EVAPORATIVE COOLING SYSTEMS: HOW AND WHY THEY WORK

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Introduction

Many poultry houses today are equipped with cooling systems for summertime cooling that consist of some arrangement of cool cell pads at one end of the house and large tunnel exhaust fans at the other end. It’s important that poultry growers have a working understanding of the relationship between temperature and humidity and their effect on chickens if they are to master operation of their evaporative cooling system. The relationship is both simple and complicated. The simple part is the fact that as temperature goes up, humidity goes down and vice versa. That relationship is quite linear and it works well. Consider the weather in Phoenix, AZ on a sunny, summer afternoon. It may be 110°F but, as they say, “it’s a dry heat.” There is almost no moisture in the air when the temperature is that hot; <10% humidity often times. As a result, evaporative cooling works great in the desert.

Now consider the weather on your farm on a summer morning at sunrise. It’s around 70°F and the humidity is at or near 100%. Dew formed overnight and water is dripping off the chicken house roof. Why? Because overnight the air temperature dropped, and because cold air holds less moisture, the air became saturated and condensation formed on surfaces. Evaporative cooling is practically useless under these conditions because the humidity is too high. That’s why there’s no value to running cool cells at 6:00 am. However, something similar to desert evaporative cooling happens when cool cells run on hot afternoons.

Water Evaporation Alters Both Temperature and Humidity

Water evaporating from your wet cool cell pads is having a cooling effect on the hot air passing through the cool cell inlets. But how this works is the complicated part of the relationship between temperature and humidity. To evaporate water, heat (energy) is required. The heat comes from whatever object the water is in contact with as it evaporates; in our cool cell situation, that object is the hot outside air itself as it passes through the wet pads. As heat is removed from the
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REFERENCES
2 Data on file.

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Consider the following fact: for every gallon of water that is evaporated, 8,700 Btu’s of sensible heat is taken out of the air (temperature drop) (Donald, 2000) and converted to latent heat (air humidity). The decrease in air temperature of the hotter, drier air passing through the wet pads has to be accompanied by an increase in humidity of the now cooler, but moister, air inside the house. You did not destroy that 8,700 Btu’s of heat; you simply changed its form (hot, dry air to cooler, moister air).

If you are wondering if the temperature of the water trickling through the pad would make any difference in the cooling potential, not enough to matter. A gallon of water at 50°F has a cooling potential of 8,900 Btu’s. A gallon of water at 90°F has a cooling potential of 8,700 Btu’s. The change to the air due to a water temperature of 50°F vs. 90°F is relatively small (Simmons and Lott, 1996) compared to the overall efficiency of the evaporative cooling system. Basically, it doesn’t matter what the temperature of the water going through the pad is. The cooling potential is essentially the same.

The 80-80 Rule

However, something that does matter is outside air condition. Outside temperature and relative humidity are inversely related; the hotter the temperature, the drier the air. And the drier the air, the better the pads work. There is a “tipping point” that can help determine whether or not to run cool cells. That tipping point, in most cases, is an air temperature of 80°F. If the air temperature is above 80°F, then in most cases, running cool cells will likely be beneficial. If the air temperature is below 80°F, the cooling effect of running the pads is minimal; maybe a degree or two difference between inside and outside air temperature can be gained. The reason for this is the humidity in the air associated with a particular air temperature.

In most cases during the summer, if the air temperature is 80°F, the relative humidity in the air is roughly 80%. That’s just how nature works and we deal with it. As air temperature gradually increases above 80°F (late morning, afternoon), relative humidity gradually decreases. As air temperature gradually decreases to below 80°F (late evening, overnight, early morning), relative humidity gradually increases. Once relative humidity has increased to the 80% level, for example, between 10:00 pm and 10:00 am, running cool cells offers little benefit. Why? Because it is difficult to evaporate water into air and get much cooling when the air already is 80% saturated with moisture (Czarick and Lacy, 2000).

However, there are always those rare exceptions each summer when extreme heat keeps the temperature above 80°F until after midnight. When these conditions occur, running cool cells after 10:00 pm would likely be advantageous. In general however, the 10:00 pm to 10:00 am scenario is a good rule of thumb. In all but a few rare cases, cool cells should not be operated 24 hours a day. Pads must be allowed to dry out at least once per day (Campbell et al., 2006). Failure to do so can create problems such as increasing the risk of algae growth and reducing life expectancy of the pads by keeping them wet for extended periods of time. Life of the pump will also be shortened by needlessly using it overnight when little cooling benefit is possible. Also, high in-house humidity levels created by running pads overnight will make it difficult to keep litter dry.

A common question is “When should the pads start running?” Often times, growers tend to run pads too soon (at too low of a temperature) in an attempt to do what they think is best for their birds. If your house has adequate air speed (minimum of 500 ft/min in a 500’ house; 600 to 700 ft/min is better), there is little benefit to running pads before about 82 to 85°F with larger birds. Certainly running the pads at 80°F or less will be counterproductive in terms of house humidity levels and litter conditions.

Wind Chill Effect Provides Major Cooling

Keep in mind that pads are only part of your overall cooling system. Tunnel fans are the other part, the more important part. Understand that evaporative cooling systems (cool cells) work to enhance tunnel ventilation. The first requirement for successful cooling is air flow. Sufficient air velocity to provide a good wind-chill effect is more important than any other item in a hot weather broiler house (Donald, 2000). Pad cooling is complimentary to tunnel ventilation and relies on the large volume of air flow created by the tunnel fans to improve sensible heat loss from the birds (Donald et al., 2000; Donald, 2000).

It is the wind-chill effect produced by the fans that serves as the primary cooling mechanism. How much wind speed you have down the house will determine whether you can accept the 85 to 90% humidity air the pads create from the standpoint of keeping birds alive and litter “reasonably” dry. Evaporative cooling helps to increase the cooling produced through air movement but increased humidity reduces the bird’s ability to cool itself through respiratory evaporation. Evaporative cooling systems are successful only when the house is tight and the ventilation system adequate (Donald, 2000).

Part of the difficulty in cooling chickens is that basically, chickens do not sweat. However, they do have two ways to cool themselves; 1) air movement (created by the fans) and 2) moisture evaporation from the respiratory tract. Respiratory evaporation may be enhanced by an increase in the volume of air breathed per unit time, which is usually achieved by rapid shallow breathing, known as panting. The amount of heat a bird loses through evaporation of moisture off its respiratory system depends on the relative humidity of the air it breathes. The lower the relative humidity, the more moisture and heat are removed from the body (Czarick and Fairchild, 2009). On the other hand, the bird can’t evaporate much water off its respiratory system if the air it breathes in is already 85 to 90% saturated; thus, heat stress increases.

Why can high air speed alleviate a high humidity issue? Air speed increases the amount of heat loss to the air surrounding a bird, reducing its need to rely on respiratory evaporation for cooling (Czarick and Fairchild, 2009). High humidity inside the house is less of a problem when the bird does not rely as much on panting as a cooling mechanism. Air speed
down the house should exchange the air at a minimum rate of once per minute, even with cool cells. A faster air speed is better; 600 to 700 ft/min on a 500' house is more advantageous than 500 ft/min (Dozier et al., 2005).

How the fans and pads work together is extremely important in keeping your birds alive! There are numerous combinations between fans and pads depending on your controller set up, but to achieve maximum bird cooling for older birds, **all tunnel fans should be on before water ever starts to trickle through the cool cell pads.** This provides maximum air speed down the house and produces the greatest wind-chill effect. It is critical that none of the fans shut off when water is added to the pads and house temperature begins to drop. If part of the fans shut off, air speed down the house decreases at the same time humidity is increasing; leaving the birds more dependent on panting instead of air movement for cooling, thus increasing the heat stress level. It may take some work with your controller, but make sure you have a wide enough range in settings between fans and pads that fans are not shutting off due to pads running.

