TPA NEWSLETTER

...from the Tennessee Poultry Association

HPAI: ARE WE READY?

After the devastating highly pathogenic H5N2 avian influenza (HPAI) outbreak in the Midwest this past March - June that caused a staggering $1.5 billion economic setback just for Minnesota and Iowa alone, everyone is, of course, on heightened alert as waterfowl migrations begin this fall.

What is certain is that every time the AI virus surfaces *we do not know exactly how it is going to behave*. Viruses are highly adaptable and they are constantly undergoing change, not only through genetic mutations but through reassortment as well. Reassortment occurs when segments of two different strains of the influenza virus mix during the replication process, resulting in a newly reassorted strain that shares properties of both of the original viruses as newly combined. This helps to explain how the AI virus changed in its nomenclature and behavior this past year from around the country from one migration point to the next, as wild birds continued to comingle at their various stopping points. (Internationally, Australia and South America are the only regions in the world not affected by AI right now.) This also explains why low pathogenic AI cases are reportable and these flocks are depopulated. These highly adaptable low-path viruses can also mutate or reassort to later express themselves in a highly pathogenic form. Due to its outer lipid structure, the AI virus is very vulnerable to being destroyed by UV light and high temperatures; the colder the temperature and the more protected it is (when hidden or protected within a host or as a fomite particle within organic matter, dirt, feathers, etc.), the longer it thrives.

(*continued on page 2)*

KNOW THE WARNING SIGNS OF HPAI:

- Lack of energy and appetite
- Decreased egg production and/or soft-shelled or misshapen eggs
- Swelling of the head, eyelids, comb, wattles, and hocks
- Purple discoloration of the wattles, combs, and legs
- Runny nose, coughing, sneezing
- Stumbling or falling down; Diarrhea
- Sudden death without any clinical signs

APHIS emergency response information

www.tn.gov/agriculture/ USDA HPAI information

Tennessee Poultry Association

2015 Annual Meeting Highlights

TPA Past-President Scott Black seemed more than a little surprised and humbled to be honored as the **2015 Workhorse of the Year.**

2015 TPA Farm Family of the Year Newton Farms accepts their well-deserved recognition from Tyson Shelbyville representatives Marshall Miller, Tom McCue, Pete Collins & Andrew Blair.

2015 Hall of Fame Inductee Bill Baisley, escorted by Meagan Barnett, receives his award from long-time friend Don Crawford and TPA President Chynette Bandy. (Story on page 5)

INSIDE THIS ISSUE

TPA's Poultry Company Members include:

Aviagen · Keystone · Hubbard (Your Choice, Our Commitment) · Tyson · Pilgrim's · Cobb · Koch Foods

HPAI: ARE WE READY? *(continued from front page)*

While the break in the upper Midwest was most devastating to the turkey and egg laying industries, the broilers and younger birds did not appear to be (as) susceptible. Birds 13 weeks and older were most susceptible, but at the same time these turkey and layer houses were typically open-sided, curtain-walled houses. Per the USDA/APHIS epidemiology ("epi") report, small wild birds (one or two per house in most incidences), rodents and/or insects did exist in many of these houses that broke, and cannot be ruled out as possible vectors. The original source of the virus that broke was never found. With the incubation period typically being 5 - 7 days, whatever bird or birds dropped it off first were long gone by the time the wild bird population in that area was tested. Low-path AI is enteric and is therefore spread through the feces; high-path is systemic and can be shed through every means possible. Experts are pretty much in agreement that the virus originated from migratory *dabbling* ducks (such as mallards, teals and pintails) and that it is not spread by Canadian geese or other diving waterfowl.

Dr. Darrel Styles with USDA/APHIS Veterinary Services, at the HPAI workshop hosted by the KY Poultry Federation on Sept. 9th in Elizabethtown, commented that he believes that the boosted immunity present in broilers and breeders (due to the overall great vaccination programs in place, which does not include AI vaccine for any) attributed to their success in avoiding this break. Most interestingly, the Gold N Plump (GNP) broiler complex that was geographically situated right in the middle of the break in MN was not affected. Sean Holcombe, Director of Sales and Technical Service for Hubbard, shared that GNP (who is a customer of theirs) had exceptional biosecurity measures in place and credits these measures greatly for their success in avoiding a break. The biosecurity measures in place did work for this broiler complex.

Why did the outbreak get out of hand? Many are in agreement that people were the primary reason the virus spread as it did. A grower that helped out a fellow grower with a mortality issue, before AI was ever first suspected or confirmed, is believed to be how this first began to spread. Sharing of equipment, employees moving between infected and non-infected farms, and the lack of proper cleaning and disinfection of vehicles moving between farms were all identified as contributors to the continued spread of the disease. Once outside contractors were brought in to assist with depopulation, disposal, cleaning and disinfection efforts the spread of the virus escalated. The biosecurity training and subsequent supervision soon proved to not be adequate or even present in some cases. Too many of these folks were simply not familiar with protocol and the right steps were not taken or followed. Personal protection equipment (PPE) was reported to be strewn around, in and around dumpsters in common areas and even along hallways of hotels utilized by contract employees.

Wind was believed to be another possible factor, but U of MN researchers subsequently showed that the virus does not likely carry far unless bound as a particle within organic matter, as a larger fomite that can protect it from UV light and higher temperatures. One report showed that sustained high wind speeds over two days appeared to be associated with clusters of outbreaks 5 -7 days later. Yet, another report showed that highly variable winds blew predominately from the west to northwest, whereas the outbreaks were generally spreading from northeast to southwest. As a precautionary measure, some were covering exhaust fans with landscaping fabric to reduce the spread of larger fomites plumes into the environment. *The best recommendation is to shut off fans once AI is detected as a responsible measure to minimize the further spread of disease into the environment.*

Why did it take so long to contain? Lessons learned from the recent outbreak showed that the hardest hit areas were simply not prepared to handle an outbreak of this magnitude. *Early disease detection and depopulation of an infected flock is paramount within the first 24 hours.* This did not occur at the start of this break. Nobody was looking for it; nobody was suspecting it. Testing by a state lab typically takes a day to get back a presumptive positive result. Getting a sample to the USDA/NVSL lab and results back adds another day, so this would put most at 48 hours or more to have a confirmed positive, set up control zones and begin depopulation & disposal. Waiting for USDA approval to release a flock in order to receive indemnity further added to the delays. Indemnity can only be paid by USDA for live birds documented at the time of the official appraisal. Some flocks had mostly or fully expired by the time they were appraised and released for depop. USDA has since committed to expediting this process and understands the sense of urgency to detect and depopulate within the first 24 hours. Availability of foam machines as the preferred means of depopulation further added to the escalation of delays. MN started out with one machine, then soon had 2, and eventually brought in more for a total of 8 or 9 machines many weeks later. Water soon became the most limiting factor. Finding sources and getting it delivered could not keep pace. Labor and crews to depopulate fell behind as well. Disposal issues quickly added to the hardships as burial was not an option in the "land of 10,000 lakes and 100,000 ponds" with karst soils and waterways everywhere in between. The first birds to be depopulated were still in dumpsters as much as 6 weeks out. The landfills ended up refusing to take them due to public concern and outcry, even though this virus was of no threat to humans. Layers obviously could not be composted in-house and large turkeys were too big to be managed in-house. On-site composting was not an option for most due to the proximity to waterways and sources, and there was not enough readily available carbon source on hand to handle the miles of composting it would have taken to go this route anyway.

(continued on page 3)

HPAI: ARE WE READY? *(continued from page 2)*

Are you biosecure? USDA/APHIS has prepared a "Checklist for Self-Assessment of Enhanced Poultry Biosecurity" and training materials as part of ongoing preparation efforts for HPAI. These documents can assist the poultry industry in implementing effective biosecurity practices. APHIS collaborated with state, academic and industry experts to develop the checklist and training materials, which are posted on the U.S. Poultry and Egg Association website at http://www.uspoultry.org/animal_husbandry/intro.cfm. Everyone is encouraged to take a moment right now and do this. It will only take a minute or two to do so. US Poultry also has a biosecurity DVD available and some of the complexes have already requested enough copies to put one in the hand of every grower.

