

North Carolina Poultry Industry Joint Area Newsletter

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2010 N.C. Broiler Supervisor’s Short Course

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On April 15, the service tech personnel from the main integrator broiler companies with business in North Carolina participated in the 2010 N.C. Broiler Supervisor’s Short Course. This is an annual event that has been held at the McSwain Extension Center in Sanford, North Carolina. **The panel of speakers included Dr. John Barnes and Dr. Edgar Oviedo from N.C. State University, Dr. Tim Cummings from Mississippi State University, Jesse McCoy from IVESCO, Dr. Doug Overhults from University of Kentucky, and Richard Goforth and Kathy Bunton from N.C. Cooperative Extension Service.** This year, the program included talks related to diseases commonly seen in broilers in N.C., control of footpad dermatitis, experiences with antibiotic free production, biosecurity between flocks, broiler farm energy assessments and methods to improve energy efficiency, and results of utilization of dimmable fluorescents in broiler houses.

Dr. Barnes, and Dr. Tahseen A. Aziz from the Rollins Animal Disease Diagnostic Laboratory (NCDA) commented that chick quality and early mortality are the most common causes of complaints from growers. In older broilers, cases of viral respiratory disease, often caused by infectious bronchitis virus and/or mild strains of Newcastle virus, have increased this past year. Among intestinal diseases, coccidiosis remains most common. Diseases affecting the musculoskeletal system have emerged in the past few years. Enterococcal vertebral osteoarthritis is a bacterial infection of the spine that causes lameness, primarily in males. Market-age broilers found on their backs and unable to right themselves ("turtle birds") have been found to have green muscle disease affecting the breast muscles, which is likely the source of “green tenders” seen at further processing. *(continued on page 2)*

In This Issue:

2010 N.C. Broiler Supervisor’s Short Course.....	1
Tips To Reduce Dermatitis in Broilers.....	3
Questions on New Avian Influenza Testing Rules	5
New Avian Influenza Testing Rules.....	5
Poultry Youth Programs Update.....	6
Contacts.....	8

North Carolina State University and North Carolina A&T State University commit themselves to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, veteran status or disability. In addition, the two Universities welcome all persons without regard to sexual orientation.

(Short Course continued) Dr. Oviedo discussed the importance, origin of, and control methods for foot pad dermatitis. To reduce prevalence of this production and welfare problem, the main objective in management should be to keep litter moisture in the 25 to 35% range and reduce ammonia production in the whole house. Practices to reduce the prevalence of paw burns are discussed in another article in this newsletter.

Dr. Cummings discussed management practices followed by many poultry companies that have a small portion of their production dedicated to an antibiotic free program. The major disease problem common to these types of programs is necrotic enteritis, although different companies have varying levels. He indicated that in some instances, performance can be quite good in antibiotic free birds, but a total management program needs to be implemented to make it work. Dr. Cummings recommended constant vigilance and attention to details for the antibiotic free birds as there is no single, magic bullet in preventing enteric problems.

Mr. McCoy emphasized that cleaning and disinfecting a facility is very important to keep pathogen loading to a minimum. To obtain these benefits, McCoy indicated the importance of selecting cleaner and disinfectants that suit specific farm conditions. An analysis of the pathogens to be targeted and the materials at the farm will allow for proper selection and application of these products. After cleaning the premises, it is important to clear the lines of any build up of bacteria as well. Analysis of the water at the site will aid in proper line cleaning selection. McCoy demonstrated that none of these products will work if they are not applied at the correct rate and given enough contact time.

Dr. Overhults gave two talks to present the work that his group has been doing in Kentucky. Dr. Overhult's program does broiler farm energy assessments or audits to review the house, equipment, and the operation of various systems during the flock growout. The primary goal of these assessments is to identify areas where energy use can be reduced or energy efficiency improved by making cost effective improvements. Dr. Overhults indicated that at least two years of previous energy use and production data should be compiled to establish a broiler farm's baseline energy use, a critical element of the energy assessment. A useful measure of broiler farm energy efficiency is the total fuel or electricity used per pound of bird produced. Once a series of house improvements are made, one good way to track or compare energy use is to use a two or three year running average of energy use per pound of bird produced. Dr. Overhults also presented the work done to evaluate fan efficiency in farms and all possible factors that reduce fan performance.