None of the fans should shut off until house temperature has dropped low enough that heat stress is no longer an issue. With older birds in hot weather, this may not happen until late at night, or perhaps in the early morning hours before sunrise. In some cases, depending on nighttime temperatures, it may not happen at all when additional nighttime cooling may be necessary for older birds. Research has suggested that running all tunnel fans when temperatures are more than 77°F during the last two weeks prior to harvest is beneficial to weight gain and feed conversion (Dozier et al., 2006).

Base temperature settings for the pads on the average of sensors in the tunnel fan end only of the house. Do not include sensors near the pads as this will tend to increase the possibility of pads coming on at too high of a temperature for birds in the tunnel fan end. Also, litter in the pad area tends to be damper than other areas of the house. The higher the temperature setting for the pads, the drier you can keep litter in front of the pads. The coolest air in the house (and therefore, air containing the most moisture) is directly in front of the pads. As air moves down the house, its temperature increases (up to 3° to 5°F) and humidity decreases (up to 20%); allowing it to pick up more moisture from the litter than was possible in front of the pads. Therefore, litter down the house is usually drier than litter near the pads. With older birds, if you have the last tunnel fans on by the time the tunnel fan end of the house reaches 80°F, and you have your pads set to operate at 82 to 85°F, then you should be able to maintain relatively dry litter at a manageable house humidity level, yet still keep birds reasonably comfortable.

**Foggers in Evaporative Cooled Houses**

One area of concern, especially on hot afternoons, is running foggers in combination with cool cells. Numerous times growers have made the comment that “I didn’t lose birds until I turned the foggers on.” The reason for this is that running the foggers further adds humidity to the air that may eventually reach such a humid level that the bird can no longer cool itself and succumbs to heat prostration, even with air movement from the fans. For example, on hot afternoons, birds are already in a high heat stress situation. They are surviving but you can see that many are panting, uncomfortable, and in some degree of distress so you decide to turn on the foggers. However, often times turning on foggers at 3:00 or 4:00 pm makes things worse; and by 6:00 or 7:00 pm you are picking up dead birds. It may be hard to believe, but **running foggers in a cool cell house may actually increase the heat stress** load on birds if humidity levels are already borderline high.

The more humid the air is, the fewer the water droplets added by the foggers that can be evaporated. Droplet evaporation depends on droplet size as well as on ambient conditions. When fogging is used, droplets sprayed in the air vary in mean size and size distribution according to the pump pressure and nozzle type. With most nozzles, the greater the water pressure the finer the mist produced. At 40 psi the typical misting nozzle produces a 72 micron droplet. At 200 psi the droplet size is decreased to 32 microns. For misting systems that produce droplets of approximately 65 microns, the fraction evaporated ranges from 32 to 66% at 27°C (82°F) and 73% relative humidity and at 31°C (88°F) and 54% relative humidity, respectively (Berman, 2008). That leaves a lot of additional moisture in the air for the birds to have to overcome.

The effects of temperature and relative humidity on evaporation are opposite (Singletary et al., 1996). In other words, high temperatures increase evaporation, but high humidity decreases evaporation. Temperature and relative humidity move together in a numerically similar fashion, but they are always moving in opposite directions. For example, on most days, temperature gradually increases from early morning until late afternoon, while at the same time, humidity gradually decreases. The opposite occurs overnight as temperature gradually decreases from late evening until early morning, while relative humidity gradually increases. They move in a similar manner and at a similar pace, but when one is headed up, the other is headed down.

Furthermore, **running foggers could reduce air movement over the birds.** For example, when foggers are running, tunnel fans often pull some of the fog outside. As it passes through the fans, fog gradually wets the shutters, fan blades, belts, pulleys, motors, etc. Observations at a commercial farm in Arkansas indicated that dust collecting on wet shutters formed a heavy coating of mud that weighed the shutter down and reduced air flow through the fan. In addition, wet fan belts would sometimes slip on the pulleys and reduce air flow even further. This is equivalent to a lack of proper fan maintenance, which may reduce air speed by 20% or more. Wet equipment may further reduce air speed on poorly maintained fans to practically nothing.

With reduced air speeds, birds will become heat stressed at lower temperatures. If wind speed goes from 500 ft/min to only 300 ft/min due to poor fan maintenance, wet equipment, etc., a significant amount of wind-chill is lost (Czarick and Fairchild, 2003); causing birds to show signs of
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heat stress at temperatures as low as 78°F. Birds already in a severe heat stress situation will likely not survive losing a significant amount of the wind-chill effect that was keeping them alive previously. Heat losses are almost a certainty in this situation! If we lose our wind speed, we lose our chickens. It’s that simple.

Excess moisture from foggers may also wet other equipment, including feed line motors and electrical connections, which can trip circuit breakers, melt connections, or start electrical fires. Litter conditions may also deteriorate rapidly from use of foggers. Wet litter can result in poor paw quality and will generate additional heat and ammonia, making conditions even more difficult for birds in the days to come.

One other factor important to litter quality is migration fences. Use migration fences throughout the house to prevent too many birds from migrating to the cool cell area. Without fences, birds will move in the direction the cool air is coming from (cool cell area). Birds may become so crowded that little or no air flow can make it to the floor, further restricting drying of litter. Crowded conditions will also restrict feed and water space and make it extremely difficult for you to walk the cool cell area.

Summary
Evaporative cooling systems have benefits to the poultry industry but they are not without their problems. In combination with tunnel ventilation, they allow production of healthy, profitable flocks during extreme summer conditions when this would likely not be possible otherwise. However, they create high humidity conditions in the house that must be overcome with high air movement over the birds. The key to getting the most out of any evaporative cooling system is to move the maximum amount of air through the house. Wind speed and air flow are what keeps birds alive. Growers must understand this if they are to properly manage evaporative cooling systems and raise birds successfully during hot weather.

References


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On December 20, 2018, President Trump signed the 2018 Farm Bill into law which brought about some fundamental changes to the USDA Farm Service Agency’s (FSA) farm loan programs. One of the most significant changes to the FSA farm loan programs was increasing loan limits for FSA’s guaranteed and direct Farm Ownership and Operating Loans. Further changes were amending the direct Microloan limits and increasing the percentage guarantee for the Beginning Farmer and Socially Disadvantaged (SDA) loan programs.

**Increase of Guaranteed and Direct Loan Limits**

The guaranteed Farm Ownership and Operating Loan limits increased from $1.429 million to $1.750 million. This increase of $321,000 helps to fill some of the gaps with farm financing programs while providing more access to credit. FSA’s guaranteed farm loan programs help producers to obtain loans from USDA-approved agricultural lenders at reasonable terms to build or purchase a poultry operation, farmland, equipment and machinery, and other approved program practices. Ag lenders can increase their loan business while benefiting from the safety the FSA provides by guaranteeing farm loans up to 95% to producers to offset some of the risk associated with interest rates and specialized collateral. These programs are designed to give farmers the ability to obtain financing that would otherwise be unavailable through conventional lending methods.

The direct Farm Ownership loan limits increase from $300,000 to $600,000 and the direct Operating Loan limits increased from $300,000 to $400,000. These direct loan programs are offered through FSA at the county level. Each county office has a Farm Loan Officer who can make these direct loans to producers. The FSA direct loan programs typically offer interest rates that are less than those obtained through the guaranteed loan programs and conventional loans.

Farm Ownership loans help producers become owner-operators of family farms, improve and expand current operations, and increase agricultural productivity. Examples of the uses of this program would be buying or building a poultry farm, purchasing farmland or refinancing short term debt over a longer term.

