PREPARING YOUR HOUSE FOR WINTER TIME CONDITIONS

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Winter is just around the corner, so it’s a good time to start prepping your houses for colder weather. Fuel costs associated with winter flocks are substantial, so anything that can be done to make the process more energy efficient is well worth the effort.

When it comes to reducing heating costs, it’s usually a combination of the “little things” rather than a single solution. Several of the recommendations that are discussed only require a little elbow grease and a basic understanding of some of the principles behind house winterization and heating system operation. This is not an exhaustive list of what can be done to “winterize” a house, but are certainly good places to start.
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REFERENCES
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Maintain your heaters

During cold weather conditions, radiant heaters are a grower's most vital piece of equipment, yet, they receive little attention until there is a problem. Staying on top of any potential problems with radiant heaters is important because maintaining suitable brooding temperatures ensure that a flock gets off to a good start. Brooding temperatures that are too high or too low will decrease overall bird performance and comfort.

Here’s a checklist of things that can be done to ensure that you are getting the most from your radiant heaters.

- **Visual inspection.** Perform a visual inspection of all heaters during brooding to make sure that all hoses are secure and fittings are tight. Watch the heaters as they cycle on and off to make sure they are working correctly and double check that the temperature sensors and working and are at the correct height.

- **Clean heater canopies and burner.** This is usually not on top of the “to-do” list, but it makes a difference and are easier with more frequent cleaning. It’s much easier to use a backpack blower and remove a thin layer of dust from a single flock than removing heavily caked-on dust. In addition, the performance of dirty round radiant brooders can be decreased by as much as 30% when compared to new heaters.

- **Check inlet supply and heater manifold gas pressures.** This is something that can be done once a year by a certified gas technician before the first winter flock. Start with the heaters that are furthest from the gas regulator. If the inlet supply pressure is within the recommended range for these heaters, there’s probably no need to test the rest. If it’s not within the recommended range, there is a gas pressure or a pipe size problem that needs to be addressed. Checking manifold pressure at the heater ensures that your heaters are burning at the correct pressure. Data shows that decreasing manifold pressure by 1 inch of water column from the rated pressure can decrease radiant energy reaching the floor by approximately 14% for round radiant brooders. If you notice that a heater just doesn’t seem to be putting out as much heat as the rest, it’s probably a pressure related problem.

- **Check heater elevation.** This does not apply to radiant tube heaters since they are not raised or lowered during any stage of production, but is important with round radiant brooders. All round radiant brooders have recommended elevation ranges and the safest bet is to stay within these ranges. Brooders that are too low will create “hot spots” or areas that are too warm for the birds. Brooders placed too high will not provide enough heat and may result in chilled birds and excessive fuel consumption.

**Prevent air leaks**

While newly constructed poultry houses are more air tight than older ones, unwanted air leaks are still a problem and the ability to control house air temperature and prevent chilling birds. Under ideal conditions, the only air entering a house during minimum ventilation would be through the air inlets. In reality, air infiltrates most houses through a number of places other than the air inlets. Air leaks can decrease the velocity of air coming through the air inlet during minimum ventilation and reduce air mixing. In addition, cold air that seeps into house has to be offset to maintain a comfortable environment for the birds and results in increased energy and fuel expenditures. A house that cannot achieve a minimum of 0.13 – 0.15 inches (curtain-sides) or 0.20 – 0.22 inches during a static pressure test will use excessive amounts of heat during winter conditions (Broiler House Ventilation during Cold Weather, MSU Extension Pub #2749).

A smoke test is a good way to find air leaks in your house. Place the house under 0.10 inches of static pressure and smoke the exterior. Wherever smoke enters the house is where there is a leak. Below are some common places that can be checked for air leaks.

- Cracks between side walls and concrete footings
- Loose tunnel inlet curtains or tunnel curtain doors that don’t close properly
- Cracks between carpenter joints
- Sidewall or attic inlets that do not close tightly
- Cracks around doors and attic accesses

- Holes or rips in the ceiling material
- Fan shutters that are warped or damaged
- Fan cone covers do a good job of preventing backflow of cold air through fans

**Insulation**

Operating a poultry house with substandard insulation leads to reduced live performance, increased energy use, and reduced profitability no matter what season it is. Insulation keeps warm air in the house during winter flocks and reduces the amount of fuel needed to heat the brood chamber. Insulation performance is specified in terms of thermal resistance or R-value. The higher the R-value, the more effective the material is at resisting the flow of heat. Most newly constructed houses in the southeast have a minimum of R-19 in the ceiling and R-11 in the sidewalls. However, decreases in R values over time through shifting and settling of blown cellulose insulation can be a major problem. Rodent activity, wind, gravity, ceiling slope angle, and constantly vibrating ceiling materials can reduce the installed R-value of attic insulation by 40% - 80% in some cases.

Although poultry house insulation R-value is subject to change over time, an ounce of prevention is worth a pound of cure. Here’s a checklist to make sure your insulation stays up to par.

- **Visually inspect attic insulation levels.** One of the easiest ways to identify and prevent insulation problems is by yearly visual inspections, especially in the attic area. The majority of the heat lost through the thermal envelope of a poultry house is through the attic area. Make it a priority to do a visual inspection of your attic insulation every year, especially if you have blown cellulose. The standard thickness for blown cellulose attic applications is 6-inches which should provide a thermal resistance of around R-19. If you notice substantial settling or bare spots in your attic, add insulation as needed. Hiring a contractor to re-apply blown insulation to a minimum of R-19 (6-inches) will save you money in the long run and yield a quick payback in extreme cases.
Blown cellulose filled to the top of the bottom chord of the truss in a new house. In the aging house, the blown cellulose has settled several inches below the top of the bottom chord.

- **Look for condensation.** If you’re seeing condensation during cold weather, whether at the walls or the ceiling, then you either have air infiltration, thinning insulation, or both. Ignoring condensation problems can lead to higher fuel consumption and structural damage.

- **Increase initial insulation depths in new houses.** Increasing the minimum depth of blown cellulose attic insulation from 6-inches (R-19) to 8-inches (R-25) allows for some settling over time and prevents or prolongs having to upgrade insulation later down the road.