What is Tennessee doing? Tennessee's State Veterinarian, Dr. Charles Hatcher, along with NPIP program manager, Tina Rogers, have dedicated an incredible amount time and effort this summer and fall to AI preparedness and training. Dr. Hatcher has the full support of Commissioner Julius Johnson and Jimmy Hopper, Assistant Commissioner for Consumer & Industry Services. Tennessee's HPAI Response Base Plan is in place. TEMA and TDA officials held an HPAI tabletop exercise recently on Sept. 3rd and the *After Action Report* has been completed. Documents for biosecurity and for depopulation & disposal have also been drafted. Dr. Doug Balthaser with TDA, along with several of their AHT's, and USDA Veterinary Medical Officer (VMO for TN) Dr. Harley Sutton were part of the response team with the MN efforts this spring and witnessed everything first-hand that worked and what could have gone better. TDA and UT Extension, along with TPA, are working together to help educate the backyard flock owners by reaching out to the Ag extension agents, practicing veterinarians and feed stores in every county across the state to create more awareness for biosecurity measures and early detection of AI.

What else can we do? While everyone has stepped up their biosecurity and remains optimistic that they will not be affected, it is smart to be prepared for the worst. Early detection training is paramount as are plans for depopulation, mass mortality management and disposal for each premise. If foam rigs are to be used, where will those machines come from, who will operate it that is trained and who will supply the tankers of water without delay? If composting mass mortalities in-house or on-site, where will the carbon source come from, is it readily available, and is it guaranteed should the break be large in your area? If composting on-site and/or planning to bury on site, has the site been selected in advance in compliance with the Clean Water Act? The State does not require a permit in TN, for Ag is exempt under the solid waste rules and regs; however, some local jurisdictions may have their own rules and stipulations. Local NRCS offices can assist with obtaining and interpreting maps for site selections to stay clear of waterways and sources but they are not authorized to give their approval for a site. In some cases, a licensed soil scientist or hydrologist may need to be involved to best protect the landowner. Shawn Hawkins and Forbes Walker at UT in the Ag Biosystems Engineering Dept. are both experts in dealing with mass animal mortalities and can be available consulted. Their contact info and links from universities on mass mortality management can be found on the TPA website at www.tnpoultry.org/growers/massMortMang.cfm. Everyone is also best advised to have heavy equipment and operators lined up should on-site burial be needed and know that it is guaranteed and readily available to you should there unfortunately be a big break in your area.

May none of this, of course, ever be needed. Best of luck everyone.

Tennessee Poultry Association

2015 Sporting Clay Results

1st Place - Alan Lyle
Tyson Foods - Obion County

2nd Place - Shane Joyner
Tyson Foods - Obion County

3rd Place - Craig Benich
Cobb-Vantress - Dry Creek

CONGRATULATIONS!!!

Event Sponsor Chance Bryant

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2015 Golf Tournament Winners

Forrest Crossing Golf Course, Franklin, TN

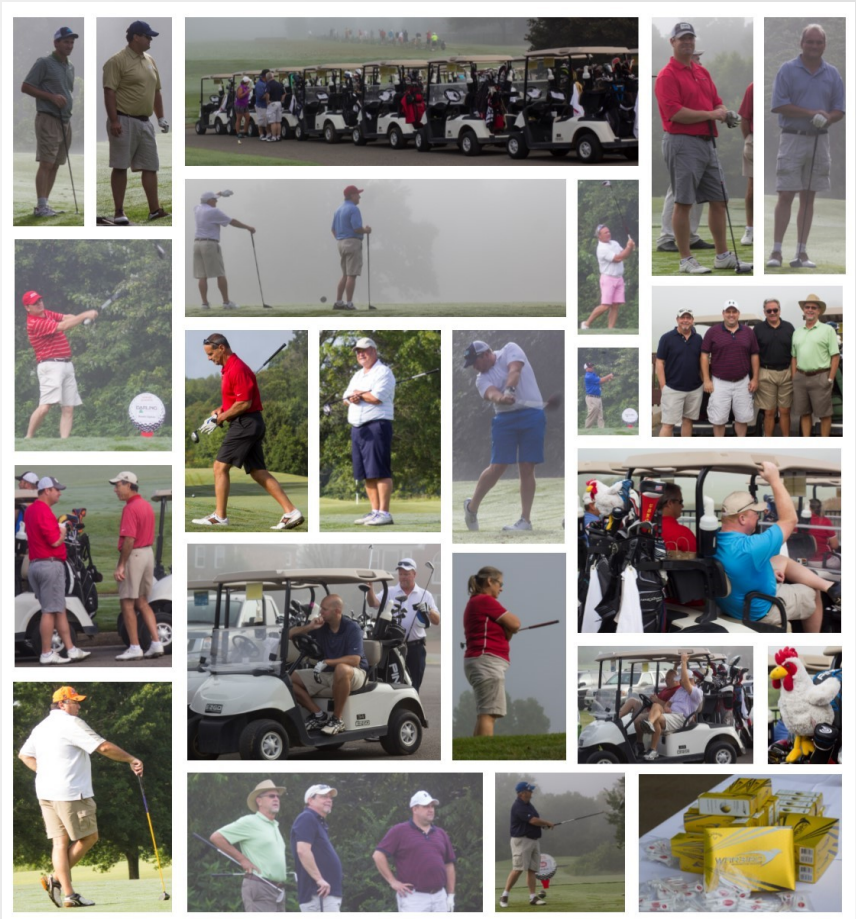
1st Place Team - (won on 10th scorecard playoff hole)
- Dennis Sigman, Darling Ingredients
- Don Davis, Koch Foods - Chattanooga
- Donnie Bullard, Lee Energy Solutions
- Kevin Griffin, Keystone Foods

2nd Place Team - (won on 4th scorecard playoff hole)
- Micah Abernathy, Tyson Foods - Shelbyville
- Graham Kelly, Live Oak Bank
- John Kelly
- Teri Atkins

3rd Place Team
- John Owens, AMPRO Products
- Greg Spence, Keystone Foods
- Jimmy Brooks, Merial Select
- Tami Brooks

4th Place Team - (won on 4th scorecard playoff hole)
- Shane Guy, Keystone Foods
- Jeff Sims, Animal Health International
- Brad Nance, Pilgrims
- Brian Johnson, Cumberland Poultry Group

Closest to Pin #3: David Boils, Keystone Foods
Closest to Pin #5: Earl Burton, TN Energy Consultants
Closest to Pin #12: Scott DuChette, AMPRO Products
Closest to Pin #14: Bart Smith, Sunbelt Rentals
Longest Drive #8: Alexander Libin, Prime Equipment



Mr. Bill Baisley Inducted into the TPA Hall of Fame

Mr. Bill Baisley of Dayton, TN was inducted into the Tennessee Poultry Association's Hall of Fame on August 8th during their annual awards banquet ceremony at the Hilton Nashville Downtown. Bill received a standing ovation from everyone in attendance while receiving recognition in honor of his lifelong commitment to the poultry industry. Bill was proudly introduced and recognized that evening by Mr. Don Crawford, TPA's 2014 Hall of Fame inductee. Bill and Don first met and became great friends while both attending Tennessee Tech in Cookeville in the mid-50's.

Born April 13, 1932 near Crossville in Cumberland County, Tennessee, Bill first met his future wife Maxine while he was in sixth grade. After Bill graduated from Cumberland County High School he attended TTU for a year. He then moved to Ohio to catch up with Maxine and they married on Nov. 9, 1953. Just ten days later on Nov. 19th, Bill was drafted and soon departed to Ft. Jackson, FL to serve in the Army for two years. He was transferred to Ft. Hood, TX and gained invaluable organizational and management skills as he moved his way up to becoming the Senior Clerk to the Battalion Commander for the 634th Armored Infantry Battalion.

After being discharged from the Army, Bill returned to TTU on the G.I. bill and completed his degree in Ag Education. Along about 1959, Bill started working for Mr. Tilford, Sr. with the Dixie Grain Company in Shelbyville as their Feed Salesman & Technical Service Representative for the Jamestown, TN area. A year later, Bill became the Live Production Manager and Assistant Manager for Dixie Home Feeds and lived in Athens, AL. Interestingly, Bill used to call on Pop Burnett (2013 HOF inductee) in Morristown "using an old fashioned adding machine to conduct business". From 1964 to 1966, Bill served as the General Manager for Erving Hatcheries (Winlock, WA) at their Southeast Office in McMinnville, TN, covering the states of TN, AL, IN, IL & KY.