Operating Loans help producers by providing financing for the costs of running a farm. Examples are providing working capital, purchasing machinery and equipment, seed, livestock feed, and more. These loans can also be used to purchase livestock and equipment, and also pay for minor real estate repairs.

**Microloan Limits Amended**

Microloans are direct Farm Ownership and Operating Loans designed to expedite the loan application process and reduce paperwork. Before the 2018 Farm Bill, the combined loan limit for the FSA direct Farm Ownership Microloan and the direct Operation Loan Microloan was $50,000.

The new Farm Bill now allows Microloan limits to apply separately for each type of loan. A producer may now receive a $50,000 direct Farm Ownership Microloan and a $50,000 direct Operating Loan Microloan, for a total of $100,000 in aggregate Microloan debt.

**Increase in Percentage of Guarantee for Beginning Farmer and SDA Loan Programs**

The percentage of guarantee increased from 90% to 95% for the Beginning Farmer loan program and Socially Disadvantaged loan program. With this increase, the 2018 Farm Bill attempts to help make credit more accessible to beginning farmers and socially disadvantaged farmers by making the guarantee percentage of the loan more attractive to Ag lenders.

Overall, the 2018 Farm Bill made some significant improvements to the FSA’s farm loan programs, with the most significant change being the increased loan limits for direct and guaranteed loans. The increased loan limits give producers more flexibility by increasing their access to capital. With rising operating costs, it is imperative that farmers have access to the proper financial resources they will need to grow and maintain their farming operations. The 2018 Farm Bill helps to address that issue with the improvements to the FSA loan programs.

If you feel that you may qualify for one of these FSA programs or are interested in purchasing, building or expanding your farming operation, contact a knowledgeable Ag lender or your local FSA office for more information.
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Virulent Newcastle disease (VND) remains a constant threat to the poultry industry worldwide. This disease affects many species of birds causing severe losses. Formerly known as exotic Newcastle disease, this is a contagious and fatal viral disease that affects the respiratory, nervous and digestive systems of birds and poultry. This disease is produced by a virus denominated Avian orthoavulavirus 1, and this virus is listed as a Select Agent as it is a pathogen of national concern to animal agriculture in the U.S.

This virus may cause high rates of disease and death in susceptible birds, chickens are the most susceptible avian species, ducks and geese are the least susceptible. Once the disease is introduced into domestic avian populations, subsequent spread is normally caused by bird-to-bird contact or through contact with contaminated people, feed or equipment.

The virus is relatively stable in the environment, infectious virus can survive in contaminated poultry houses for seven days in the summer, 14 days during the spring, and for 30 days in the winter. This virus is highly stable on multiple types of materials and at various temperatures. The virus survives for several weeks in a warm and humid environment on feathers, in manure and other materials. The virus can survive indefinitely in frozen material. Therefore, the transmission through fomites is very frequent. This is a great concern as these fomites serve as vehicles for virus introduction during outbreaks.

Virulent Newcastle disease is spread primarily through direct contact with droppings and nasal, ocular, or oral secretions of infected birds. The virus is present in high concentrations in body fluids and discharges and spreads rapidly through birds in confinement. This high viral load in respiratory discharges facilitates the airborne transmission.

Potential routes for the transmission of this disease include transportation of live birds, and fomites, movement of contaminated poultry products and materials. Humans and other animals can serve as mechanical vectors because the virus can be carried from one premises to another on contaminated shoes and clothing of service crews or visitors, and contaminated vehicles. The illegal transport of live animals or poultry products is another concern for disease transmission.

Clinical signs of virulent Newcastle disease vary and can include respiratory, neurological, reproductive, and intestinal signs. The main signs are decreased activity, loss of appetite, ruffled feathers, prostration, weakness, tremors, drooping wings, twisting of head and neck, circling, complete stiffness, greenish diarrhea, sneezing, gasping for air, nasal discharge, coughing and sometimes labored breathing. During the recent outbreak in California, the clinical signs that have been seen in chickens include loss of appetite, difficulty breathing, nasal and ocular discharge, swelling around the eyes, diarrhea, blue combs, and death. Frequently, the disease is so virulent that many birds die without showing any clinical signs.

Virulent viral strains are endemic in the majority of Asia, Africa, and the Middle East, as well as parts of Central and South America. The presence of these viruses in both Mexico and Canada has been specifically investigated as their disease status influences risk of viral introduction into the United States based on proximity. Virulent strains of VND are endemic in Mexico. In the United States, virulent strains are present in wild pigeons and cormorants, these birds have been implicated as reservoir species for virulent strains of Newcastle disease in North America.

The outbreak of virulent Newcastle disease that occurred in the United States in years 2002 and 2003, that involved California, Nevada, Arizona, and Texas lasted eleven months from discovery to eradication. This outbreak mainly involved backyard flocks in the latter three states but did spillover into a commercial operation in California resulting in the culling of 3.16 million birds at a cost of $161 million.

On May 18, 2018 a new case of Newcastle disease was identified in Los Angeles in backyard birds Since May 2018, the U.S. Department of Agriculture (USDA) has confirmed 440 premises in California as infected with virulent Newcastle disease, including 139 in San Bernardino County, 256 in Riverside County, 44 in Los Angeles County, one in Ventura County, and 1 in Alameda County.

On December 2018, the first commercial operation was affected by this disease, involving a commercial table egg pullet flock. Two commercial table egg layer flocks were infected in January 2019 and one more in February.
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SEE US AT WORK:
Since the current outbreak was identified last May, nearly 1.2 million birds, mostly chickens, have been euthanized in Los Angeles, San Bernardino, Riverside and Ventura counties. So far, six commercial operations in Riverside and San Bernardino counties have euthanized their birds. Those operations have accounted for about 822,000 of the euthanized birds, with the rest mostly backyard show, pet and game chickens.

On January 18 the presence of virulent Newcastle disease in a small flock of backyard exhibition chickens in Utah was confirmed by the USDA. This case is believed to be connected to the current outbreak in California, as three of the birds at the premises were recently moved to Utah from Los Angeles County, Cal. Later, on April 5, 2019, the presence of virulent Newcastle disease was confirmed in a small flock of pet chickens in Coconino County, Arizona. This is the first case of virulent Newcastle in Arizona, and the virus in Arizona seems to be closely related to the viruses of California.

With the continuing spread of both avian influenza and virulent Newcastle, it is important to emphasize the importance of biosecurity and review biosecurity protocols on poultry farms. Biosecurity plans need to be tailored specifically for each individual farm or company. The components of a biosecurity plan should include procedures for traffic control, access restriction, service personnel sanitation, vaccination, housecleaning procedures, feed system cleaning, waterline sanitizing, poultry litter management and disposal of dead birds.

Biosecurity plans should also include procedures for cleaning and disinfection, cleaning feeding systems and sanitizing the waterlines. Each of these procedures should be followed while the flocks are on the farms and between each flock as applicable.

Laboratory testing is essential to confirm field suspicion, to characterize the virus, and to comply with international reporting requirements. A quick and prompt diagnosis of the disease in the laboratory is necessary to control virulent Newcastle disease. The application of new molecular techniques has several advantages, one of them is that results can be obtained within a few hours after receiving the samples in the laboratory. The advent of real-time polymerase chain reaction methodologies has provided highly sensitive, accurate and rapid testing procedures. The official regulatory testing for Newcastle and avian influenza is already based on this technology.

The risk of the dissemination of avian influenza and virulent Newcastle disease is continuous and real, however technologies for rapid detection are available. Therefore, it is important to enhance the awareness of field personnel in the detection of clinical signs suggestive of these problems. It is also very important to provide proper training on the collection of samples and on use of the most efficient and accurate laboratory testing procedures.

If signs of disease suggest the presence of either virulent Newcastle disease or avian influenza, this situation must immediately be reported to the state veterinarian and to the USDA avian veterinarian in charge (AVIC).
It may take a large investment to protect your small one.