- **Blown over batt.** The ceiling peak area of a dropped ceiling house is the worst offender for shifting and settling of blown cellulose insulation. Another consideration for new construction to prevent this occurrence is to use a “blown-over-batt” application. This method utilizes a layer of fiberglass batt insulation that overlaps the ceiling peak by approximately 2 ft on both sides over the length of the house. Blown cellulose insulation is then blown on top of the fiberglass batt. This application prevents shifting and settling at the ceiling peak and maintains the integrity of the insulation over time.

- **Consider fiberglass batt or blown stabilized fiberglass.** Fiberglass batts and blown stabilized fiberglass applications are not prone to shifting and settling, however there are considerable differences in price when compared to blown cellulose. The increased cost of 6-inch fiberglass batt vs. a 6-inch blown cellulose application is about $4,000 for a 40 x 500 ft dropped ceiling house (is shifting ceiling...
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**REFERENCES**

1 Data on file.
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insulation running up your gas bill? The Poultry Engineering, Economics, & Management Newsletter, No. 63). Blown cellulose is initially cheaper, but producers operating houses with fiberglass attic insulation don’t have to worry about shifting and settling issues.

**Stir Fans**

Stir fans have been shown to reduce fuel costs by as much as 25% in older houses and nearly 10% in newer houses. Warm air in a house rises and stays close to the ceiling, while the cooler, denser air remains close the floor. This process is called “stratification” and temperatures near the ceiling can be 5 – 10 degrees warmer than at the floor. Stir fans mix the air and gently push the warm air back down the floor where it is needed by the birds.

Axial fans point towards the end walls and should be tilted slightly upwards to ensure that all the warm air is pushed off of the ceiling. Paddle fans are effective in houses with baffles, but they should have a forward and reverse setting. The air flow from a paddle fan should be directed upwards towards the ceiling and not downwards where it can chill the chicks. Fans can be operated continuously, or alternated with the opening and closing of inlet vents. How stir fans are operated is up to the grower and must be examined on a house by house basis.

**Litter amendments**

Ammonia concentrations above 25 ppm can injure eye and respiratory tissues as well as reduce overall performance. When used at the right times and amounts, litter amendments do a good job of reducing ammonia production, especially during the first 10 – 14 days of production. After this, the amendment has usually been depleted, but the benefits reaped from its use can be substantial.

Ventilation rates can be lowered since moisture removal, and not ammonia reduction, is the primary objective. The value of the reduced ventilation rate is dependent on internal and external house conditions, but it can range from $400 to $600 during cold weather brooding (Get ready for winter! The five-step program. The Poultry Engineering, Economics, & Management Newsletter, No. 55).

**Take Home Message**

It takes a lot of fuel to heat a broiler house during cold weather. Some grower’s burn close to 50% of their annual fuel during two cold weather flocks. Yearly inspections of heaters, insulation, and air infiltration are a must for any grower. They can help prevent or delay future problems, save money, and are an all-around good management practice.
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Breeding and hatching chicks in a no antibiotic environment was a recurring theme in the Mississippi Poultry Association’s fifth annual Breeder-Hatchery Seminar Aug. 15-16. About 130 attended the seminars in Pearl and Collins.

Other topics explained by pharmaceutical, equipment manufacturers and primary breeders included managing incubators and hatchers, battling various poultry diseases and the 2017 avian influenza outbreak in the Southeast.

Successfully Hatching NAE or ABF Chicks presented by Jiggs Kilgore with primary breeder Hubbard, began by showing that there are 180 hatcheries in the United States producing 160 million chicks per week. He said that hatchability percentages are not proving to be dependent on antibiotics.

Ross Pratt with Aviagen, in his talk on Managing an ABF Hatchery, said “the things you do if you are ABF (antibiotic free), you should do with antibiotics.” He and others stressed the importance of cleanliness in the hatchery, but he said “cleanliness begins on the farm,” a point made by several speakers.

Charles Swain of Cobb-Vantress in explaining How Antibiotic Free Affects Breeders/Broilers, said the older the breeder flock, the more bacteria contamination of eggs. He showed how microscopic cracks in eggs can lead to bacteria getting into the eggs leading to higher chick mortality.

Dr. Sue Ann Hubbard, with Merck, spoke on Training Birds to the Nest so they lay eggs in the nests and not on the floor. Picking up the floor eggs quickly is important because other chickens lay eggs where they see eggs. She said growers should run the belts early in the life of the chickens to get them used to the sound and the vibrations and should not feed and water during the most active laying times. She also said training perches that make it easier for hens to get up into the nests makes it more comfortable for the hens.

Blackhead in Breeders caused by a protozoan was first identified in 1895. Dr. Kelli Jones, with Ceva, said it is spread by the cecal worms and can be transmitted by earthworms, beetles, flies and other birds. She said litter removed from houses should not be kept close to the houses.

Dr. Tim Cummings, with Zoetis, said a couple of dozen forms of Salmonella causes diseases in birds and that efforts to control the bacteria are moving from the plant to the farm. He urged growers and companies to “wage war on insects and rodents” which spread the bacteria. Most companies vaccinate pullets for salmonella today.

In speaking on Male Management to Achieve Maximum Fertility Tommy Walker with Cobb-Vantress, said it’s ideal for roosters to weigh 25 percent
more than the females and that the differential between male and female weight should determine the number of males in a breeder house. He said the more uniform the males in the house, the better the fertility and cautioned that “you can’t spike your way to fertility. You’ve got to have good original males.”

Jerry Garrison, with Jamesway, maker of incubators, said in his talk on Incubation Then & Now that heat, humidity, airflow and turning are keys to a good hatch. He said the industry is moving to single stage incubators where all eggs go in and come out at the same time rather than multi-stage systems.

Chad Daniels, with Chickmaster, gave tips on Managing Hatchers. He said the hatchers provide hatchery personnel with much more data these days that can be used to produce a much better hatching process and a stronger chick.