Finally, Mr. Richard Goforth presented the results of evaluations made using dimmable compact florescent bulbs to replace the inefficient incandescent bulbs in broiler houses. The data presented indicated that broiler performance is not affected by using these more efficient and long lasting light bulbs. Mr. Goforth discussed that even though the initial cost of investment is relatively high, growers should start considering alternative and more efficient light bulbs since incandescent bulbs are planned for a phase out starting in 2012 with the 100 Watt bulbs and progress to lower wattages with a final phase out in 2014 with all incandescent bulbs.

More details and the proceedings of this event are available in the following website:
http://www.ces.ncsu.edu/depts/poulsci/supervisors_shortcourse.html

During the same event the 2010 Broiler Service Persons Awards were announced. This award is recognition of the Integrator Companies, the N.C. Poultry Federation, and N.C. State University to those individuals that have done an outstanding service for the Companies and their growers in the previous year. The following is a picture of the recipients with Dr. Samuel Pardue, Head of the Department of Poultry Science and Mr. Bob Ford, Director of the N.C. Poultry Federation.



L to R: Dr. Edgar Oviedo (N.C. State University), Mike Ogburn (Perdue Farms - Candor), Barry Thompson (Mountaire Farms), Derek Bean (Mountaire Farms), Darrell Ritter (Townsend, Inc. - Siler City), Brad Gee (Pilgrims Pride - Sanford), Dr. Sam Pardue (N.C. State University), & Bob Ford (Exec Director, N.C. Poultry Federation). Award winners not present: Roger Key (Tyson/Wilkesboro) and Matthew Lane (Wayne Farms).

Tips to Reduce Dermatitis in Broilers

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Dermatitis in broilers is caused by a combination of moisture and chemical irritants like ammonia in the litter material during natural decomposition. These conditions affect areas of the skin greatly exposed, like the feet, hocks, and breast. In most cases they develop inflammatory reactions in the skin and even ulcers. In foot pads, these lesions are observed as early as 4 to 6 days of age, but are most commonly seen around 12 days. They can heal but most frequently augment, causing blemishes to feet and breast at processing. For a detailed description of the disease please review our website:

http://www.ces.ncsu.edu/depts/poulsci/supervisors_shortcourse.html.

Footpad dermatitis (FPD) is also called paw burns, ammonia burns, or pododermatitis. This disease has gained importance due to the value of chicken feet as a profitable export item to Asian markets. Nowadays, broiler feet have become one of the most profitable parts of the carcass for exportation. Additionally, FPD has become a welfare concern since it affects broiler ability to walk and reduces feed intake and growth. The evaluation of FPD incidence is now part of many welfare audits. It is desirable to have less than 30% of the flock with feet lesions, but it is difficult to achieve this goal.

This newsletter has the objective of listing a series of recommendations to reduce incidence of FPD and other dermatitis problems at farm level. The main objective in controlling FPD and all dermatitis is to avoid litter wetness and production of ammonia or other irritant compounds from the litter. This process starts even before chickens are placed.

1. Management between flocks

When it is necessary to reuse the litter, after removing the caked material, allow the litter base to dry before chicks are placed. Running fans during the day can help to dry out the litter faster.

Windrowing litter has produced better results in paw quality of the next broiler flock than just caking out and/or doing a complete clean-out of the house.

After removing the litter or caked material, make sure to keep at least 3 inches of litter absorbing material across the entire house. Mortar sand and ground door filler revealed the lowest (*continued on page 4*)

(*Dermatitis in Broilers continued*) incidence of FPD in all trials (Bilgili et al., 2009). Independently of the litter material selected, use a small particle size of less than one inch.

If necessary, spread new bedding material evenly. Floors must be smooth and level. Uneven floors make constant height adjustment and water line pressure regulation very difficult. A gradual grade of no more than 4 inches of drop from one end to the other is acceptable.