Bill next moved to Dalton, GA in 1967 to serve as Sales Rep, Sales Manager and then as the SE Regional Manager for Peterson Farms (based out of Decatur, Arkansas). In 1987 he moved to Summerville, GA and built the hatchery for Peterson Farms in Trion. After serving as their first Hatchery Manager he became National Sales Manager in 1988. Bill retired from Peterson Farms in 2003 as the VP for the Southeast District.

It didn't take Bill long to come out of retirement and find something else to do for he then moved to Dayton, TN (where he presently lives) and started working part-time in 2004 for Whiting Farms (out of Delta, CO) as a Sales Manager, and later (and still to the day!) with TN Mountain Shavings & Wood Co. for their plants in Evansville and Pikeville. Bill and Maxine have two children, Tim and Vivian. Tim has special needs and his parents are very proud and caring for him, the way it should be. Vivian lives in Ooltewah, TN and is a Sales Executive for U.S. Holland Trucking which is owned by YRC Worldwide.

Bill's leadership and involvement with the poultry industry throughout his career has been most impressive. Most notably, he received special recognition by his peers from the Poultry Leader's Round Table during the 2002 IPE (International Poultry Exhibition) in Atlanta for his involvement from 1967 to 1980. Moreover, he served as the President for the Georgia Poultry Federation in '83-'84 and has been widely recognized by the GPF for his accomplishments and service over the years. As a champion horseshoe thrower, Bill, along with Jack Neighbors, used to coordinate and dominate the horseshoe competitions in the early days of TPA when the annual meetings were held at Fall Creek Falls.

Mr. Baisley is widely credited by those who know and admire him best as having that "special ability to make everyone he meets feel like a valued and appreciated human being". Over a glass of tea with TPA Executive Director Dale Barnett this past summer at the local diner in Dayton - where Bill was warmly greeted by everyone he knew when he entered - he was quick to acknowledge that his gift to get along with people is what led to the success that he had throughout his career. Bill readily acknowledges and greatly respects the start that Mr. Tilford gave him and for supporting him as he did. If you ever have the chance to visit with Bill, be sure to ask him the tales about the 1957 Ford that Mr. Tilford first set him up with, and the other cars that soon followed, and about some of his sales calls to see Pop Burnett.

Bill himself has been most fascinated to see feed conversions progress over the years, from what started out taking "12 weeks to grow to a 4 lb. bird" back in the 60's to what it is today. Watching the industry evolve from the days of bagged feed to that of fully automated feeding systems has been most intriguing for Bill, as has the progression from the days of coal stoves and hot air furnaces to modern ventilation systems. When asked what he foresees as the greatest challenge facing the industry today, he promptly states that to be food safety, especially as we move away from the use of antibiotics.

The TN Poultry Association proudly welcomes Mr. Baisley into the TPA Hall of Fame in recognition of his lifelong dedication and service to the poultry industry.

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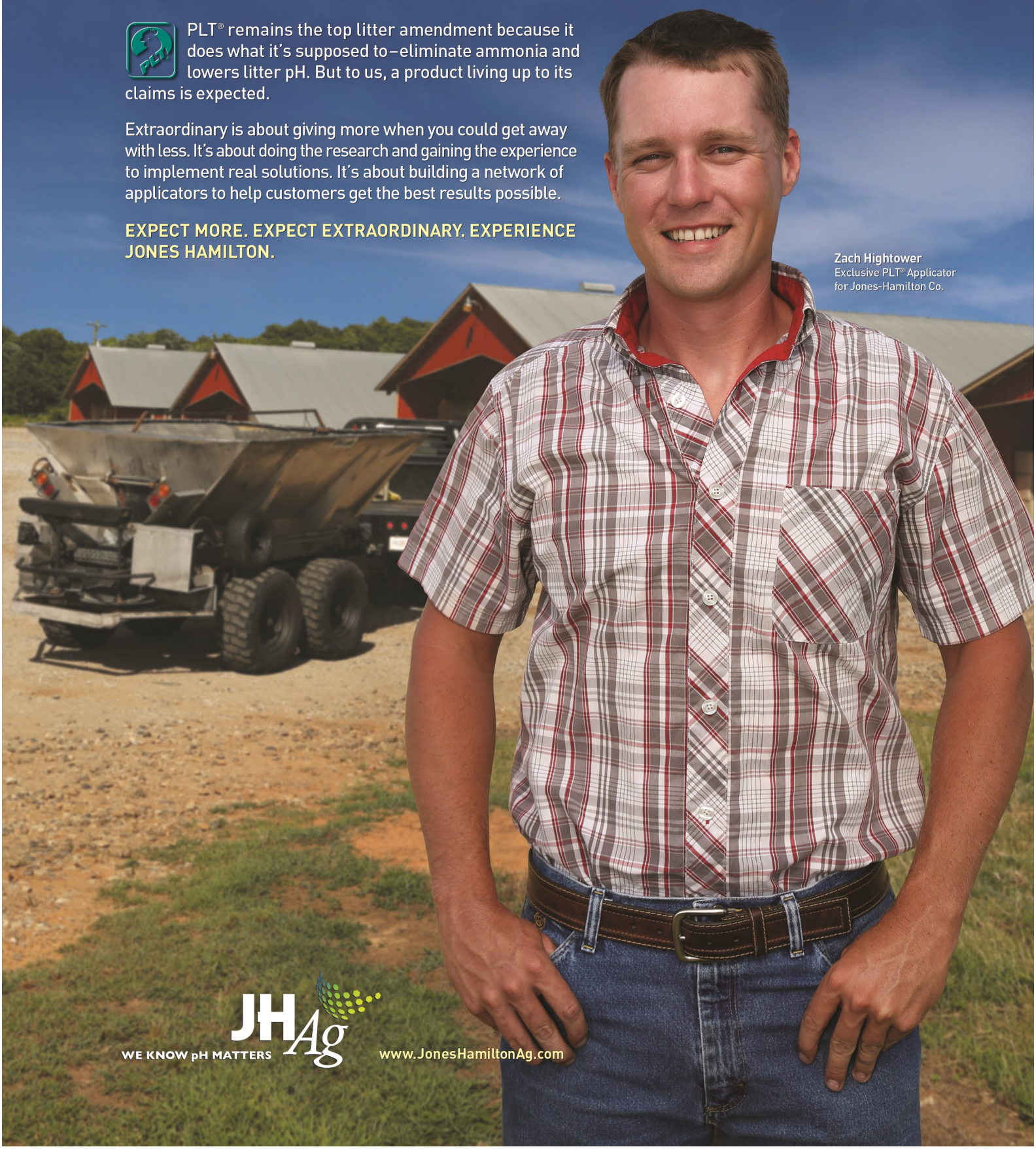

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NCC: Biosecurity Principles for Reemergence of HPAI

Aug 28, 2015 in World Poultry.net

In preparation for the potential reemergence of highly pathogenic avian influenza (HPAI) in the fall as wild birds begin to migrate south from Canada, the National Chicken Council (NCC) has identified the top biosecurity principles for broiler and broiler-breeder producers.

Biosecurity is the poultry industry's first line of defense to all avian diseases, including HPAI, says the NCC. The following biosecurity measures have been identified by NCC, members of the NCC biosecurity working group, veterinarians and avian health experts as the most important to prevent disease spread and promote flock health:

- Limiting visitors on the farm and minimizing foot traffic;
- Avoiding contact with wild and domestic fowl;
- Avoiding the sharing of farm equipment;
- Having a clean and functioning footbath at each entrance to the broiler house;
- Ensuring that all visitors or personnel have disinfected or new footwear before entering a house or facility;
- Making sure feed and water sources are covered and free of contaminants, limiting the attraction of wild fowl and pests;
- Having official signage clearly stating the farm is a biosecure zone and any unauthorized entry is strictly prohibited;
- Employing effective pest and wild bird management practices;
- Adequately training farmers, farm and company personnel in biosecurity and disease prevention.