Dr. Josh Payne, with Jones-Hamilton, gave instructions on Breeder in-House Mortality Composting and overcoming the limitations of working to build a large windrow in breeder houses to achieve adequate temperatures to ensure adequate decomposition and destruction of viruses in the event of a poultry disease outbreak.

State Veterinarian Dr. Jim Watson reviewed the history of the Highly Pathogenic Avian Influenza Outbreak Spring 2017. He said the outbreak was of both highly pathogenic and low pathogenic types in the Southeast. Both were the same virus that infects wild migratory birds with no effect but slight changes in the virus made it more lethal in two breeder farms in Tennessee. Kentucky, Alabama and Georgia had low path outbreaks. He said the low pathological version can mutate into a more deadly highly pathogenic form.

Dr. Watson urged companies to be prepared to do testing in the event of an outbreak by having up to date equipment and supplies. The two breeder farms with HPAI were restocked in 87 days after the diseased birds were removed. The U.S. Department of Agriculture spent $2.79 million responding to and paying indemnity in those two cases.

MPA thanks those companies shown in bold above who provided experts to speak and who also helped sponsor the two days of training at the Miss. State University Veterinary Lab in Pearl and to Cory Rawson with Community Bank who cooked for the crowd at the Collins Civic Center in Collins. Dr. Tom Tabler with the MSU Poultry Science Department arranged the program and Dr. Danny Magee provided use of the lab.
MAXIMIZING THE POTENTIAL OF SEROLOGY FOR POULTRY DISEASE DIAGNOSIS AND FLOCK MONITORING

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Serology, the detection of antibodies in serum, is the cornerstone of many poultry disease monitoring programs, and is a valuable tool for disease diagnosis and vaccination program monitoring. Serological assays or tests exploit the fact that the body responds to infection with many pathogens by activating the humoral arm of the immune response and producing specific antibodies against a disease agent. Antibodies can usually be detected serologically within 1 to 2 weeks of infection. The amount of agent-specific antibody measured by a serological test in the blood serum is expressed as an antibody titer. The presence of antibodies against a specific disease agent in poultry sera indicates exposure to the disease. This is the basis of the use of serology in monitoring programs, such as those of the National Poultry Improvement Plan (NPIP) in the United States for some high-consequence and reportable diseases such as Avian Influenza (AI) and Mycoplasma (M. gallisepticum (MG) and M. synoviae (MS)). Monitoring for these diseases requires regular serological testing of flocks following state and federal programs and regulations.

On the other hand, if a flock is vaccinated against the disease in question (e.g. Newcastle disease (NDV); infectious bronchitis (IBV); infectious bursal disease (IBDV); reovirus; chicken anemia virus (CAV); avian encephalomyelitis (AEV)), evidence of increasing antibody titers may facilitate diagnosis of infection with that disease agent. This is done by evaluating and comparing antibody titers at the time of infection (acute titers) with titers 2-3 weeks after infection (convalescent titers). A three-fold or greater increase in convalescent compared with acute antibody titers, with a narrowing of the coefficient of variation (CV) is suggestive of disease challenge in previously vaccinated flocks. Examples of acute and convalescent antibody titers following IBV challenge in broilers are shown in Figures 1A and 1B.

A tool for vaccination program monitoring

The serological detection of antibodies produced in response to vaccination is essential for monitoring the success of vaccination programs. Breeder and commercial table egg layer flocks are routinely bled at strategic time points (usually 4-8 weeks after vaccination and during egg production) to monitor antibody titers produced in response to vaccination, and to ensure that flocks are sufficiently protected for their productive lives. Serologic monitoring of breeders also indicates the ability of the flock to transfer immunity to their offspring in the form of maternally derived antibody (MDA).

Comparing the titers of a particular flock with established baseline titers (generated from flocks of the same age and breed, from the same area, in the same season, and on the same vaccination program), allows assessment of whether titers are in the expected range. Low titers indicate poor immunization or immune suppression, and may necessitate changes to the vaccination program and/or revaccination of the flock in question. Wide CVs may indicate non-uniform immunization, suggesting problems with vaccine application. Routine analysis of broiler titers at market age in comparison with established baseline titers is important.
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to enable evaluation of the response to vaccination and disease challenge. In some cases, serological testing of 1- to 3-day-old chicks may also be performed to evaluate the transfer of MDA from the parent flock.

**Advantages of serology**

The extensive use of serology worldwide is evidence of its effectiveness as a diagnostic and flock monitoring tool. Serological tests are the most cost-effective tests in the diagnostic toolbox, making them ideally suited for use as screening tests for high sample numbers in flock monitoring programs. Quantification of antibody titers in serum generates a snapshot of the flock’s immunity to a particular disease agent, reflecting both vaccination efficacy and immune system function. Serological tests can also be performed relatively rapidly, with test times ranging from 2.5 hours for ELISA to 25 hours for AGID.

ELISA and SPA are highly sensitive serological tests, making them ideal screening tests for use in disease monitoring programs for MG and MS (ELISA or SPA) and AI (ELISA). ELISA tests are the cornerstone of vaccination monitoring programs, as they facilitate quantification of antibody titers, allow simultaneous testing of large numbers of sera in 96-well plate formats, and are commercially available for a number of poultry pathogens (including NDV, IBV, IBDV, Reovirus, CAV and AEV). HI tests for MG and MS and the AGID test for AI are highly specific diagnostic tests, and are thus useful for the serologic confirmation of MG, MS or AI ELISA reactors.

**Limitations of serology**

As is the case with every diagnostic test, serological tests have their limitations. Serological tests detect antibody produced in response to a disease agent, rather than the agent itself. Because antibody may be present after chicken’s immune system has cleared the disease agent, a positive serological test result indicates current or past exposure to an agent – in other words, the chicken may be disease-free at the time of a positive result. In addition, most routine serological tests do not differentiate pathogen strains.

It is also important to understand that there is a lag period between infection with a disease agent and the production of detectable antibodies by serology. Depending on the particular serological test and the type of antibody detected, this lag period may be shorter (e.g. 5-10 days for the SPA test, which detects IgM antibody) or longer (e.g. 3 weeks for the HI test, which detects IgY antibody). For this reason, PCR testing (which detects the disease agent at the time of infection) may be employed as an adjunct to serology, especially in higher-risk situations, e.g. for testing of spike males for MG, MS and AI prior to placement in breeder flocks.