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It's time for the 82nd MPA Convention. The MPA Convention begins festivities on September 12th and concludes with the Mississippi Poultry Foundation Auction on September 14th. See you September 12-15.

The annual meeting is the largest event MPA has each year. The funds raised for the meeting keep our association operating so we can provide many services to our members, promote our industry and actually pay the cost of the activities at the meeting.

Last year’s convention was well attended with over 400 guests going in many directions. It is always fun to be able to re-connect with friends you haven’t seen, in some cases, since last September.

Registration will begin on Thursday afternoon. Thursday night the Barefoot Deck will be the setting for the Kick-Off Reception.

The business part of the meetings begin on Friday morning with speakers. Jim Owens, Performance Strategies Group and Jim Summer, USA Poultry & Egg Export Council.

As always, golf and fishing are the Friday afternoon’s activities. This year, one large golf tournament will start at noon. The golfers will be treated to nice prizes sponsored by International Paper and McNeely Plastic Products.

The fishing tournament will have food sponsored by International Paper. The fishermen will win great prizes sponsored by American Packaging Company and Deep South Equipment Co. These companies are very generous with the prizes, so sign up early.

The ladies program will be in the hotel this year. Best Selling Author, Ronda Rich will entertain the ladies. You will be entertained.

After all the business meetings and tournament fun is over and the prizes awarded, it will be time for the Mississippi Poultry Foundation Auction. The auction is an important part of the meeting.

REGISTRATION FEES:
( ) Formula/Allied Members Single or Couple ($375.00) $ ____________
( ) Non-Member Single or Couple ($475.00) $ ____________
( ) Grower Member Single or Couple ($50.00) $ ____________

ACTIVITY FEES:
( ) International Paper/McNeely Plastic Products Friday Golf, Raven Golf Club ($175.00) $ ____________
( ) Mulligan (4 for $25, each golfer can only use 2) $ ____________
( ) American Packaging/Deep South Equipment Co. Fishing Tournament ($250.00) $ ____________
( ) Cobb-Vantress/Huvaepharma Ladies Program No Charge

Complimentary, but you need to register for headcount purposes. See details in this flyer.

Late Registration Fee $100.00 After August 31st $ ____________
Convention Registration Total $ ____________

The Association accepts MasterCard, Visa, American Express and Discover. If using a credit card, please provide the following:

Type of card ____________________ Name on Card ____________________
Exp. Date ______________________ Account Number ____________________
Code Number ___________ and the zip code ___________ of the address where the credit card statement is mailed.

You can register and pay online at www.mspoultry.org or mail this form, including all activities in which you wish to participate, with a check or credit card info to:
Mississippi Poultry Association, Inc.
110 Airport Road, Suite C,
Pearl, Mississippi 39208

For more information, call MPA at 601-932-7560.
Please indicate your preferred golf foursome below for the Vendworks, McNeely Plastic, and International Paper Friday Tournament: Please note: golf teams are arranged by the tournament sponsors and the professionals at the golf course. While trying to honor your request choosing your foursome does not indicate you will be on that team.

1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________
Handicap ____________________ or Average Score ____________________
The 5090EL features a low stance and is built on the rugged John Deere 5E 4-cylinder tractor platform. With an overall height of only 69 inches and 90 engine horsepower, it fits easily through small doors like those found in poultry houses or horse barns and has plenty of power to pull a variety of implements.

A lowered ROPS hinge point and factory-installed horizontal side exhaust on the 5090EL help minimize tractor height. Depending on the application, the 5090EL can be equipped with either R4 industrial or R1 agricultural tires.

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The 5090EL is backed by a John Deere 2-year or 2,000 hour comprehensive factory warranty, and a 5-year or 2,000-hour powertrain warranty.
source of the scholarship money that is given each year to four deserving students attending or about to begin college. Grower’s children and grandchildren, and MSU Poultry Science students are the recipients of the scholarships given each year.

Again this year MPA will be using HANDBID. We hope you will join us this year. The one important thing is that the auction contributors get their auction items in early so the staff will have time to make photos and upload them to the HANDBID application. We will have instructors to help with anything you might need to bid on items.

A Convention Registration Form is included in this issue as well as online. If you would like to be a part of this meeting, just complete the form, send it in to Becky at beard@mspoultry.org, or use the address for MPA 110 Airport Road. S. Suite C, Pearl, MS 39208, and use the online registration feature to reserve your room: http://www.hilton.com/en/hi/groups/personalized/D/DESHHFLMPA-20190911/index.html, or call the Hilton Sandestin 850-267-9500 and ask for in-house reservations, use code “MPA” to reserve your room before August 15, 2019. We hope to see you in Destin.

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**MISSISSIPPI’S AGribusiness Enterprise (ABE) Revolving Loan Program**

*William Duncan, Agribusiness Manager for Mississippi Development Authority*

The Mississippi Code Section 69-2-13 is known as the **Emerging Crops Fund**. Under paragraph 3, MDA is authorized to make loans to agribusinesses, for encouraging the extension of conventional financing. The amount of a loan to a single agribusiness shall not exceed 20% of total cost of the project or $200,000, whichever is less. No interest shall be charged. MDA may make loans for upgrades, renovations, repairs and other improvements to poultry production not to exceed $200,000 and the amount of any loan shall not exceed 30% of the total cost of the project. No interest shall be charged.

This loan program has played a significant role in building the poultry industry into the top agricultural industry in the state. Although any agricultural enterprise is eligible, more than 90 percent of the loans have been to poultry producers. The first step in the process is for an agricultural enterprise to qualify for a loan from a bank and then the MDA program is accessed by the bank.

Bankers make loans to a poultry producer building a new farm, adding houses, or renovating houses, also known as retrofitting. Bankers have previously reported that default rates on these loans are less than other commercial loans.

According to the Mississippi Development Authority:

- The total amount of bonds issued is $68,250,000.
- MDA has made $381,086,237 in total loans since the first loan in 1990. This is a revolving loan program so as loans are repaid there is more to loan.
- The program has made 5,100 loans.
- The amount of outstanding loans is $69 million.
- The current number of loans outstanding is 870 as of May 2019.
- The total loaned over the past 3 fiscal years is more than $50 million.
- The total repaid over the past 3 fiscal years is $45 million.
- The market-driven program allows the state funds to be accessed once a bank has agreed to make a loan. The state funds borrowed at zero interest serve to lower the interest rate the agribusiness enterprise pays.
- The Legislature’s PEER Committee reported that ABE is one of three MDA loan programs with utilization rates of 50% or more.

Due to the volume and amount of request, there have been instances in which the program is put on hold to allow the revolving fund to rebuild. The program is currently on hold for those reasons but we are still accepting applications and should be reopening the program no later than September.
Coverages available for:

- All Poultry Operations
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In selling an expensive, though obviously important product, we’re often asked, “Why is health insurance so expensive?” My answer is usually something like, “It’s kind of a chicken and egg situation, but the simple answer is that health care is so expensive.” I skip all of the other influences like Federal policy, State policy, COBRA, HIPAA, ERISA, ICD-10, and all the other intricate details that make America’s health care and health insurance both expensive and extremely complicated. Sadly, every time the Federal Government gets involved, telling us how they’re going to make health insurance and health care less expensive, the opposite usually happens.

The stated goals of the so-called Affordable Care Act (ACA) were simple: insure more people, make coverage more affordable, and protect patients against being denied coverage. However, no pre-existing limitations combined with guaranteed-issue individual coverage has caused an explosion in costs, mostly for younger, healthier people. It sounded good on TV when the President (Obama) said that we’re not going to let those bad insurance companies deny people coverage, charge women more than men or sick people more than healthy people. But the result has been higher costs for most, while only a few of the sickest folks have been helped. Small businesses and the self-employed have been hurt the most. The results have been higher costs, more complicated policies (often with less overall benefits), and little provider choice.