"Rigorous implementation of biosecurity principles will be essential to preventing disease introduction onto poultry operations," said NCC President Mike Brown. "I know each industry has been preparing similarly. By maintaining this strong collaboration and sharing of lessons learned, I am confident we will all be in a much better place this year." ◘

Full service emergency provider KDF, is currently working for the USDA to respond to the HPAI outbreak that has devastated poultry farmers in the upper Midwest. KDF provides a turnkey solution that includes depopulation, preparation, cleaning, and disinfection of impacted facilities. In partnership with TPA allied member **Sunbelt Rentals**, KDF has provided the largest fleet of heat disinfection equipment utilized in response to the break as part of a disinfection program on 10 major poultry facilities that provides a target temperature of 110 degrees for a seven day period.

For more information, contact TPA Allied Member **Bart Smith** with **Sunbelt Rentals** at 205-602-2485.

ARE YOU BIOSECURE?

TPA GROWER MEETINGS

November 10, 9:30 —2 p.m. CST
Discovery Park of America
Union City, TN

November 11, 9:30 - 2 p.m. CST
TTU Hyder-Burks Ag Pavilion
Cookeville, TN

November 12, 2:30—7 p.m. EST
Museum Center @ 5ive Points
Cleveland, TN

CANCELED

TOPICS & SPEAKERS

Lighting Update
Dan Campbell, Campbell Lighting

Avian Influenza & Biosecurity Update
Nov. 10 - Dr. Steve McCarter,
Tyson Foods
Nov. 11 & 12 - Dr. Gene Shepherd,
Cobb-Vantress

Cost-Share Program Updates for Growers

For the 3rd year in a row, **Dan Nuckolls** took home the "I Sold More Raffle Tickets Than You" award at the annual meeting banquet, beating the competition by more than **1000 tickets**!!! WOW!!!

AI Causes 'Staggering' Impact on US Exports

From World Poultry Aug 13, 2015

Although no detections of highly pathogenic avian influenza have been recorded in the US since mid-June , the toll the virus has taken on the US poultry and egg industry this year is staggering.

The impact of lost exports alone – the result of a flurry of AI-related trade restrictions imposed on imports of US poultry and egg products – reached nearly $390 million during the first half of 2015.

14% drop in US poultry exports

In precise terms, the combined value of US poultry and egg exports for the first half fell by 14% from the same period last year to $2.4054 billion, a decline in value of $386.3 million, according to trade data compiled by the Foreign Agricultural Service.

This sharp drop in export value, one of the largest ever for a January through June span, is a graphic example of the economic effect this year's multi-state outbreak of highly pathogenic avian influenza has had on the industry.

Import restrictions lifting

The good news is that some countries have begun lifting their import restrictions on poultry products originating in certain states, now that more than 90 days have passed since affected farms were cleaned and disinfected, as is recommended by the World Organization for Animal Health (OIE).

Hong Kong, in fact, announced that it has lifted restrictions on 10 previously banned counties in the states of Arkansas, Washington, Oregon and California. Some US trading partners have been slow to remove restrictions, however, including Mexico, the industry's largest export market. Japan and Singapore have also recently removed restrictions.

Poultry industry braced for return of HPAI

While the HPAI virus is on somewhat of a hiatus during the warmer months of summer, the US industry is bracing for its possible return this fall, as migratory birds – thought to be the primary vectors of the virus – head south for the winter. State and federal officials worry that wild birds will carry the virus into the Atlantic flyway that cuts through the heart of the main poultry-producing areas of the mid-Atlantic and Southeast.

US poultry export values

Exporters, meanwhile, hope for the best after a disheartening first half of the year. Poultry meat exports for January through June plummeted by 9% to 1.84 million metric tons, while value fell by 15% to $2.241 billion. The impact goes beyond exports, as more product on the domestic market means lower prices that add to the losses. Exports of poultry meat for the month of June were down 14% to 305,504 tons, while value dipped by 25% to $348.8 million, compared to the same month a year earlier. □

EPA WOTUS Update - Tennessee Requests Preliminary Injunction Along With 30 Other States

The EPA's Clean Water Rule, also known as Waters of the United States (WOTUS), went into effect August 28th despite a federal judge in North Dakota issuing a temporary injunction requested by North Dakota and 12 other states (Alaska, Arizona, Arkansas, Colorado, Idaho, Missouri, Montana, Nebraska, New Mexico, Nevada, South Dakota and Wyoming). EPA quickly issued a statement at that time saying they would implement the Rule in all states except the 13 states covered by the injunction.

U.S. District Judge Ralph Erickson (in Fargo, ND), who issued the temporary injunction, said that EPA had exceeded its authority in issuing the regulation. In granting the injunction he wrote: "On balance, the harms favor the states. The risk of irreparable harm to the states is both imminent and likely. More importantly, delaying the rule will cause the agencies no appreciable harm. Delaying implementation to allow a full and final resolution on the merits is in the best interest of the public."

Meanwhile, attorneys general and officials from 30 states, **including Tennessee**, wrote to EPA and the Army Corps asking that the law be postponed at least nine months. Each state lawsuit asked a federal judge to declare the WOTUS rule illegal and issue an injunction to prevent the EPA and the Army Corps of Engineers, co-administrator of the rule, from enforcing it. Each state also asked the judge to order both agencies to draft a new rule that complies with the law and honors state authority. Attorneys for the states said they received no reply and thus **filed a request for the preliminary injunction**.

The agriculture industry has been particularly concerned about the regulation, in particular stating that it could apply to drainage ditches on farmland. The federal government conversely says the new rule clarifies ambiguity in the law and actually makes it easier for the states to manage some waterways.

Farm Bureau continues to push for Congress to pass Senate Bill 1140, the Federal Water Quality Protection Act to protect farmers from the impacts of the WOTUS rule. Senator Lamar Alexander is one of the 43 Senate sponsors to be thanked. Everyone is asked to reach out to Senator Bob Corker and urge him to support this bill. Contact the TPA office or Farm Bureau for more information.

Everyone should be aware that **the WOTUS rule is in effect and has been since August 28, 2015**. □

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"Our students here at the Auburn University Poultry Unit appreciate the time-saving convenience of our freezers." Mitchell Pate, Director of Poultry Research Unit

"I have been a customer of API Farm Mortality since day one, and have always been pleased with the service." Dorman Grace, poultry producer

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House Bill Would Block State GMO Labeling Laws

By Meatingplace Editors on 7/15/2015
in MeatingPlace.com

The U.S. House Agriculture Committee approved by voice vote a bill that would stop states from passing laws requiring labeling of genetically modified organisms (GMO) and instead would create a process for food makers to apply for a non-GMO food label from USDA.

The legislation would override state laws already in place. It would also require the Food and Drug Administration to write rules for labeling foods as natural.

The bill, called the Safe and Accurate Food Labeling Act of 2015, is supported by large food companies including Cargill, ConAgra Foods and Kraft Foods and industry groups including the National Turkey Federation and National Restaurant Association.

"The Safe and Accurate Food Labeling Act of 2015 would avoid a costly and confusing patchwork of state-by-state labeling requirements by reaffirming FDA's authority to decide when GMO foods should be labeled," Cargill said in a statement.

The Grocery Manufacturers Association (GMA) in a separate statement urged the full House to pass the bill before the August recess.

Vermont, Connecticut and Maine already have passed mandatory GMO labeling laws that have not yet taken effect. The GMA has filed a lawsuit seeking to overturn Vermont's legislation. ◻

Happenings Around the World

***Germany** has agreed to a beak trimming ban by Jan. 1, 2017

***McDonald's in New Zealand** has pledged to buy free range eggs only and that it will stop using eggs from caged chickens in all its 164 restaurants *by the end of next year*. Once McDonald's is completely free range, the 13 million eggs purchased annually will account for about 9% of all free range eggs sold in NZ.

***JBS SA**, the world's largest meat processing company, agreed to buy Marfrig Global Foods' British poultry and processed foods company Moy Park for $1.5 billion, both companies have announced. Marfrig said the Moy Park sale is in line with its strategy to focus on priority areas such as the expansion of Keystone's food service in Asia and in the United States, beef exports from Brazil to those two markets, strengthening of capital structure and increase in free cash flow. ◻

AVOIDING OVERHEATING DAY-OLD CHICKS

On May 15, 2015 in World Poultry

The first few days of a baby chick's life are vitally important to overall broiler performance. When chicks are overheated at the hatchery, this can seriously detract from their genetic potential.