Highly sensitive serological tests used for the screening of some reportable diseases (e.g. SPA for MG and MS; ELISA for AI, MG and MS) may produce false positive reactors, necessitating confirmatory testing by serology (HI for MG and MS; AGID for AI) or other diagnostic methods (e.g. PCR, culture and virus isolation). Time required for the laboratory to perform these confirmatory tests should be factored in when considering overall testing time, leaving a safe period of time between the submission of samples and when results are required.

**Sample collection for serology**

The submission of adequate sample numbers from a representative number of birds for serological testing is important to facilitate the detection of disease in the flock (in the case of diseases like AI, MG and MS) and to ensure that serologic titers in the birds sampled are representative of the flock as a whole (e.g. for NDV, IBV, IBD and Reo). The number of samples recommended for testing from a flock is based on the statistical probability of detecting at least one positive sample in a flock with a given disease prevalence. For example, in a population larger than 1,000 birds, 11 samples yields a 95% probability of detecting at least one positive sample if 25% of the birds are infected. 29 samples are required to detect infection with 95% confidence if 10% of the birds are infected; this figure increases to 299 samples if only 1% of the flock is infected.

The method of selecting birds for sampling is also important. Birds should be randomly selected for sampling from different locations in the house (e.g. for collection of 30 samples: 10 from the front, 10 from the middle and 10 from the back of the house). In breeder houses, males and females should be sampled at the same ratio present in the house (e.g. for collection of 30 samples: 3 from males and 27 from females for a flock ratio of 1 male:10 females). Serum from more than one bird should never be pooled, and serum from individual birds must never be split to make up sample numbers.

**The importance of serum sample quality and quantity**

Serum sample quality is essential to ensure reliable serology results, and serum volume must be adequate for the number of diagnostic tests requested. False positive AI and MG/MS ELISA reactors are more common with substandard quality samples, and necessitate time-consuming and sometimes costly confirmatory testing and/or re-sampling and retesting. In addition, AI and MG/MS ELISA reactors exceeding thresholds must be immediately reported to the state Board of Animal Health. Samples which fail certain quality criteria will be rejected for testing by the laboratory, and the client contacted to request resubmission of samples.

Good quality serum is clear, straw-colored and odorless (Fig. 2A). Reddish discoloration of samples is evidence of hemolysis (red blood cell rupture) (Fig. 2B), which, if marked, will render samples unsuitable for testing. Brownish discoloration or cloudiness of samples with a foul odor is evidence of sample autolysis (decomposition) and/or bacterial contamination (Fig. 2C); these samples are not suitable for testing.

In order to ensure good quality serum samples and reliable test results, attention must be paid to blood collection, serum separation and sample storage and transport to the laboratory. A minimum of 0.5 ml of serum is required to initiate serological testing. 2.0 to 3.0 ml of properly collected and separated blood from healthy birds should yield 1.0 to 1.5 ml of serum. Blood should
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be collected into blood collection tubes (5.0 ml plastic or glass red topped blood tubes are ideal for this purpose), placed in a horizontal position (<30° slant) until clotted, and allowed to separate overnight (~12-18 hrs) at room temperature. Following serum separation, serum should be poured off of the blood clot into clean, 1.5-2.0 ml snap cap tubes. Centrifuging samples (e.g. at 1,000-2,000 x g for 10 minutes) will expedite serum separation and increase serum yield.

To reduce the risk of hemolysis, blood samples should not be shaken, frozen, or exposed to high temperatures or direct sunlight, and serum should be separated from the blood clot prior to submission to the laboratory. Collecting blood samples with a needle and syringe reduces the risk of contamination, and removing the needle from the syringe prior to expelling blood into the tube will reduce the risk of hemolysis. Serum tubes should be well sealed, and submitted in Ziploc bags in a cooler with ice packs (4°C), accompanied by the appropriate submission form to reach the laboratory on the same day or early the next day.

Acknowledgment:

The author is grateful to Dr. Danny Magee for reviewing this article.
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The month of September is when MPA holds its annual meeting. This year is no different, except we were celebrating the 80th year of MPA’s existence.

This year is no different for me as I start to watch the tropics for any sign of a tropical wave. MPA has been lucky over the years as we make our way to the beach for fun, sun and just enough business sprinkled in to make it official.

In the past 80 years, MPA attendees have had to leave the beach early, cancel fishing and golf tournaments and in 2005 Hurricane Katrina canceled everything completely. I thought we were on that path again for 2017, due to Hurricane Irma. For two weeks, I watched, planned and prayed Irma would just go away. She did not go away but she did not take aim at the Florida Panhandle. Destin was more beautiful this year than in all the years I have been in attendance.

I can’t say that Irma did not disturb us in any way, because she did. As Reed Wade and I left Jackson with a U-Haul trailer loaded down with auction items, and other items, I knew we might have a long ride ahead of us. I was right. All of the Florida Peninsula evacuees were headed home and traffic was bumper-to-bumper from Mobile, AL to Destin, FL. Ten hours later we arrived in Destin, EXAUSTED!

The next day was better as we started to get everything in place. Upon arrival of almost 400 attendees, we were ready.

Thursday night’s Kick off Reception on the Barefoot’s Deck could not have been any more perfect. A light wind was blowing, the temperature was great and the sunset beautiful as we all gathered to see friends and colleagues. Food was plentiful and the shrimp we had to eat were big and tasty. It was a great evening.

Friday morning we had our first business session. The speakers this year were the Honorable Willie Simmons, MS Senate Highways & Transportation Committee Chair, Dr. Ashley Peterson, VP of Science and Technology for the National Chicken Council, and Dr. Joel Cline, Corporate Veterinarian for Wayne Farms. All speakers brought topics of interest to our members.