Ammonia acidification may help to reduce bacteria and ammonia production during the first two or three weeks. The effects of litter acidifiers depend on doses. Rates of 120 lbs of acidifier or more per 1000 feet² in the brooding chamber or the whole house are necessary to observe substantial reductions in FPD.

Before placement, clean, flush with high-pressure (15 to 30 pounds per square inch, psi), and sanitize drinker systems to avoid built up of mineral residues and biofilm that can cause leaky nipples.

Pre-warm the house to reduce litter moisture, especially when litter depth is low (less than 3 inches). Litter temperature should be 28-30°C at chicken arrival.

2. House management during the flock

Manage drinker lines according to manufacturer's guidelines to prevent leaks that add moisture to the litter. Broilers spend the majority of their time in this area and consequently it is the most critical house section for moisture control. Check filters weekly and replace them as soon as they collect significant amounts of debris. In most systems, proper pressure is critical during grow out, and it is important that the water columns in the riser tubes be clearly visible. Keep the riser tubes clean. Maintain appropriate water pressure and keep drinker lines level and uniform with appropriate height according to bird height to avoid water wastage that will add moisture to litter underneath the water lines. Try to use the lowest water pressure recommended by the manufacturer. Low water line pressure can reduce litter moisture and FPD prevalence, but monitor water intake, because if the water pressure is too low broilers can reduce water and feed intake, and growth. Uneveled and uneven height between the lines cause that they are used for broilers more in some areas than in others, occasioning uneven distribution of moisture in the litter that is more difficult to dry. Uneven distribution of the flock caused by lighting problems, or uncomfortable temperatures or uneven air flow in some areas may cause similar negative effects on litter moisture and FPD prevalence.

In the brooding phase, give more space to the flock around 9 days. Avoid overcrowding in the brooding area. Lesions in the feet skin caused in the first and second weeks of age may become infected and develop FPD.

Avoid condensation of moisture by improving house insulation and negative pressure, reducing uncontrolled air entries, and doing maintenance and calibration of electronic sensors and fans. Condensation occurs mainly in the side walls. Daily observation of these areas and use of hygrometer can help to keep relative humidity between 50 and 70%, and litter humidity not higher than 35%. Condensation is more common when the outside temperature is low, and relative humidity is high (winter and early spring conditions, or early morning year-around). (*continued on page 5*)

Consequently winter time and low frequency of ventilation increase chances to have condensation especially during brooding when inside house temperature is higher than outside environmental temperatures.

Monitor daily water consumption of the flock to establish variations that can indicate problems. Broilers should drink two to three times the amount of feed that they eat. If the flock is drinking more than expected, you should double check health conditions, water quality, litter quality, and house temperatures. Minerals in the water may increase water intake, cause enteritis problems, flushing, and wet litter. Water can be treated to minimize contents of undesired minerals. Uncalibrated electronic sensors may cause that house temperatures get hotter than programmed in the electronic house controller. (*continued on page 5*)

(Dermatitis in Broilers continued)

Hotter temperatures influence more water intake, wetter droppings, and wetter litter. Excess litter moisture is difficult to dry out with the normal running time of fans. Similar problems can happen during the summer or on hot days if the house gets hotter than planned; there are water leakages from drinker lines, foggers or water sprinklers; and if fan time is not increased to account for this extra and unexpected house humidity.

Research results indicate that the previous recommendations will have positive effects on paw quality and general broiler flock performance.

Reference: Bilgili, S. F., J. B. Hess, J. P. Blake, K. S. Macklin, B. Saenmahayak, and J. L. Sibley. 2009. Influence of bedding material on footpad dermatitis in broiler chickens. *J. Appl. Poult. Res.* 18:583-589.

Frequently Asked Questions About North Carolina's New Avian Influenza (AI) Testing Rules

1. Which types of birds are covered by the new rules?

Any poultry, except doves, pigeons, birds of prey, psitticines and song birds are covered by the new AI rules. The rules also includes baby poultry and hatching eggs, whether from commercial or non-commercial sources. Ratites are also included.