When a chick is hatched the ideal internal body temperature should be between 103.5°F and 104.5°F (39.5° and 40.5° Celsius).

To avoid overheating day-old chicks and prevent possible damage, hatchery personnel have to develop a keen eye for the signs that chicks are indeed overheated. Three questions that have to be answered lie at the basis of delivering healthy chicks to the customer time after time. What are the signs that chicks are overheated? What procedures can be put in place to identify possible overheating? And what can be done to prevent this overheating? These key indicators can help a hatchery identify when chicks are overheating, and so help improve chick quality and overall broiler performance.

Smaller chicks with larger, non-absorbed yolk sacs are an indication chicks have been overheated. The yolk sac is the life blood of the chick at the beginning of its life. This sac contains proteins, lipids, water and antibodies and its absorption is vital to the chick. If chicks become overheated, this absorption can be slowed or completely stopped.

(*continued on page 17)*

TPA BOARD MEMBERS

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Tony Swindle, Grower - LaFayette
David Tallent, Grower - Spring City
David Wilds, Koch Foods - Morristown

Industry Groups Oppose FDA Plan for Antibiotics Reporting

8/21/2015 from Meatingplace.com

The Animal Health Institute (AHI) and American Feed Industry Association (AFIA) have weighed in against the U.S. Food and Drug Administration's plan to require the reporting of antibiotics sales by species.

FDA in May proposed the rule that would mandate collection of information on antibiotics sales by species — cattle, hogs, chickens and turkeys — to support its efforts to ensure medically important antimicrobials are being used judiciously. The public comment period for the proposed rule recently closed.

AHI said in a letter to FDA that a confidential program such as the USDA National Animal Health Monitoring System is a better vehicle for collecting the information than sales data. AHI, which is the trade association representing manufacturers of animal health products, said sales data do not correlate with antimicrobial resistance.

The group, which sent a copy of its letter to **Meatingplace**, argued that the regulation, if finalized, would lead to misuse of the information and could result in producers and veterinarians being unfairly targeted.

Both AHI and the American Feed Industry Association (AFIA) took issue with an aspect of the rule that would allow for sales of antimicrobials by species to be estimated.

AFIA, in its own letter to FDA also said Congress has not provided FDA with the authority to require reporting of these estimates.

"AFIA strongly believes the proposed rule is a giant overstep of the legal boundaries established by Congress in the Animal Drug User Fee Act, as it pushes forward in its overall goal to collect animal drug use data and lower the incidence of antibiotic resistance in humans," AFIA said. □

Cocci Challenge During Colder Months

Dr. John McCarty, Senior Veterinarian
Merial, Inc.

Coccidiosis can significantly impact broiler performance by reducing weight gain and decreasing feed efficiency. And while coccidiosis is a year-round problem, cold weather conditions often bring about changes in a broiler house's ecology that can increase cocci challenge. As the weather cools, ventilation is often decreased to help conserve heat but, consequently, more moisture remains in the litter leading to increased bacterial, viral, and cocci load. Moisture and heat cause oocysts to sporulate, making these infective to chickens. Increased moisture produces a higher number of sporulated oocysts, presenting a heavier cocci challenge.

Continued use of coccidiosis vaccines can help influence the nature of the load by diluting the wild cocci population with a vaccine strain. In particular, vaccines with precocious strains place minimal stress on the bird while still providing adequate stimulation for immunity development. The nature of precocious strain vaccines allows for the increase of sporulation to be less detrimental, since the number of oocyst shed are less than that shed by non-precocious strains. And even with the fewer numbers of oocyst with precocious strains, the number present is still more than adequate to stimulate proper and complete immunity.

The cold weather environment is also favorable to clostridial challenge. By reducing the level of cocci there is less disruption in the gut and less opportunity for clostridia to cause issues such as necrotic enteritis.

Assuring proper cocci control prior to the onset of cold weather helps keep a low cocci load in the house. Then, the use of precocious strain vaccines during the cooler months allows for minimal stress on the bird's digestive system while still providing optimum immunity. It is also important to continually monitor the cocci challenge through routine postings. This helps verify proper cycling and that the vaccine is doing its job of developing proper immunity. □

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Greg McDonald's (Swallows Insurance) adorable twin daughters having a great time hanging out with Jordan Barnett at the 2015 Annual Meeting & Summer Getaway.

2015 TPA Scholarship Winners Announced

Allison Conley
Lee University

TPA is proud to announce that eight students from the state of Tennessee have received scholarships in the second year of its scholarship program. The deserving winners were announced during the Saturday evening banquet at the 2015 TPA Annual Meeting & Summer Getaway.

Students may apply for a Grower Member Scholarship if they grew up in TN on a TPA Member farm, or a Career Track Scholarship if they are a resident of TN pursuing a career in the poultry industry. Scholarship funds were generated in April 2015 during TPA's Spring Golf Tournament held at Windtree Golf Course in Mt. Juliet, TN, thanks to our very generous sponsors and participants.

Clay Kesterson
UT - Knoxville

Congratulations to all of the winners!

TPA Grower Member Scholarship Recipients

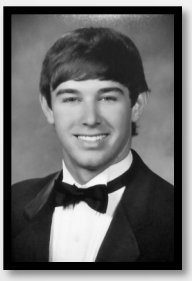
Allison Conley - Conley Farms, Cleveland, TN; Majoring in Nursing at Lee University - $2500
Halie Beason - Beason Farms, Monroe, TN; Majoring in Business at Volunteer State Community College - $1000
Jesse Gregory - Cadet Farms, Red Boiling Springs, TN; Majoring in Agricultural Engineering at TN Tech - $1000
Davinity Tallent - Tallent Farms, Spring City, TN; Majoring in Health Promotion CHES at Liberty University - $1000

Poultry Career Track Scholarship Recipients

Clay Kesterson - Morristown, TN; Majoring in Animal Science at UT Knoxville - $2500
Brady Brown - Lawrenceburg, TN; Majoring in Animal Science at UT Martin - $1000
Heath McAlexander - Huntingdon, TN; Majoring in Animal Science / Veterinary Science at UT Martin - $1000
Charlie Sneed - Cleveland, TN; Majoring in Agribusiness at Cleveland State Community College - $1000