Friday morning over 70 ladies came together led by Jan Jordan, MPA Chairman Greg Jordan’s wife. Jan helped everyone make crafts and enjoy the Cobb-Vantress/Huvepharma Luncheon called an Eggceptional Christmas. The ladies had a great time making their Christmas ornaments. There was lots of good food and as always, many, many gifts. Thanks Jan!

The almost 70 golfers went to the Raven Golf Club to play. Winners...
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of the tournament were: 1st place A Flt: Curtis Stell, Hank Huggins, Brent Parrish and Stan Fretwell; 1st place B Flt, Josh Jones, Robert Crowe, Keith Whaley, and 1st place C Flt, Stan Varner, Ray Ables, Lee Moore and Bruce Rutledge. The Longest Drive was won by Hank Huggins.

The fishermen left the dock with 9 boats loaded with enthusiasm. We had fishermen that were as old as 75+ and as young as six. From what I heard, each of them had a great time and lots of fish were caught including sharks. Prizes sponsored by American Packaging and Briggs Equipment were awarded.

On Saturday night, prizes were awarded. Overall Winner, Scott Seabrook with a 200 pound Bull Shark.

Saturday morning, we recognized the scholarships given by International Paper, First Financial Bank, Bank Plus, Southern AgCredit and the Mississippi Poultry Foundation.

As always, MPA is proud to introduce the seniors from the Poultry Science Department at Mississippi State University. The five students this year were: Courtney Ennis, Claudia Castaneda, Cassidy Catrett, Vivian Purvis and Ty Fulton. We are happy they could join us for our meeting.

The Allied Industry Leader of the year was presented to Ken McGinnis with Jones-Hamilton Company. Ken is a former Marine and is passionate about the company he works for and the products he has sold for the past years. Beginning his career at Indian River and spending time at Hoechst-Roussel, he has spent the bulk of his career at Jones-Hamilton Company. Ken is married to Connie for almost 40 years and they have two children, Tiffany and John Ryan and his pride and joy is his granddaughter Macy Ryan. If you see Ken, please congratulate him on his accomplishments.

On Saturday night the Platinum and Diamond Reception was the kickoff for the Silent and Live Auction to benefit our MS Poultry Foundation.

This was MPA’s first year to use the Handbid App. All of the silent auction items were listed with pictures and all bids were made through Handbid. We were able to open the bidding early and you did not have to be present to bid or win. The Foundation also had a new auctioneer, Henry Redmond, who did an outstanding job with the live auction. Both the live and silent auctions netted the foundation over $25,000.00. This money will go a long way towards scholarships for our grower’s children and grandchildren and our poultry science majors.

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The 2017 Mississippi Poultry Hall of Fame inductee is the first in two categories. Dr. Yvonne Vizzier-Thaxton is the first female member and completes the first husband and wife team in the Hall of Fame.

The Miss. Poultry Hall of Fame was created in 1972 to recognize the contributions of those who built and expanded the poultry industry into Mississippi’s largest agricultural industry. Dr. Vizzier-Thaxton, former head of the Mississippi State University Poultry Science Department, has been a humble and hardworking trailblazer with a wide range of positions for almost 50 years.

A widely respected researcher who began her career working in and running poultry company labs, Dr. Vizzier-Thaxton has been a university professor, was a blogger, advised the USDA’s Food Service Inspection Service on poultry inspection issues and was chair of the Mississippi Poultry Association. She retired recently from the Center for Animal Wellbeing at the University of Arkansas and returned to the Jackson, Miss. area.

Born in Memphis, she earned a B.S. and M.S. from Mississippi University for Women and started working at and then managing the Food Products Laboratory for MFC Services (AAL) in Jackson and then became Laboratory Manager, and later Director of Laboratory Services and finally Vice President of Science and Quality Assurance at Marshall Durbin Co. While at Marshall Durbin, she earned a Ph.D. from Auburn in Poultry Pathology. She was married to the late Dr. Paul Thaxton, an MSU professor and pioneer in vaccination technology.

Her many publications, classes and professional responsibilities have dealt with food safety, flock health, pest control, processing yield, chilling solutions, pathogen control, humane slaughter, optimal conveyor design, further processing, poultry litter and water quality, and feed mills, among many other subjects.

James Faison, regulatory compliance manager for Mar-Jac Poultry, who introduced her at the 80th Annual MPA Convention, said Dr. Vizzier-Thaxton is “always willing to help the industry, has been an advocate for the industry; conducted research to benefit the industry. She is very industry-focused and pushed a positive message for the industry. The word ‘No’ does not exist in her vocabulary when it came to her job. She thrives on an industry challenge.”

A student of hers, Dr. Ryn Laster, director of food safety and animal welfare, for Cal-Maine Foods, says, Dr. Vizzier-Thaxton “has been the major professor for students earning graduate degrees in nutrition, food science, poultry science, animal physiology, and agribusiness management. She is my mentor and my friend, and I learned more from her than I ever could from a textbook. The poultry industry is fortunate to have had someone like her through the years.”

Dr. Vizzier-Thaxton’s expertise has taken her to speak at conferences in France, Taiwan, the Netherlands and England. She is a member of the following organizations:

- The Southern Poultry Science Association where she served as president,
- The American Poultry Historical Society, also serving as president,
- The World Poultry Association,
- The Institute of Food Technologists,
- The American Society of Microbiology,
- The American Association of Avian Pathologists,
- The advisory board for the American Humane Association.

She was on the Mississippi Poultry Association Board of Directors for 22 years, serving as chair of the board in 1992. For years, she helped plan the Poultry Management School that trains service technicians for the industry.

She is one of only three people with strong ties to Mississippi in the American Poultry Industry Hall of Fame along with her late husband and Dr. Bruce Glick, who performed groundbreaking research into the chicken’s immune system.

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In an effort to better serve the growing poultry loan market, Jay Swindle was added to the First State Bank team in February of 2016. With over thirty years of banking and government lending experience, Swindle now specializes in poultry lending. He provides one-on-one customer service throughout the life of the loan.

First State Bank believes in building relationships with the families we serve. Many of our customers come from a referral from someone we have helped get established in the poultry business.

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During the 25 years from 1961 to 1985, the changes in the poultry industry were coming at breakneck speed and Mississippi’s poultry industry leaders were reshaping the association to adapt.