From this backdrop, in comes the Trump administration and a Republican majority in both the House and the Senate. Two years of wrangling back and forth, and a fully Republican Congress passed no meaningful changes to the Affordable Care Act. Astonishing but true. So the Trump administration then seeks to find ways to work around the damage done in Middle America by the ACA. The two ideas they come up with that they believe don’t require Congressional action in a now-split Congress with Democratic House and Republican Senate are Association Health Plans and an extension of so-called Short-Term Medical Plans.

In the past, though it sounded good for small businesses to band together and purchase health insurance at a cheaper price, the reality was that it didn’t work. And if it did, positive results were usually short-term. The reasons go back to market factors. In the pre-ACA days, the Small Group Market had more protections built into it than the over-50-employee Large Group Market did. So results were mixed at best.

However, now the ACA has changed that. The Large Group Market is a less dangerous place because businesses don’t have to cover certain things (pediatric dental and vision, etc.), and the rates are based more on actuarially sound insurance practices rather than the Community-Rated Small Group Market. So when the Trump Administration changed some of the rules at the regulatory level (doesn’t require Congress to pass laws) and expanded Association Health Plans, I had some hope that relief would come through small businesses leaving the toxic Small Group Market and getting better pricing and service overall by banding together and transitioning to the Large Group Market through Assn Health Plans.

This hope extended to the MS Poultry Association where we’d insured the association office since the early 90s and had researched our options for a Growers Health Plan for many years. But after 6 to 9 months of research, two things have become clear. First off, a Circuit Court Judge in Washington, DC has put a hold on the new rules fully taking effect. But even before that, it was made clear to us that one insurance company, United Healthcare, was putting together some AHPs both nationally and in Mississippi. What was also made clear is that they were not really interested in including Sole Proprietors in these plans and that prices for Groups with less than 5 Employees would not be good. With that news, any hope I had went out the window.

If any members have an older BCBSMS Plan, written before 2010, they probably need to hang onto those Grandmothered Plans as long as possible because those plans also escaped the cost increases of the ACA-compliant Plans. For those buying newer Individual and Small Group Plans after 2012, you are likely on an ACA-Compliant Plan, and we know costs have been very rough on you. We will certainly keep researching options, and if any viable Association-style Plans come to fruition, we will work through the Association office to bring these solutions to you.
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GROWING MISSISSIPPI’S ECONOMY SINCE 1937
The four students selected to receive the 2019 Mississippi Poultry Foundation Scholarship all have strong connections to poultry farms.

The winners are Mason Brock of Carthage, Joseph Graham of Hattiesburg, Christopher Carter of Pelahatchie and Logan Morris of Tennessee. One of the recipients is a current Poultry Science student at Mississippi State University, two of the recipients are Poultry Science students transferring to MSU this fall. Three of the four grew up working on a poultry farm. This marks the 16th year the scholarship has been awarded and the third year since the scholarship amount increased to $4,000 per student.

Mason Brock is the son of Amy and Millard Brock and his family grows for Peco Foods. He graduated from Leake County High School and will graduate from East Central Community College before transferring to MSU this fall to pursue a degree in poultry science. He has worked on numerous poultry and cattle farms growing up. Upon graduation, he hopes to service chickens locally and help his neighbors and friends keep their poultry healthy.

Joseph Graham is the son of Melissa and Joe Graham and his family grows for Sanderson Farms. Joseph recently graduated from Forrest County Agricultural High School where he was taking dual enrollment online classes at Pearl River Community College. He has been honored with many awards in high school and has been involved in multiple clubs and organizations. He has worked on his grandparent’s broiler farm since he was a child. Upon graduating high school, Joseph plans on completing his college degree in Instrumentation and pursue a career in that field.

Christopher Carter is the son of Michelle and Chris Carter and his family grows for Koch Foods. Christopher graduated with honors from East Rankin Academy, East Central Community College and is currently enrolled at Hinds Community College obtaining his second AA degree. This fall, he will be transferring to MSU to pursue his poultry science degree with a concentration in Applied Poultry Management. He has spent his lifetime working on his parent’s cattle and pullet farm. His future goal is to own his own farm after working in the industry as a field manager to obtain the experience and knowledge he needs.

Logan Morris is the son of Annette and Jerry Morris. Logan is from Linden, Tennessee, where he graduated from Perry County High School. He is currently attending MSU pursuing a degree in poultry science. He chose poultry science because he has raised many backyard chickens growing up and wanted to learn about the commercial side of poultry. His future plans are to earn his degree in poultry science and enter the poultry industry, hoping to find his niche in the current industry.

The winners are chosen by a committee of educators at the university, community college and the high school levels based on the students’ ACT scores, school transcripts, and an essay showcasing their knowledge of the poultry industry.
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The Buffalo Warren Company is a manufacturer’s rep group that operates primarily in the Southeast United States. The company represents 6 feed additive suppliers including AB Vista, Ajinomoto Heartland, Balchem, Mosaic, Novus, and Phileo Le Saffre.

Chick Pro

Chick Pro www.chickpro.us helps in not only recordkeeping but also is a decision-making tool. Their broiler software is a full-featured Software with a user-friendly interface, which allows farmers to manage data input efficiently. Chick Pro has been developed specifically for broiler farmers.

It covers all aspects of broiler farms, from housing of day-old chicks to sale of birds. A person with basic knowledge can easily use this software. It is designed to enhance broiler management as well as increase profitability. This is designed to record all the transactions and activities involved in a poultry farm. Chick Pro are pioneers in the Poultry Broiler Software Industry in Murray, Kentucky. A family owned business that has been in the poultry industry since 1986.

Food Safety Net Services

Food Safety Net Services (FSNS) focuses on providing 24/7/365 testing excellence for customers. John and Gina Bellinger started FSNS in 1994 with a two-fold mission: exceed customer expectations and provide expedited and timely results. With this customer-focused cornerstone, FSNS continues to strategically expand nationwide services for the food safety, consumer products, and nutraceutical industry. Their national network of ISO 17025 and A2LA Accredited Operating Laboratories are designed and consistently operated to create a better overall testing experience for customers.

Gainey’s Electrical Service

Gainey’s Electrical Service, Incorporated owners’ are experienced former farmers, and understand how important electrical services are to the agricultural industry. Growers’ future and income depend on Gainey’s doing their job correctly, and they take that responsibility seriously. Gainey’s specializes in poultry house and hog house wiring and complete electrical projects with quality, dependable service in a timely manner — with quick response times and 24 hour service call availability.

Hygena

Hygena delivers rapid microbial detection, monitoring, and identification solutions to a wide range of industries, including food and beverage, health care, hospitality, pharmaceuticals, and personal care. Utilizing advanced technologies and patented designs, Hygena provides industry-leading ATP monitoring systems, PCR-based foodborne pathogen detection, DNA fingerprint molecular characterization systems, allergen tests, environmental collection devices, and more. Hygena is committed to providing customers with high-quality innovative technologies that are easy-to-use and reliable, backed by excellent customer service and support.

IP&G

Founded in 1901 by 14-year-old Otto Orkin, Orkin has more than 100 years of experience in pest control services is a leader in the industry, specializing in protection against common pests, including termites, rodents, and insects. In addition to pest control, the company also offers integrated plans to help protect the whole home, including insulation and moisture control services. Orkin employs nearly 8,000 team members in more than 400 locations in the United States, Canada, Mexico, Europe, Central America, South America, the Middle East, the Caribbean, Asia, the Mediterranean, Africa, and Australia serving approximately 1.7 million residential and commercial customers. Orkin is a wholly owned subsidiary of Rollins, Inc.