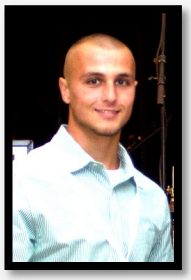
Halie Beason
Vol State CC

Brady Brown
UT - Martin

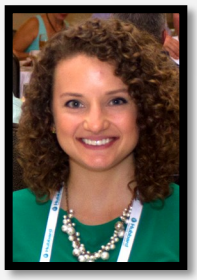


Jesse Gregory
TN Tech

Heath McAlexander
UT - Martin



Charlie Sneed
Cleveland State CC



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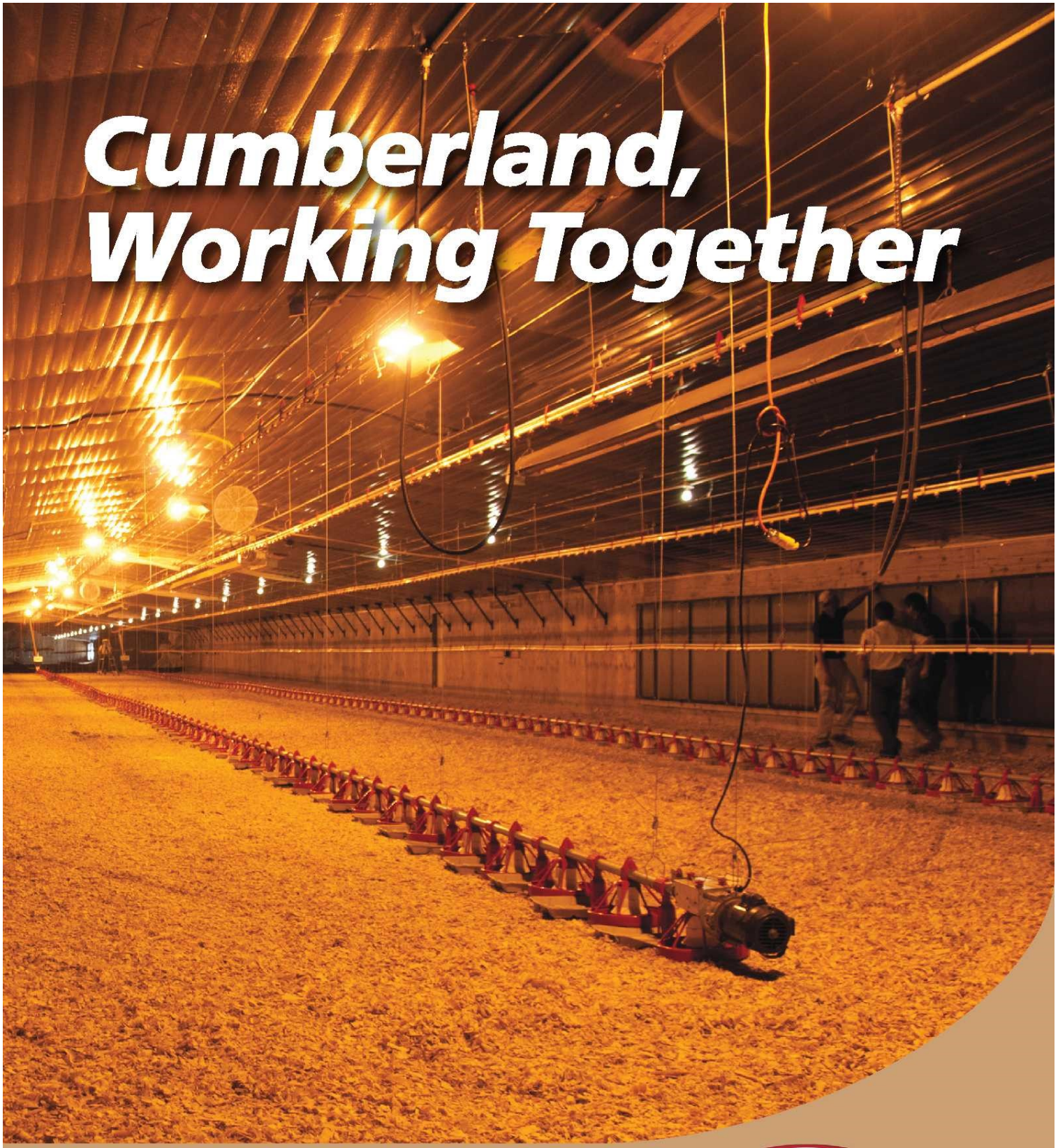
Liberty University



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PROPANE UPDATE – September 16, 2015

U.S. propane stocks increased by 0.2 million barrels last week to 96.6 million barrels as of September 4, 2015, 20.5 million barrels (27.0%) higher than a year ago.

Historically, the U.S. has expected a minimum inventory of 60 Million Barrels of propane to enter the winter. Current stocks of 96.6 million barrels indicate that overall supply is above average. However, strong foreign demand can spike exports to quickly lower supply, and Midwest crop drying is always a factor as well. In addition, localized supply disruptions are always possible due to severe winter weather, pipeline or rail interruption, even when overall U.S. supply is adequate. All propane users should take advantage of lower pricing currently seen in the marketplace to fill storage. It is always prudent to operate on the top ½ of the tank storage and keep an adequate supply in the tank at all times. Remote tank monitors operating on cell phone or satellite links are a good option for tanks that may not be monitored by the user each day. These provide an extra layer of security to allow instant access to tank levels and to alert the grower anytime the product level gets low and to also provide alerts at each fill up.

The TN Department of Agriculture's Ag Enhancement Program is now cost sharing the purchase of propane tanks at 35% of the cost for tanks 1000 gallons or larger in an effort to encourage increased storage and tank ownership. The application period for 2015 was from June 1st through July 1st. TDA has not mailed out their letters yet to inform applicants if they have been approved to receive these cost-share funds, but expects to be doing so in the coming weeks. TPA allied member company **Thompson Gas** is ready to assist with new tanks at any time. Call **Robbie McKim** at 706-455-8426. □

A PERMITTING SUCCESS STORY FOR TN

A new grower in TN recently applied for and received their CAFO operating permit for 100% litter export only *in only 10 days* from the date of submitting their NOI. This grower filed their own notice of intent and worked directly with Heidi at the TDA office in making their application. The grower financed these new houses locally, and the loan was not a FSA guaranteed loan that would have at first required a cNMP (*comprehensive* nutrient management plan) and an extensive environmental review per the NEPA Environmental Act that can take months to complete.

Food for thought:: All new growers can apply for export only CAFO permits (under the new State "SOPCE" operating permit) to begin operations, even if planning to land apply litter on that premise at a later date. Realizing the first house clean out for new houses will be months out, the grower then has all this time to work with a TSP (technical service provider) to get their NMP (or cNMP if desired in order to be eligible to participate in NRCS EQIP cost-share programs) in place or modified to reflect the changes required for a "SOPC" permit and to have everything in good order. Be advised that litter cannot be applied on any CAFO operation unless the correct permit and nutrient plan is in place and is current. □

AVOIDING OVERHEATING DAY-OLD CHICKS (*continued from page 11)*

A procedure to judge whether proper yolk sac absorption has occurred is YFBM (Yolk Free Body Mass). To do this weigh each chick in the study individually, and record the body weight in grams. Then properly euthanise the chick to be able to completely remove the yolk sac. Weigh each yolk sac in grams. Make sure to keep the corresponding yolk sac of each chick separate, knowing which yolk sac came from which chick. Take the yolk sac weight and divide it by the chick weight to indicate a percentage. For example, a 4.4 gram yolk sac / 47.8 gram chick will yield a percentage of 9.21%. The desired percentage for proper yolk sac absorption is 10%. If the percentage is much greater than 12%, this could be a sign that the chicks were overheated and have not attained proper absorption of the yolk sac.

Check temperature multiple times

When a chick is hatched the ideal internal body temperature should be between 103.5°F and 104.5°F (39.5° and 40.5° Celsius). To measure this temperature it is recommended that a rectal thermometer be used. Also check this temperature multiple times throughout the hatch process.

There are three different areas where this check can be done: During prepull assessment, chick pull time/dispatch and arrival at the farm. A prepull assessment is conducted at 24, 18, 12, and 6 hours before the actual pulling of the chicks from the hatchers. This is a good time to take the internal body temperature of several chicks as this period of the chick's life is a critical time to avoid overheating.

A good method to avoid overheating is a hatcher step-down program, which is designed to lower the air temperature in the hatcher as the process is progressing. The key to is to begin just before the chicks reach 104°F (40°C) internal body temperature. As the chick's core body temperature increases, we decrease the air temperature in the hatcher. The chicks will dictate when and how much this temperature can be turned down. Use of the rectal thermometer will indicate when the core temperature is increasing. To lower this temperature the damper on the hatcher will begin opening more if it is not already programmed into the automatic hatcher profile.

Some hatchers have the ability to run such a program for automatic damper opening. In this case the following is recommended: 24 hours before pull at least 50% opening, at 18 hours before pull at least 75% opening and 12 hours before pull complete opening. If the hatcher system has no program for minimum damper opening, check the position of the damper at the various times so that the settings provide adequate fresh air to the chicks as they hatch from the egg shells.

Additional steps

If the core body temperature is still elevated, two additional steps can be taken. When the temperature in the hatcher is lowered to its minimum allowable setting, lower the temperature in the hatcher hallway to help provide cooler intake air. This program can also be stepped down to allow the chicks to remain at 104°F.

The last step is to increase the negative pressure setting in the exhaust plenum of the hatcher. This will force additional air into the machine providing additional cooling ability. Increasing this negative pressure too much can lead to a bypassing effect of the air to the chicks while in the hatchers. This is where instead of circulating through as designed, the air passes directly through the hatcher and is not distributed correctly in the cabinet.

It is important to follow these steps in this precise order — adjusting hatcher air temperature, hallway room conditions and lastly increasing negative plenum pressure. In such a step program, monitor the chicks closely, taking their internal body temperature to see whether you need to move to the next step or whether the step progression has been too fast.

5 percent rule

When the chicks reach the correct time to be pulled, a good general rule of thumb is that 5% of the chicks should have a dark, discoloured, wet looking area behind their head on the nape of their neck. This is a good indication that the chicks have hatched within the desired incubation time. Using the rectal thermometer during the chick pull process can indicate if overheating is occurring during this rather frenzied process. Hatcher trolleys of chicks are often placed too close together in a confined space and the internal temperature of the chick can rise quickly and cause overheating.