Several major national events had direct impacts on the association during this period including the economic growth of the 1960s and 1970s, the oil embargos of the 1970s, and the recession of the early 1980s. By the 1980s, the industry began to become global. Battling poultry diseases continued to be a major focus and the association worked closely with Mississippi State University and the Board of Animal Health. The association also got more active in federal and state legislative activities.

The minutes of the board of the Mississippi Poultry Improvement Association shows the board was very concerned with the need for adequate laboratory facilities for the detection of diseases. In 1961, the board stressed to the Legislature the need for a better equipped and staffed lab and worked with the Mississippi Veterinary Association to improve the lab so it could “support all livestock industries” and hire one pathologist devoted to poultry. The lab was then part of the Miss. Department of Agriculture and Commerce.

Five years later the board supported increased fees for blood tests to buy equipment and hire technicians and even advanced $7,000 to the lab to be repaid out of the higher fees. Also, during the 1960s, the board funded vaccine research by Mississippi State University which resulted in a gumboro vaccine. MPIA bought the vaccine for $1.25 per vial and sold it to member companies for $3.25, which produced a steady revenue stream for the association.

By 1977-78, the gumboro vaccine sales were producing $66,000 annually, more than double the dues income for MPIA. But by 1980 as commercial vaccines became available, the association sold the vaccine equipment and was looking for ways to generate revenues. Association income had dropped from $97,700 to $45,900.

The recession of the early 1980s hit the poultry industry at the same time as the loss of the gumboro vaccine income. The association had 14 company members in 1980 and had lost three in 1981-82 alone as companies were sold. MPA had an insurance program for growers at the time and expanded it to include companies during the 1980s.

With inflation and the vaccine income, the association’s budget grew from $16,650 in 1964-65 to $145,250 in 1985. The association was adopting the latest technology during this quarter century. The first mention of a meeting by conference call was in 1973. In 1975, the office acquired an electric typewriter for $750 and a calculator to replace the adding machine. In 1979, MPA bought a Code-A-Phone, an early answering machine.

During the 1970s, there were also changes to the governance of the association as the Mississippi Poultry Improvement Association was incorporated in 1972 in Oktibbeha County and then the name was changed to the Mississippi Poultry Association in 1975.

Throughout this quarter century, the MPA was active at the Legislature working with other associations, chalkling up numerous successes, including: raising the truck weight limit to 80,000 pounds after six years of trying, creating a harvest permit to allow live haul trucks an extra 4,000 pound tolerance; and standardizing the sales tax on poultry house equipment at 3 percent. In 1980 MPA members became active in BIPEC, the Business and Industry Political Action Committee which helped elect business friendly candidates and in 1985, the annual legislative reception for legislators was begun.

The board in 1980 adopted a resolution urging expansion of the state Port at Gulfport by the addition of a blast freezer large enough to freeze two truckloads because it was noted that companies shipped “to a few foreign countries.” The resolution offered a guarantee that Mississippi poultry companies would ship a minimum of 70,000 short tons per year.

Also, at this time, board members met with then U.S. Representative Thad Cochran on federal export legislation as Mississippi poultry was becoming a global commodity. These meetings included American Poultry International, an MPA member and one of the first companies that would bring Mississippi chicken to Russian consumers later in the decade.

In 1972, the board created the Hall of Fame and originally intended an MSU senior in poultry science to write the biography of the person being inducted. From the time of the founding of MPA in 1937 with leadership from MSU, the association has supported the university. MPA in 1973 supported the creation of the College of Veterinary Medicine, which later took over the lab, supported a Poultry Science research farm, and funded scholarships. MPA called on MSU for assistance in energy conservation and in complying with environmental regulations after the creation of the federal Environmental Agency.

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CHANGES TO FEDERAL ENVIRONMENTAL REGULATION AND POLICY UNDER THE TRUMP ADMINISTRATION

John E. Milner - Brunini, Grantham, Grower & Hewes, PLLC

Federal environmental policy and regulation has shifted dramatically under the Trump Administration. During President Trump’s first nine months in office, the White House and the Environmental Protection Agency (“EPA”) have aggressively implemented the President’s environmental policy agenda, affecting virtually every major industry across the United States. This article outlines some of the Administration’s actions, which likely have some effect on poultry farming and processing.

Climate & Clean Air
The Trump Administration has taken several measures that recede from the Obama Administration’s efforts to combat climate change. President Trump announced that he will pull the U.S. out of the Paris Climate Accord, a pact of 194 countries aimed at curbing greenhouse gas emissions. The Administration, through the State Department, sent a communication to the United Nations regarding the U.S.’ intent to withdraw, even though formal notice cannot be provided until 2019 and withdrawal cannot be completed until 2020. The Trump administration also disbanded a federal advisory panel created in 2015 to help businesses and state and local governments understand and prepare for the government’s next National Climate Assessment – a report required by law to be issued every four years.

President Trump signed an executive order revoking federal flood-risk standards that incorporated rising sea levels predicted by climate science. This executive order revoked Executive Order 13690, signed by President Barack Obama on January 30, 2015, which required that federally funded projects comply with a Federal Flood Risk Management Standard, to reduce the risk of future flood damage. President Trump also signed an executive order that takes steps to downplay the future costs of carbon emissions, walks back tracking of the federal government’s carbon emissions, and strikes down Obama-era executive orders and memoranda aimed at helping the country prepare for potential impacts of climate change. Notably, the executive order begins the process of rescinding the EPA’s Clean Power Plan, an Obama-era regulation designed to reduce carbon dioxide emissions from power plants.

Water
President Trump’s 2018 budget calls for massive cuts in scientific research and would impact environmental programs aimed at protecting air and water. The proposed budget cuts the EPA’s budget by 31 percent — the largest cut of any agency. The budget proposal does, however, retain funding for grants to state and local governments for drinking water and wastewater programs. The House Appropriations Committee cleared the Interior-EPA budget package for House floor vote, wherein the EPA would receive a more modest 6% cut.