2. What kind of testing is necessary and how often?

To enter NC, you may comply in two ways. One, you may have your flock tested in the state of origin according to National Poultry Improvement Plan (NPIP) standards to become certified US AI Clean or US H5/H7 AI Clean. Hatching eggs and young poultry from these certified flocks may travel into NC. Each state may have different requirements on how often flocks must be tested to retain NPIP AI Clean status, but it will be at least twice yearly, 30 birds per flock. A second way to comply is to have your birds tested for AI with an antigen detection test within 21 days prior to entering NC.

3. Is this testing necessary to enter exhibitions? Yes, any poultry coming into NC from out of state for exhibitions must be either from an AI Clean flock or be tested prior to entry.

4. What if bring birds to an exhibit and they are not tested? Can I be tested on site? No, you cannot be tested after entry to NC for an exhibition. Testing must take place prior to entry. If you arrive at an exhibition without proof of testing, you will be turned away.

5. When are the new rules in effect?

They are in effect August 1, 2010. North Carolina will not to enforce these new rules until April 1, 2011, to give everyone time to comply. Therefore, fall exhibitions will not be affected.

New Avian Influenza Testing Rules Passed by Board of Agriculture

The North Carolina Department of Agriculture and Consumer Services Board of Agriculture recently passed new rules concerning testing requirements for poultry entering the state. According to the new rules, owners with poultry desiring to enter the state must either show that the flock is NPIP certified Avian Influenza Clean or they must be tested within 21 days of entry using a test that will detect the avian influenza virus. These rules were requested by the Veterinary Division of NCDA&CS in order to protect the state's poultry from the sometimes fatal viral infection. Currently, poultry entering NC is required to be tested Pullorum negative only. *(continued on page 6)*

(Testing rules continued) Commercial poultry flocks are nearly 100% NPIP certified AI Clean, so the new rules will not affect their movement into the state. Exhibition flocks and non-commercial flocks entering the state for other purposes will need to comply with the new rules. In order to allow flock owners and laboratories time to comply with the new rules, NCDA&CS will not begin enforcement of these rules until April 1, 2011. Flock owners with questions about the new rules should contact NCDA&CS Veterinary Division, Dr. Sarah Mason, at 919-733-7601 or sarah.j.mason@ncagr.gov



Poultry Youth Programs Update

Melissa Scherpereel, Poultry Science Extension

Poultry Presentations, BBQ Contest and Poultry Judging at NC Annual 4-H Congress

Every July 4Hers from all across North Carolina compete in numerous poultry competitions including; poultry judging, egg cookery, turkey barbecue, chicken barbecue and poultry presentations. We had another record number of contestants compete in our poultry judging contest this year with a total of 77 youth, up from 57 last year, 38 in 2008 and 19 participants in 2007. There were 9 senior teams and 8 junior teams competing along with 14 individuals which in total represented 11 counties across our state. This is truly outstanding and shows the growing interest in poultry among our youth. We welcome the increasing numbers and may have to have two separate contests to accommodate the growth.

A team of 4-H'ers from Rutherford County won the gold medal in the Senior Poultry Judging Competition. They are: Joseph Clay, 15, son of Calvin and Sandra Clay of Ellenboro, Emily Matheny, 16, daughter of Stephen and Sally Matheny of Forest City; Kristen Miller, 16, daughter of Paul and Sherry Matheny and Henry Miller of Cliffside; and Nathaniel White, 15, son of Gary and Shannon White also of Cliffside. The winning Franklin County Junior Poultry Judging team members were Joey Moore, 13, son of Alesia and Albert Moore of Youngsville; Faith Dunbar, 11, daughter of Jeff and *(continued on page 7)* Sandra Dunbar of Wake Forest; Taylor Farley, 12, daughter of Johnny and Stephanie Farley of Youngsville; and Joseph Adams, 12, son of Patricia Lindberg Adams of Louisburg. Evan Gunter, 12, son of John and Christie Gunter of Asheboro, was the junior individual winner in the poultry judging competition. Joseph Perkins, 15, son of Gordon and Cheree Perkins of Iron Station was the Top Overall high scoring individual for the entire contest and has also earned a trip to our National Contest in KY. The Judging contests are partially sponsored by the NC Poultry Federation and the NC Breeder Hatchery Association. All team members received a \$37.50 cash prize and the opportunity to compete at our National contest in November (if money is available).