Jamesway Incubator Company

To Jamesway, “worry free” means knowing that incubator equipment is solid, that HVAC is efficient and that embryos are nestled in the perfect environment. Jamesway is the partner companies need to produce quality chicks and enjoy complete confidence in their incubators and hatchers. Their machines are famous for reliability, efficiency and longevity, and they will offer the best long-term return on investment.

New York Life

At the heart of New York Life is a commitment to be there for customers when they need them — whether today or decades into the future. New York Life has delivered on that promise for nearly 175 years by investing wisely, growing a diversified mix of businesses, and remaining true to their mission as a mutual company, accountable only to their customers, not to outside investors. Today, no U.S. life insurer has a higher financial strength rating than New York Life. For customers, that means promises kept, and peace of mind for the millions of families and businesses who rely on New York Life.

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On March 23, 2019, Governor Phil Bryant signed into law the new “Landowners Protection Act” (Senate Bill 2901) (“LPA”). This is a very significant victory for MPA members, as well as all other business and residential property owners in the state (“Premises Owners”). The new law essentially says that Premises Owners who take steps to make their properties safe will no longer be 100 percent liable if a serious criminal act is committed on their property. As State Senator Josh Harkin of Flowood, a primary sponsor of the legislation, pointed out in the Senate floor debate on the LPA, the act provides “protection for property owners when they should not be held accountable for the acts of another individual that they didn’t know, they didn’t invite on their property and they had no idea they were going to commit whatever crime they committed.”

Mississippi Premises Owners have long been responsible to use reasonable care to maintain their premises in a reasonably safe condition. In recent years, however, this obligation has been expanded dramatically, imposing liability on Premises Owners for the criminal acts of third parties. Premises Owners have faced obligations that are difficult to understand and impossible to satisfy. Premises Owners have not been able to predict when or under what circumstances they might be held liable for the results of random acts of violence that occur on their premises. Some state court decisions appeared to require business Premises Owners to employ armed security guards to protect customers from general criminal violence, forcing them to act as law enforcement agencies. Without the LPA, these decisions could have ultimately resulted in significantly higher insurance, security and other expenses being imposed on business Premises Owners throughout the state and particularly in areas of significant criminal activity. This economic burden could potentially force business Premises Owners to relocate, curtail or even close their operations. Capturing the gravity of this situation is a question raised by one of our Supreme Court justices during oral arguments regarding a case involving these issues: “So the alternative is for these store-owners to move 6 miles out of town, get outside the zone of violence, the people don’t have cars, and now don’t have a place to go shop...?”

Without going into all of the legal specifics, the key impacts of the LPA are that this act (1) places needed reasonable limitations on Premises Owners’ liability and (2) allows juries to apportion fault between the Premises Owner and the third party who actually caused the injury on the premises, on the same basis that exists in other liability cases. The LPA imposes a three-year limitation on evidence introduced in a premises liability case relating to the history of similar criminal actions on the premises. This three-year “window” provides a reasonable period of time for a Premises Owner to maintain their premises in a reasonably safe condition that coincides with Mississippi’s general statute of limitations. Another important feature of the LPA is that the “atmosphere of violence” for proving liability regarding the acts where the third party incident occurred is limited to the actual Premises Owner’s property.

State Representative Mark Baker of Brandon, who steered the LPA through the State House of Representatives as Chair of the Judiciary “A” Committee, captured the importance of the LPA for business development in Mississippi: “By bringing Mississippi’s landowner liability in line with national norms, this act creates a better environment for business development and expansion,” Baker added. “It also contains reasonable provisions for situations where a plaintiff can demonstrate where a landowner would logically be liable.” As Senator Harkins and Representative Baker make clear, the LPA is a very significant law that (1) addresses a significant current liability abuse concern for Mississippi business Premises Owners and (2) allows business Premises Owners to develop and expand their businesses with better assurance that they can manage potential future premises liabilities more reasonably and predictably.

If you have questions or would like more information on the LPA, please contact MPA’s legal counsel, John Milner, at jmilner@brunini.com or (601) 860-6842.
3 FACTORS THAT IMPACT PAW HEALTH

Chicken paws have become a lucrative commodity in the industry with millions in exports annually. Paws also serve as an indicator of animal welfare during audits and can be a direct indicator of bird performance. Footpad dermatitis (FPD), the ulcerated lesions that can form on the pad of the paw, has the power to disrupt their potential. For the sake of welfare, profitability and performance, it’s important to understand the top three factors that influence paw health.

1/ Litter Moisture
High litter moisture content has been shown to be a sole contributing factor to the development of FPD, especially before two weeks and as early as 3-5 days of age, with levels greater than 30% being very detrimental. Focus on litter and moisture management year-round to help avoid FPD. Even decaked and windrowed litter can cause severe burns if excess moisture is present.

2/ Bedding material and depth
The role of bedding material is to absorb and then allow for evaporation of moisture, which can be influenced by the material’s particle size, moisture content and build up, and rate of caking. New bedding is often placed at inadequate depths. Research has shown a direct correlation between litter depth and FPD with paw scores improving as litter depth increased (Bilgili et al 2009). Increased litter depth leads to decreased moisture levels and improved paw quality, which positively impacts bird performance and health (Shepard et al 2017).

3/ Nutrition
Nutrition can impact the development of FPD in various ways, including affecting feces consistency and thus litter quality. For example, excess sodium can increase water intake thereby increasing litter moisture. One study that examined diets with equal protein:energy ratio with either low- or high-density levels showed broilers raised on the low-density diet had significantly fewer FPD cases than the high-density fed birds (de Jong et al 2015).
The 2019 legislative session wrapped up the four-year term that featured some significant changes that had been discussed for years.

In 2019, lawmakers addressed one issue left out of the 2004 tort reform law that curtailed many types of rampant lawsuit abuse. Lawsuits against property owners for the violent actions by a third party were not part of the 2004 law but will now be more tightly regulated after the 2019 legislation passed.

The other major piece of 2019 legislation from a poultry perspective was the change to harvest permits to allow feed trucks to carry 84,000 pounds, the same weight allowed for live-haul trucks. Wood pellets were also included as a commodity eligible for a harvest permit.

The Mississippi Poultry Association and other business groups had pushed for funding for transportation as a vital economic development issue since 2013. Gov. Phil Bryant called a special session for August 2018 that provided more funding for road and bridge maintenance from a variety of sources.

In tackling transportation funding, lawmakers also settled a string of issues that had been hanging around, in some cases, for decades: a state lottery, whether to tax internet sales and what to do with the BP oil spill money awarded to the state. All of that and sports betting became part of the revenue stream for road repairs, mainly at the city and county level.

Voters in 1992 removed the constitution’s prohibition of a state lottery, but it was not until 2018 that legislation passed creating a state lottery. Now a lottery board has been named and a director hired and tickets could be sold starting in 2020. An estimated $625 million could go to transportation needs over 10 years.

Merchants in Mississippi had complained for years that purchases consumers made over the internet were untaxed. It was not until the U.S. Supreme Court ruled in 2018 that states could tax internet sales that Mississippi lawmakers passed legislation expanding the tax to electronic sales and diverting 35% of the use tax, which is levied on residents’ and businesses’ out of state purchases, to roads and bridges. The use tax could generate $120 million per year for city and county road and bridge needs.

The Supreme Court in 2018 also authorized sports betting and Mississippi was one of the first to legalize it and take an estimated $10 million per year of that revenue for transportation needs.

In 2015, the state won a $1.5 billion settlement to be paid out over 17 years from British Petroleum for the Gulf of Mexico oil spill for lost state tax revenue. Cities and counties had received awards but the Legislature had not made a decision on what to do with the state portion. The 2018 special session settled the matter so that 75 percent would be awarded by the Mississippi Development Authority for projects along the Gulf Coast and the remaining 25 percent would be awarded by the Legislature annually for infrastructure projects statewide.