The Trump Administration has proposed and is seeking comments on a rulemaking that rescinds the Waters of the United States (WOTUS) rule, issued in August 2015, which extends federal protections to smaller bodies of water, including wetlands and isolated lakes. This is the first step of a comprehensive two-step process, whereby the 2015 rule is rescinded and a new WOTUS definition is created. The comment period ends September 27, 2017. The EPA intends to issue a proposed rule regarding WOTUS by December 2017.

Enforcement
A report published by the nonprofit Environmental Integrity Project, a nonpartisan watchdog group made up of former EPA officials, shows during the first six months of the Trump presidency, the EPA has lagged behind the Clinton, Bush II and Obama administrations in environmental enforcement, collecting 60 percent less in civil penalties from polluters. The Trump EPA also lags by other key metrics, the report found, including the number of premature deaths prevented. The group is also studying Superfund cases and criminal environmental law prosecutions under the Trump administration and plans later reports on those enforcement actions.

Superfund Program
While President Trump’s budget proposal cuts funding for the Superfund Program, the appropriations package likely to come out of the House actually increase funding for Superfund and brownfields programs. In May of 2017, EPA Administrator Scott Pruitt...
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POULTRY’S ECONOMIC IMPACT IN MISSISSIPPI IS HUGE

Mark Leggett - President, Mississippi Poultry Association

The Mississippi poultry industry’s impact is felt throughout the state’s economy after 21 straight years as the largest agricultural commodity, according to an updated report entitled, “Economic Impact of Mississippi’s Poultry Industry.”

Dr. Tom Tabler, Mississippi State University poultry extension professor, prepared the report based on research showing the industry in 2016 generated $18.36 billion in economic activity creating or supporting as many as 72,153 jobs. The report notes that “Individuals working in industries as varied as banking, real estate, accounting and printing depend on the poultry industry.”

Growers are paid about $3 billion annually, known as the farm gate value, for the chickens they raise. Sales of poultry products processed in Mississippi generated $2.7 billion in 2014. The industry paid employees almost $1.6 billion in wages and salaries 2016.

The industry processed 738 million chickens in 2014. A Mississippi broiler chicken weighs between 3.8 and 9.75 pounds when processed, depending upon the market destination, the report notes. A flock of chickens reaches market size in four to nine weeks.

In addition to the millions of dollars invested in poultry and egg processing plants, feed mills and hatcheries, “On average, a new broiler house today is about 50 feet wide by 500 feet long and costs around $250,000 to $300,000 depending on how it is equipped. However, some houses are as large as 66 feet wide by 600 feet long and may cost as much as $500,000, depending on equipment.”

There are more than 1,400 farmers contracted with broiler companies. Leake County leads the list of Mississippi poultry counties with $275 million in broilers sold. Mississippi ranks fifth in the nation in broiler production and is home to the nation’s largest egg company, Cal-Maine.

Another executive order issued by the President allows for expedited reviews and approvals for “high priority” environmental infrastructure projects, aimed at speeding up the development of such projects.

While this article certainly does not address every action taken by the Trump Administration touching environmental regulation in the United States, the aforementioned actions are certainly noteworthy. We will continue to monitor developments concerning environmental regulation under the Trump Administration. If you have any questions or need any additional information, please contact John Milner, MPA Counsel, at jmilner@brunini.com or (601) 960-6842.
MORE SPECIAL ELECTIONS SET TO FILL ONE SENATE, FOUR HOUSE VACANCIES

When the 2018 Legislative session begins, the Legislature will have five new members after a summer filled with lawmakers’ transitions to other jobs. The changes will mean House Speaker Philip Gunn will have to name several new committee chairs.

Two open seats have been filled and three more are scheduled for special elections in November. As legislators either retired or took other jobs, four open House seats and one Senate seat opened up. Three of the four representatives were Republicans and the senator was a Democrat. In special elections, candidates do not have to declare a party affiliation.

Stacey Wilkes, R-Picayune, is the new representative from House District 108 in Pearl River County. She replaces Rep. Mark Formby after Gov. Phil Bryant named Formby to the Workers Compensation Commission. Formby, who served 25 years in the House, was the General Bills Committee chair.

Wilkes, an insurance agent, defeated two other candidates in the primary in July. Her election increases the number of women in the House.

In another completed special election, to replace Rep. Toby Barker, R-Hattiesburg, who was elected mayor of the Hub City. Barker, with 10 years in the House, was Performance-Based Budgeting Committee Chair.

Missy Warren McGee defeated Kathryn Rehner in an October 3rd runoff. McGee was a Republican, Rehner was endorsed by numerous Democrats. McGee increased the number of women in the House to 17.

Three more elections are scheduled for Nov. 7, two in the House and one in the Senate. A runoff, if needed is scheduled for Nov. 28.

- Rep. Alex Monsour, R-Vicksburg, was elected a Vicksburg city councilman, and resigned from the House. Monsour was Ports, Harbors and Airports Committee Chair. Candidates in HD54 include Dr. Randy Easterling, former chairman of the Mississippi State Medical Association and of the Business and Industry Political Education Committee. Easterling faces Kevin Ford and Joe Bonelli.

- Rep. Tyrone Ellis, D-Starkville, resigned on June 30, after 38 years in the Mississippi House of Representatives. The three candidates in that race include Narissa Dawn Bradford, Cheikh A. Taylor and Lisa Wynn.


The 90-day 2018 legislative session begins January 2.

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In December you should receive a 2107 Census of Agriculture survey form in the mail. Please respond online at www.agcounts.usda.gov.

The Census of Agriculture is taken every 5 years, it’s a complete count of U.S. farms and ranches and the people who operate them. Even the smallest plots of land with vegetables, fruit, poultry, livestock, equine, or food animals are included.

Responding to the Census benefits your operation, your community, and your future by: Strengthening farm and conservation programs, improving infrastructure in your area and by helping create beginning farmer programs to protect the future of agriculture. Federal, state and local governments, agribusinesses, researchers, trade associations, and farmers themselves use the data from the Census.

MPA gains valuable information about the poultry industry in Mississippi that we use to explain the impact and needs of the industry to the public and to policy makers at the state and federal levels.