This area where the chicks are removed from the hatcher trays should have adequate air distribution and circulation. When the chicks reach the chick box for transportation, the same procedure should be followed regarding air distribution and circulation. The chicks should be placed in an adequately ventilated area, where their internal body temperature will not rise. The thermometer can be used before chick dispatch, during transport and once the chicks arrive at the farm. If the internal body temperature of a chick reaches 106°F (41°C), the chick will begin to pant.

Too high internal temperatures can lead to chicks becoming more susceptible to *Colibacillosis* or *E. Coli*. *Colibacillosis* can be found in the hatch debris and chick fluff, so contributing to bacterial infection which is why it is important to follow good hygiene during hatchery waste disposal to help prevent infection. WP □

Feds Extend Rest Waiver for Truckers Hauling Food Animals for Two Years

By Chris Scott on 6/11/2015 in MeatingPlace.com

A group led by several poultry organizations has won a two-year waiver from the U.S. Dept. of Transportation (DOT) from rules determining how many hours that truck drivers carrying hogs, livestock or poultry can operate on U.S. roadways.

The two-year-old rule required truck drivers to take a 30-minute rest break for every eight hours of service, but also would have limited hog, livestock and poultry haulers from caring for their live cargo during those rest periods. The National Pork Producers Council (NPPC), National Chicken Council and National Turkey Federation teamed up with other organizations to collectively ask the DOT's Federal Motor Carrier Safety Administration (FMCSA) to consider providing a waiver for truckers carrying hogs, livestock or chickens.

The two-year waiver is the maximum allowable under federal law, according to the NPPC.

"The waiver will ensure that during hot summer months livestock won't be sitting in the sun for extended periods, with drivers unable to care for them because they're required to take a 30-minute break," said NPPC President Dr. Ron Prestage, a veterinarian and pork producer from Camden, S.C., in a statement.

The waiver was published in the Federal Register and became effective June 12, the NPPC announced. ◻

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Won by Chris Schaaf with Halalco

10 bottles of very fine wines provided by Chance Bryant, Tommy Walker, Scott Black, Cobb-Vantress and Rick Bennett, KL Products and an assortment of handmade cigars

Won by Shannon Dyar - QSI/The Vincit Group

Alltech's Town Branch Rye gift basket - won by Pete Collins, Tyson Shelbyville

Alltech's Town Branch Bourban gift basket - won by Karen Reece, Eskimo Cold

Alltech's Bluegrass Sundown & Café Citadelle Coffee - won by Chris Schaaf with Halalco

TVA Green Power Providers Program Update

2015 is the last year that new solar system owners can sign up to lock in to receive the 10 years of premium payments for solar electricity through the TVA's Green Power Providers program.

TVA's deadline for customers to get in the 2015 program with guaranteed premium rates is November 13.

For more information go to www.tva.com/greenpowerswitch/providers/index.htm or contact your solar provider.

US Study Identifies Methods of Salmonella Transmission

by Rosie Burgin Jul 20, 2015 in World Poultry

A US graduate student is analyzing how salmonella is transmitted within a chicken flock to find a way to prevent the spread of the major foodborne pathogen.

Despite salmonella being recognized as a major foodborne pathogen, the mechanism by which the bacteria are transmitted within a poultry flock is still poorly understood.

"My research work focuses on drawing an exact picture of how salmonella is transmitted when it is introduced into a chicken," Yichao Yang, a graduate student at the University of Arkansas' Department of Poultry Science said. "If we are able draw this picture very clearly, we can stop salmonella at an early stage, ensuring the safety of poultry products."

Yang used genetically identifiable strains of the bacteria, allowing her to trace them as they spread from chicken to chicken and found that contrary to previous research, chickens can be infected by multiple strains at the same time.

Traceable strains throughout the flock

To track transmission pathways, Yang constructed a set of six identical but genetically marked strains by inserting six random nucleotides into the chromosome of *S.enteritidis*, a strain of salmonella recognized for causing foodborne illnesses. The nucleotides made each strain traceable as they spread throughout the flock.

Yang and her adviser, Young Min Kwon, assistant professor in poultry science, designed three sets of experiments to track salmonella transmission. The first experiment introduced salmonella into chicks orally, the second added a low and a high dose of salmonella to the water supply and the third introduced salmonella by infecting the feed with the low and high doses.

Mixed infections

Yang found that the strains were found after seven days in the chicks infected with high dose, whereas at 14 days nearly all the strains were identified in the chicks. Yang's data also showed that culled infection or mixed infection happened in each chick.

"This is a pretty big finding, and I did not recognize it at first because a major theory in the field of salmonella transmission — called the colonization inhibition theory — says that if one strain of salmonella infects a chick, a second strain cannot infect the chick, suggesting there might be unknown mechanisms involved," Yang explained.

Further trials to be conducted

Yang presented her findings last month at the American Society of Microbiology's 115th meeting in New Orleans and plans to continue her research work by conducting bigger trials to study these findings in further detail. □


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Talking Points

*The Land Trust for Tennessee was founded in 1999 as a non-profit and non-governmental organization by then Mayor Bredesen, CEO-Jeanie Nelson, and 12 like-minded individuals to form the Board. Today, we have Liz McLaurin President, 16 fulltime and part time employees, and 36 board members. We are funded by grants and grant foundations, donors/donations, philanthropic minded individuals/entities, and estate bequeaths.

*The Mission: To conserve and protect the unique character of Tennessee's agricultural, natural, historical, and cultural landscapes and sites for future generations.

*According to the University of Tennessee Extension Service, our state has lost 600,000 acres belonging to 3,000 farms during the period of 2007-2012 to development for commercial, industrial, residential, and transportation purposes. Often times these losses represent many acres of prime and/or good farmland or forests.

*We are committed to conserve and protect the following land uses for willing landowners or units of government: Critical Watersheds and River Corridors; Community and Historical/Cultural Resources; Natural Landscapes and Recreation Corridors/ Open Spaces; and Working Lands – Farms and Forests.

*The conservation easement is the primary tool we use for protecting land from development that lasts forever by being attached to the deed. Even a portion of a farm can be protected, and your land never belongs to the Land Trust. It is a legal agreement with restrictions that is flexible and tailored to specific property and landowner's needs and desires that can be phased in over a period of time and totally voluntary. The property can be passed down or sold at any time. All ag structures are permitted with some housing allowed.

*One primary benefit of a conservation easement is three forms of tax relief. If your farm is already in a greenbelt status, the easement may or may not further reduce your property taxes. Estate tax relief for landowners may allow heirs to keep the land in the family rather than be forced to sell it. The most popular tax relief is through the federal income tax deduction where landowners are able to take sizeable deductions in relieving them of some of their annual tax burden over a period of years.

*To date and since 1999, we now have protected over 96,000 acres on 302 properties in 58 counties. Of this amount, working farmland total 90 farms for over 28,000 acres. □

Aviagen Scales Athens Feed Mill Capacity 66 Percent with Addition of World's Largest Hygieniser

July 13, 2015 – HUNTSVILLE, Ala. – Aviagen, the world's leading poultry breeding company, today announced that growing demand for Aviagen poultry breeding stock has prompted the company to increase the capacity of its Athens, Ala., feed mill by 66 percent to support the recent increased production and new farms. With its two lines operating at full production, the Athens facility can produce as much as 50 tons of poultry feed an hour. The Athens mill services more than 100 Aviagen breeding stock farms in Northern Alabama and Tennessee.

As part of its most recent $3 million expansion, the company installed the world's largest Hygieniser, a state-of-the-art pellet feed system manufactured by California Pellet Mill Company that **thermally treats feed to eliminate pathogens**. Installed in June, the custom-built Hygieniser features the latest innovations for pathogen prevention and joins another existing Hygieniser, which also was the world's largest when Aviagen installed it here in 2010. Now with two Hygienisers, the Athens facility has increased its maximum capacity from 30 to 50 tons per hour.