Legislators found these new sources of revenue in 2018 after phasing out some other taxes in 2016 the first year of the term. That year the Legislature approved phasing out the franchise tax on corporations’ capital investments over 10 years, eliminated the 3 percent income tax bracket and cut the tax on self-employed people by half.

Some of the other long-discussed issues that the legislators who were elected in 2015 addressed during the last four years included:

- Appointed versus elected school superintendents. In 2016 all 55 elected school superintendents were switched to appointed positions and none are on the ballot in 2019.
- School consolidation has always been a political mine field but during the last four years, lawmakers continued consolidating school districts. They combined 12 districts into five during the 2012-15 term and 10 districts into five during the last four years. When completed the number of school districts will have dropped from 152 seven years ago to 138 in 2021.
- What had a more mixed result was lawmakers’ attempts to get a handle on the budget process. In 2016, they took a long list of agencies funded with special funds and said those agencies funds would now be appropriated by the Legislature through the general fund. In later years, lawmakers voted to return some of those agencies to special fund status.
- The same happened with agencies that charge fees to other agencies. At first lawmakers prohibited any agency from charging a fee to another and then later allowed fees again for certain agencies, such as the Department of Information Technology Services and the Department of Finance and Administration.
Your Farm Starts at the Kitchen Table

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Bill Patrick
Realtor® | Land Specialist
Mississippi Poultry Association Member

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EMERGING TRENDS

Approximately 115 industry people attended the MPA Poultry Management School May 7 & 8 at the College of Veterinary Medicine at Mississippi State University and the Allied Industry Crawfish Boil at the Starkville VFW.

Experts spoke to attendees about changing regulations, disease outbreaks and how to work more effectively with others. They addressed topics from Europe, Washington, D.C., to California and local Mississippi concerns.

Dr. Natalie Armour from the MSU College of Veterinary Medicine Poultry Research and Diagnostic Lab spoke on REO Gone Rogue about some of the unusual symptoms not usually expected with REO virus that was seen in birds in two locations in Mississippi.

Gail Stickney from Tyson foods spoke about habits of highly effective people.

Will Coggin from the Center for Consumer Freedom spoke on What's next in Dealing with Aggressive Animal Rights Tactics. He said that we need to look at this from a football perspective. The agriculture industry constantly plays defense against aggressive animal rights groups and needs to shift into playing offense. The more time the animal rights groups are on defense, the more time and resources they lose playing offense. When dealing with these aggressive groups it is important to get ahead of issues, utilize your strengths and make sure people know effective information.

Gabriella Davis from the Mississippi Migrant Education Center spoke on Communicating with Diverse Groups. She said it is important to understand the other person’s beliefs and culture so you do not offend them without knowing. When speaking with someone who does not understand English very well, try to avoid slang and speak slowly to give them time to translate it in their head.

Dr. Ashley Peterson, with the National Chicken Council spoke on the roles of various federal agencies regarding controlling salmonella and which agencies have the authority to go onto farms and on FSIS expectations related to live production. She said some of the salmonella inspection proposals being discussed in Washington come with very high costs.

Nikki Jefcoat with the Mississippi Board of Animal Health gave an update on current animal health topics including the spread of Newcastle disease from California to neighboring states. She also said that the Board will begin doing National Poultry Improvement Plan (NPIP) biosecurity audits of farms this year.

Roy Mutimer, with Cobb-Vantress spoke on Animal Welfare Today & Tomorrow. He said that many of the ideas being proposed for animal welfare came from Europe and not all of them are science-based, nor are all of them best for the birds’ welfare. He said the most significant factor in animal welfare is the grower and his animal husbandry knowledge.

Dr. Tim Cummings with Zoetis updated the group on Necrotic Enteritis (NE) Lesson Learned the Hard Way. He said that since companies had made the decision to raise antibiotic free birds, in the last few years some lessons learned included that new litter is a risk factor for NE and that out time between flocks is critical in controlling it.

We want to thank all our sponsors. Wednesday’s lunch at the MSU Poultry Science Department was sponsored by First South Farm Credit. Cobb-Vantress, Inc. & International Paper. Wednesday’s lunch at the MSU Poultry Science Department was sponsored by First South Farm Credit. Cobb-Vantress, Inc. & International Paper sponsored breakfast and breaks both days.

MWI Animal Health sponsored barbecue for the Allied Dinner.

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Thanks to Dr. Jessica Wells for cooking barbecue chicken for the group.
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Every five years, the Census of Agriculture provides a picture of what’s paid to farmers for various commodities and how much is produced where. The 2017 Census of Agriculture, released recently, shows Mississippi still ranks fifth among all states in farm gate poultry and egg production.

Nationally, poultry and eggs rank third by farm gate sales at $49.2 billion. Sales of poultry and eggs are 12.7 percent of the $388.5 billion total of all agricultural products sold in the United States. The two agricultural products exceeding poultry are grains, oilseeds, dry beans and dry peas ($106.9 billion) and then the cattle and calves category comes in second ($77.2 billion).

The number of broilers and other meat-type chickens sold in the United States rose from 8.46 billion in 2012 to 8.89 billion in 2017, a 5 percent increase.

Mississippi, according to the Ag Census, had $6.2 billion in total farm gate agricultural sales, and that poultry and eggs equal $3.1 billion or 50.1 percent.

Looking at just broilers, Mississippi produced 761.2 million birds in 2017 a 2 percent increase from 745.2 million in 2012.

Mississippi is one of nine states where poultry is the number one agricultural commodity: Georgia, Arkansas, Alabama, North Carolina, Mississippi, Delaware, West Virginia, Virginia, and Maryland. Mississippi is one of 16 states where poultry production generates more than $1 billion in farm income.

One of the big changes in the poultry numbers is that North Carolina jumped from fourth to second in value of poultry and eggs produced, jumping over Alabama and Arkansas.

Below is a list of the value of poultry and eggs in the top five poultry and egg producing states and the percentage of total farm income from poultry and eggs.

- Georgia $5.48 billion 57.3%
- North Carolina $5.41 billion 42%
- Arkansas $5.11 billion 53%
- Alabama $4.15 billion 69.4%
- Mississippi $3.11 billion 50.1%
- Texas $2.99 billion 12%

In terms of the impact of the poultry industry on each state, Delaware leads the nation with 76 percent of its agricultural income from the poultry and egg industry, with Alabama second at 69 percent. Seven states earn more than half their ag income from poultry and eggs, the others are Georgia, 57.3 percent, South Carolina, 54.9, Arkansas, 53, West Virginia, 51.4, and Mississippi 50.1.

The Ag Census does not count forestry income in the list of agricultural projects. Forestry ranks second in value in Mississippi commodities.

In other Emerging Trends newsletters, we will report more statistics from the 2017 Census of Agriculture as information becomes available by Congressional Districts and counties.
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FRESH THINKING

PROVEN & DEPENDABLE™
Holding all else constant, Mississippi would lose $18.67 billion in economic activity without the poultry and egg industry. This is according to the latest research from the U.S. Poultry and Egg Association and based on 2018 data.

Mississippi ranks eighth in poultry industry economic impact and all four of its Congressional districts rank in the top 10 percent of the 435 Congressional districts in jobs generated by the industry.

Every few years, the U.S. Poultry and Egg Association hires John Dunham & Associates, an economic research firm, to look at the impact of the poultry industry nationally, by state, by congressional and by state legislative districts. Unlike the USDA Census of Agriculture, the Dunham report looks at the production and the processing sides of the industry, as well as the contributions of suppliers and others.