The deadline to respond is February 2018 and the results will be available in February 2019.

If you receive a Census of Agriculture form in the mail, response is required by law.

Your information will remain confidential. The results of the Census of Agriculture will be available in aggregate form only, ensuring that no individual operation or producer can be identified as required by federal law.

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Four Mississippi State University graduate students working with poultry science professors on research funded by members of the Mississippi Poultry Association received the 2017 International Paper Scholarship. Claudia Castaneda, Courtney Ennis, Tomi Obe, and Abdul Alqhtani will split $5,000 donated to the Mississippi Poultry Foundation by International Paper.

This is the fourth year that International Paper has funded the scholarship through the Mississippi Poultry Foundation and the third year that the award has been based on research priorities of the Mississippi Initiative for Poultry Industry Research (MIPIR).

Recipients must be a full-time graduate student enrolled in Poultry Science or related field at Mississippi State University, demonstrated leadership abilities, have a Grade Point Average of 3.0 on a 4.0 scale and be engaged in research identified as part of the MPIR funded by members of the Mississippi Poultry Association.

Abdul Alqhtani is a Poultry Science doctoral student at Mississippi State working with Dr. Aaron Kiess. He received his master's degree in Poultry Science from University of Georgia. His particular area of research is poultry environment and microbiology.

Alqhtani focused on different aspects of broiler litter management. First, he evaluated the influence of different broiler diets such as animal by products and all vegetables supplemented with probiotics and antibiotics on litter ammonia, pH, moisture, N P K, and pathogenic bacteria. Second, he evaluated improving litter quality by using new products such as organic acids as litter amendments that may reduce pathogens and ammonia production. This research will help poultry growers to better manage litter condition, which will reduce the cost of production.

Claudia Castaneda is a Poultry Science doctoral student at Mississippi State University under the direction of Dr. Aaron Kiess. She received her undergraduate degree at Zamorano Pan-American school of Agriculture in Food Science and her Master’s degree at Mississippi State University in Poultry Science. Her research focuses on pre-harvest food safety in poultry.

Claudia conducts research that evaluates the potential for probiotics to become an alternative to antibiotics in broiler production. Her goal is to understand how different probiotic bacteria interact with the bird by applying the newest available techniques, to maximizing the overall impact of probiotics and possibly reduce the need for antibiotic supplementation.

Courtney Ennis is a Poultry Science doctoral student at Mississippi State working under the direction of Dr. Kelley Wamsley. Courtney received her undergraduate degree in Poultry Science at Auburn University and her master’s degree at Mississippi State University in Poultry Nutrition, which continues to be her area of research interest.

Courtney recently conducted research involving three Mississippi based integrators to investigate the efficacy of carbohydrase enzymes. It was of interest to compare performance and economic advantages associated with three commercially available carbohydrases with the one currently used in their formulations. As a result of this study, the integrators involved were able to determine the best enzyme for each of their production goals, cost strategies, and current dietary formulations. Courtney plans on continuing to explore the use of various feed additives in order to provide the industry applicable information on enhancing broiler gut health and growth performance.

Tomi Obe is a Poultry Science graduate student at Mississippi State working with Dr. Aaron Kiess. She received her undergraduate and master’s degree in Poultry Science from Mississippi State. Her thesis research was focused on Salmonella stress adaptation and antibiotic resistance.

Tomi worked on evaluating different factors that could affect the efficacy of antimicrobials in reducing Salmonella isolates and biofilms during the cleaning and sanitation procedure in poultry processing plant. This study will have a profound impact on the processing plants by providing information on why Salmonella persists after antimicrobial application in the plant and ultimately help the industry to make an accurate decision on ways to improve the cleaning and sanitation procedures.
Two Mississippi State University graduate students working with poultry science professors on research funded by members of the Mississippi Poultry Association received the 2017 BankPlus Travel Grant to attend the Poultry Science Association convention to present their research. Claudia Castaneda and Rosana Hirai will split $1,000 donated to the Mississippi Poultry Foundation by BankPlus.

The BankPlus-Mississippi Poultry Foundation scholarship is given to a graduate or undergraduate with a 3.25 GPA based on research activities. BankPlus is one of the state’s major lenders for poultry farms.

Rosana Hirai is a Poultry Science doctoral student at Mississippi State working under Dr. Kelley Wamsley. She earned her undergraduate degree from University of Sao Paulo in Animal Science and her master’s degree from Mississippi State in Poultry Nutrition.

Recently, Rosana conducted research concerning the hatch and growth performance of a new commercial broiler cross. The main objective of this study was to evaluate the live performance and carcass yield of this new commercial broiler cross under four different AA density diets during two grow-out periods (D0-32 and D0-35). Her research plays an important role in advancing the efficiency of poultry production.

Claudia Castaneda is a Poultry Science doctoral student at Mississippi State University under the direction of Dr. Aaron Kiess. She received her undergraduate degree at Zamorano Pan-American school of Agriculture in Food Science and her Master’s degree at Mississippi State University in Poultry Science. Her research focuses on pre-harvest food safety in poultry.

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### CHICKEN BREAST WITH PORTOBELLO MUSHROOMS

2 whole boneless, skinless chicken breasts, halved
¼ cup seasoned bread crumbs
¼ cup grated Parmesan cheese
1 small shallot, chopped
1 tablespoon olive oil
4 Portobello mushrooms, sliced
1 tablespoon chopped parsley
¼ teaspoon pepper
4 thin slices mozzarella cheese

In a shallow dish or on wax paper, mix together bread crumbs and Parmesan cheese. Press mixture into both sides of chicken, in small frypan, place olive oil over medium-high heat. Add shallot and sauté until soft. Add mushrooms, parsley and pepper; cook about 5 minutes, turning mushrooms once. Spray oven-proof casserole with nonstick cooking spray and arrange chicken flat in the dish. Top with mushroom mixture, evenly divided over each piece. Arrange slices of mozzarella cheese on top. Cook in a 425 degree oven for 20 minutes or until fork can be inserted in chicken with ease. Make 4 servings.
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