Gold Medal Senior Judging Team – Rutherford County



Gold Medal Junior Judging Team – Franklin County

(Youth Programs Update continued)



Chicken BBQ Contest Winner



Turkey BBQ Contest Winner



Egg Cookery Contest Winner



Joshua Sholar, a junior at East Duplin High School was the gold medal winner in the age 14-18 division of the Chicken Barbecue competition and John Ronald Walton, 16, son of Johnie and Lesa Walton of Edgecombe County won the 14 to 18-year-old division of the turkey barbecue contest. Melissa Mason, 14, daughter of Deval and Barbara Mason of Stony Point, won the 14- to 18-year old division of the egg cookery competition, sponsored by the NC Egg Association and the Dinah Gore 4-H Foods & Nutrition Endowment. In her presentation, Mason explained fun egg facts and how to grade an egg. She also prepared a bacon omelette roll and explained the versatility of the dish. All three winners received a \$37.50 award and a trip to the National 4-H Poultry and Egg Conference to compete representing NC.

If you or your company is interested in sponsorship of our contest or any of our programs, please contact me so that I can help you with the amount and program that suits you. We are looking for anything from \$75 which will allow students partial scholarship money to attend annual congress overnight, or to receive bond money for being on the winning team or the top scoring individual. We also need sponsor donations in greater amounts such as \$350 that will sponsor one gold medal winner in any of our competitions to attend our National 4H Poultry and Egg Conference in Kentucky.

For more information, please visit <http://www.ces.ncsu.edu/depts/poulsci/4h/poultryjudging/congress.html>

NC State Fair Youth Market Turkey Show

Over 300 youth across North Carolina received turkey poults from the Department of Poultry Science in late May. As always, advance registration was required and the contest is so popular that in less than *(continued on page 8)*

13 hours we had filled all 300 spots and began a waiting list! Poults were donated for the 2010 show by Goldsboro Milling and we thank them for their continued support of this popular program. Youth will bring their best Tom to the fair on Wednesday Oct. 13th for check-in. They will need to bring their "green receipt" with them for proof of registration and to make everything flow much smoother. Check in takes less than 5 minutes as we simply band the bird, record the weight and file the paperwork. Agents, teachers or parents may check birds in on the contestant's behalf if they are unable to make it. We will be checking in birds from 10:00 until 6:00 p.m. on Wednesday the 13th at the poultry tent and then will create our classes by age for the show that will begin on Friday at 9:00 a.m. If you would like to know more about our show, please visit www.ces.ncsu.edu/depts/poulsci/4h/turkeyshow/turkeyshow.html

Also, if you are interested in participating in 2011, registration will be posted on March 1, 2011 and we will close when we reach 300 youth. You can also view our Blog at: <http://turkeyshow.wordpress.com>

Poultry Science Summer Institute another HUGE Success!

Twenty one rising 11th and 12th graders were selected through a competitive application process to attend the 4 day workshop held annually in the Dept. of Poultry Science at NC State. Applications are now online and can be submitted anytime at <http://www.ces.ncsu.edu/depts/poulsci/4h/summerinstitute/institute.html> The camp is sponsored by the US Poultry and Egg Association, the NC Cooperative Extension Service, and the Department of Poultry Science at NC State University. As always, check our website for all of these youth programs and more at www.poultry4h.info or contact Melissa Scherpereel at 919-515-5403.

(continued on page 8)

(Summer Institute continued)

You can also become our “Fan” or “Like us” on Facebook to see all the photos from the Summer Institute (search for “Poultry Programs for NC Youth”).



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