the feed ingredient pipeline as additional ethanol generation plants come online. Considerable interest has been generated in DDGS use in poultry feeds due to increased availability of this ingredient. This paper provides data to form matrix values for this ingredient. The authors saw substantial variation in sodium values coming from the Midwest. Other minerals were concentrated approximately three times over the levels seen in corn.

We would like to compile an updated list of individuals interested in receiving *Current Concepts In Broiler Production* on a regular basis. If others in your organization would like to receive this publication, please fill out this form and return it to:

Joe Hess

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