The last review released in 2016, showed a higher economic impact for Mississippi at $20.3 billion. This number includes direct output, supplier output and induced output. Direct is both the production and the processing sides of the poultry industry, suppliers includes all those industries that sell a good or service to the poultry industry. The induced is the spending of the industry and supplier in the wider economy.

The decrease in total output from 2016 to 2018 was due to several factors including lower poultry prices and less spending by consumers all across the economy, according to John Dunham & Associates.

Nationally, the poultry industry, which includes chickens, turkeys, ducks, eggs, and other birds and poultry products generates 1.98 million jobs, pays $109 billion in wages and has a total impact of $495 billion.

The economic impact of $18.67 billion in Mississippi includes $9.1 billion in direct economic impact from jobs within the poultry industry, $6.29 billion through suppliers to the industry and another $3.25 billion in “induced” impact. The induced impact is the additional economic activity generated from the spending of employees in the other two categories.

Total direct jobs in both the production and processing side of the poultry and egg industry in Mississippi equals 29,164 jobs, the Dunham firm reports. Slightly more jobs are provided by suppliers and the total jobs in the state’s economy numbers 83,001.

The average wages and benefits in the poultry industry (including supplier and induced jobs) is $43,262. The poultry and egg industry and its employees in Mississippi pay about $1.5 billion in federal, state and local taxes.

Mississippi ranks eighth in total economic impact of the poultry and industry. The industry, which includes broilers, eggs, turkeys, ducks, eggs, and other birds and poultry products generates more than $10 billion in economic activity in sixteen states.

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<th>RANK</th>
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<td>1</td>
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<td>North Carolina</td>
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<td>Wisconsin</td>
<td>$11.99</td>
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Mississippi’s 3rd Congressional District ranks third in the number of jobs generated by the poultry industry behind two Arkansas districts, but all four of Mississippi’s Congressional districts rank high nationally.

Drilling down further, Mississippi has five state Senate districts where the total economic output because of the production and processing activities of the broiler and egg industry is greater than $1 billion. There are four state House districts.
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   - Water-Charts by house and multiple flocks for comparison.
   - Feed-Charts by house and multiple flocks for comparison.
   - Temp, Light, Water Treatment Schedules-Charts by house and multiple flocks for comparison.
   - Mortality-Charts by house and multiple flocks for comparison.
   - Weekly mortality charts.
   - Departure Schedule

4. Projected Weights.
   - By current flock
   - By current houses

5. Tracks history flock information for comparisons.

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This year’s legislative elections are not expected to produce major changes in the number of Democrats and Republicans in the House and Senate. Republicans hold three-fifth super-majorities in both chambers.

A total of 350 candidates are seeking the 174 seats in the House (122) and Senate (52). The party primaries are August 6 with runoffs on August 27. The general election is November 5.

One of the trends that marked the 2016-2020 term has been the high number (20) of legislators, especially in the House, who retired and were replaced in special elections. Many of those incumbents elected in special elections in the last four years’ face opposition this year.

There are currently 33 Republicans and 19 Democrats in the Senate. The House has 75 Republicans, 45 Democrats and two independents.

There are 68 Republicans and 49 Democrats running for Senate seats, while 118 Republicans and 99 Democrats are seeking House seats. The largest numbers of candidates are in the 12 Senate and 13 House districts where the incumbents retired.

The 25 who retired or are seeking other offices took a total of 475 years of legislative experience with them. Leading the list was Sen. Tommy Gollott, R-Biloxi, who holds the Mississippi record for legislative service at 52 years. He is one of the longest serving state legislators in U.S. history.

Of those who did choose to run for re-election, 22 in the Senate have no opposition. In the House, 56 incumbents will be returning without opposition. That is 40 percent of the Senators and 46 percent of the representatives who are guaranteed to return for another term. One unusual addition is Rep. Chris Johnson, R-Hattiesburg, who qualified to run for the Senate. His opponent dropped out and Johnson was assured of being elected.

In the Senate, those unopposed are 15 Republicans and seven Democrats. In the House 37 Republicans and 19 Democrats have opponents.

Of the 30 contested seats in the Senate 13 will be decided in August primaries. Of the 66 contested seats in the House 32 will be settled in August.

In the House, 18 Republicans seeking re-election face a primary challenge from other Republicans. There are 17 incumbent Democrats with a primary, but eight of those are incumbents with less than four years’ experience. Two of the Republicans have less than a full term.

Among Senators, 11 incumbents seeking re-election face an opponent from their own party. Four are Republicans and seven are Democrats.

The remaining 34 House seats will not be decided until the November General Election. Of those November races, 22 pit a Democrat against a Republican. Seventeen are currently Republican-held seats with 12 held by Republican incumbents seeking re-election and five are open seats Democrats hope to pick up. Of the five Democratic seats with a Republican running, four are open seats.

In the 14 Senate races pitting a Democrat against a Republican eight are currently in Republican hands and six have Democratic senators. Four of the Republican seats and four of the Democrat-held seats are open races.

As it stands before even the first primary, Republicans hold a 49-35 advantage in the House and a 19-11 advantage in the Senate.

LEGISLATIVE RACES NOT EXPECTED TO MAKE MAJOR CHANGES TO PARTISAN SPLITS

Mark Leggett - President, Mississippi Poultry Association

INFORMATION ON LEGISLATIVE RACES

HERE ARE SOME PLACES WHERE YOU CAN FIND MORE INFORMATION ABOUT THE ELECTIONS:

The Secretary of State’s Office website www.sos.ms.gov. Go to “Elections and Voting” for information about registering and voting absentee and other topics.

For information on how candidates voted on legislation important to the business community, you can go to www.BIPEC.org. Go to Tools and Legislative Report Card to see how each lawmaker scored.

The Mississippi Poultry Association website www.mspoultry.org has a list of all candidates by district and party.
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LEMON CHICKEN

Becky Beard - Administrative Assistant, Mississippi Poultry Association

INGREDIENTS

- 4 skinned and deboned chicken breasts
  (about 1 1/2 lb.)
- 1 teaspoon salt
- 1/2 teaspoon pepper
- 1/3 cup all-purpose flour
- 4 tablespoons butter, divided
- 2 tablespoons olive oil, divided
- 1/4 cup chicken broth
- 1/4 cup lemon juice
- 8 lemon slices
- 1/4 cup chopped fresh flat-leaf parsley
- Garnish: lemon slices

PREPARATION

Cut each chicken breast in half lengthwise. Place chicken between 2 sheets of heavy-duty plastic wrap; flatten to 1/4-inch thickness, using a rolling pin or flat side of a meat mallet. Sprinkle chicken with salt and pepper. Lightly dredge chicken in flour, shaking off excess.

Melt 1 Tbsp. butter with 1 Tbsp. olive oil in a large nonstick skillet over medium-high heat. Cook half of chicken in skillet 2 to 3 minutes on each side or until golden brown and done. Transfer chicken to a serving platter, and keep warm. Repeat procedure with 1 Tbsp. butter and remaining olive oil and chicken.

Add broth and lemon juice to skillet, and cook 1 to 2 minutes or until sauce is slightly thickened, stirring to loosen particles from bottom of skillet. Add 8 lemon slices.

Remove skillet from heat; add parsley and remaining 2 Tbsp. butter, and stir until butter melts. Pour sauce over chicken. Serve immediately. Garnish, if desired.
UPCOMING EVENTS:

At all events involving growers, please practice strict biosecurity procedures

The Grower Advisory Committee will meet quarterly at the call of the Chairman.

- Breeder/Hatchery Seminar
  AUGUST 13 AND 14
  Pearl Lab (13) &
  Collins Civic Center (14)

- MPA, Inc. Convention
  SEPTEMBER 12-15
  Hilton Sandestin Golf &
  Tennis Resort, Destin, FL

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