Even with its dramatically increased capacity, the Athens facility continues to follow strict biosecurity protocols to ensure that Aviagen's pelletized and crumbled feed is free from contaminants capable of threatening the health of broiler breeding flocks. These include the use of positive-pressure ventilation in its feed mill facilities and other best practices designed to completely isolate feed from atmospheric contaminants, including contact with wild birds or other animals. In fact, Aviagen was the first poultry company in the United States to design and build a feed mill to eliminate and prevent recontamination of feed with salmonella and other relevant enteric pathogens.

"At a time when avian flu and other threats have elevated concerns about the biosecurity of the poultry industry in the United States and elsewhere, Aviagen is continuing to take extraordinary steps to protect the health and well-being of the birds in its care," said Kevin McDaniel, president at Aviagen North America. "By expanding capacity and installing the largest and most biosecure Hygieniser ever built, we're meeting the growing demand of our internal flocks while simultaneously protecting the food supply for birds at more than 100 internal farms." □

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NATIONAL CHICKEN COUNCIL

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Less Protein Results in More Broiler Breeder Eggs

This article was featured in World Poultry magazine no. 4 - 2015 - to read more published articles see World Poultry digital

Over the past decades body composition of broiler breeders has dramatically changed, influenced by market demands. Genetic selection on broilers resulted in a decrease in feed conversion, higher daily growth, less fat and more breast muscle. Wageningen UR Livestock Research in the Netherlands studied a higher reproduction in broiler breeders by providing less protein.

"Developing fat is less efficient than developing meat, so body composition of broilers has changed to more meat and less fat. Also parent stock breeders have changed, influenced by these breeding goals of broilers," says Dr. van Emous of Wageningen University in the Netherlands. As a result breeders also tend to deposit more breast muscle and less fat reserve. As these birds are bred for laying eggs, the combination of a lot of breast muscle and low fat reserves is unwanted from a reproductive perspective.

Decrease broiler breeder ferility

One postulates certain amounts of body fat are necessary at the onset of lay in order to achieve maximal performance. Over the last decades fertility and hatchability declined. A few years ago Dr. van Emous and his fellow researchers made an inventory of possible causes for this phenomena. "When fertility and hatchability dropped, we noticed many possible causes, including management, percentage of males, health and behavior. Apart from these factors, we found in literature indications that a decreased fertility and hatchability could be connected to diet composition, in particular the daily protein intake during the laying period. Besides the decreased fertility and hatchability a substantial fall in production of parent stock at the end of the laying period occurred." Dr. van Emous hypothesized this was related to an insufficient fat reserve at the end of rearing. He suspected there was a chance of improvement by changing the diet by lowering the protein intake during the rearing period. As the sector is relatively small, research funding is hard to find and little was known about how body composition affects reproduction of broiler breeders. Plus, because current body composition developed over five to six decades, it was uncertain whether this could be changed or not. Dr. van Emous decided to investigate the effects of different feeding strategies on body composition during the rearing and laying period.

Study: Protein levels in broiler breeder diet

The Dutch product boards and Aviagen asked the Wageningen University Livestock Research researchers to study the issue. "In early 2011 we started a large three year project, studying the effects of an adjusted energy protein ratio in feed during the different phases of the broiler breeder. In this project 2 different experiments were carried out. First a small scale experiment to find out if body composition could be affected by feeding strategies. In mid 2012 we started a second experiment on a semi practical scale and birds were followed during the entire production cycle." A total of 2,880 Ross 308 female broiler breeder chickens were housed in 36 pens with 80 chickens per pen. The number of pullets per pen was reduced to 70 at 22 weeks of age due to mortality and selection. At that age, males from elsewhere were introduced to the pens. During the rearing period, 2 diets with different protein and amino acids levels were provided to the breeder pullets. Between 22 and 45 weeks of age, birds were fed three diets with different energy levels (3,000, 2,800 and 2,600 kcal/kg). From week 45 till week 60 the birds received two diets with different energy levels. The standard feed contained 2,800 kcal per kilogram, the high energy feed 3,000 kcal per kilogram (7% higher energy level). Protein and amino acid levels were equal for both feeds.

Broiler breeders fed low protein produced more eggs

"After 48 weeks the breeders fed the low protein diet during the rearing period produced more eggs, 3.5 hatching eggs more to be precise." This positive effect on production was caused by the increased fat reserves at the end of the rearing period. Birds were probably more able to mobilise energy reserves during the periods of a negative energy balance. For maintaining a growth pattern during rearing, broiler breeders had to provide a higher amount of feed with an increased energy to protein ratio compared to broiler pullets that were fed a diet with a standard energy to protein ratio. This resulted in an increased eating time and less stereotypic object pecking during rearing, which may indicate reduced hunger and frustration. On the other hand, a low daily protein intake during the rearing can lead to a poor feather cover. A 12% increase in daily feed intake, due to feeding low protein diets during rearing, resulted in a twofold eating time. Time budgets in behavior showed that eating time was inversely related to time spent on stereotypic object pecking during rearing.

A high-energy diet during the first phase of lay increased mortality due to ruptures of the tendons. This was probably caused by the lower feed intake during the initial laying period resulting in more activity and worse uniformity. Feeding birds the standard diets (as advised by the breeder company) produced more eggs than birds fed the high and low-energy diets.

(*continued on page 24)*

Less Protein Results in More Broiler Breeder Eggs *(continued from page 23)*

Lower egg weight

Feeding a high-energy diet during the second phase of lay lowered the protein intake by an average of 8.5% and the energy intake by 2%. As both feeds had equal levels of crude protein and amino acids the total intake was respectively 9.6 and 8.1% lower with the high energy feed than with the standard feed. Providing two different feeds with different energy levels turned out to have no effect on the production of the number of eggs. Yet, the breeders who were given the high energy diet produced eggs with a slightly lower egg weight, caused by the lower daily intake of amino acids and linoleic acid. A lower egg weight in the second phase of the laying period is positive as these eggs cost fewer nutrients. Breeders fed the high energy diet (and thus lower daily protein intake) showed an 1.5% higher hatchability, due to lower embryonic mortality in the hatching stage between 3 and 21 days of age. This effect was possibly caused by the lower intake of crude protein and amino acids by the chickens who were fed the high energy diet. "A possible cause could be the lower egg weight from birds fed the high energy diet". Besides this positive effect, high energy feed also decreased the number of second type chickens. Chickens who were fed the higher energy feed had a lower feed supply on average (9%), less feed intake time (16%) and higher speed of feed intake (9%). The latter suggests the animals were more eager to take in the feed.

Practical feeding advice

"Increase the energy-protein ratio in diets for broiler breeders during the rearing and second phase of lay to improve reproduction and welfare," says Van Emous. "Because of the severe feed restriction and a mandatory daily feeding program during rearing in the near future, the crude protein and amino acid levels should be decreased with 10 to 15%. Increase feed allowance by approximately 10% during rearing, in order to follow a similar daily growth pattern. Do not alter the energy to protein ratio of the diet in the first phase of the laying period for breeders. Increase the energy to protein ratio to about 21 kcal/g CP for breeders during the second phase of the laying period to improve incubation traits, by changing energy or protein levels."

The day after Dr. Van Emous defended his thesis he flew to Indonesia, on invitation of Japfa Comfeed who wanted to know how to change their broiler breeders' diet. "People from all over the world have contacted me ever since. Farmers have already experienced improvement by changing diets to higher energy and lower protein during the laying phase. The next step is to also change it during the rearing period. The profitability of the broiler breeder business is mainly dependent on the feed costs and the number of fertilized settable eggs and the number of day-old chicks," Van Emous emphasises. "Pullets fed the low compared to the high protein diet during the rearing period showed a 6% higher gross margin (€944 vs. € 891).

This was caused by the increased hatchability (first phase of lay) and increased number of eggs (second phase of lay). For a standard flock of 21,000 females the annual increase in gross margin could be more than € 11,000." Feeding different energy to protein ratios during the first phase resulted in a negative gross margin. "Feeding birds the high energy diet during the second phase of the laying period resulted in a 3% higher gross margin (€ 937 vs. € 911). This was due to the lower feeding costs. □

Broilers Need Less Feed with Butyric Acid in Diet by Emmy Koeleman in World Poultry Aug 14, 2015

Using a butyric acid product in broiler diets can reduce the amount of feed by 2%, while maintaining the same bird growth. This was shown by a new study at the Shandong Agricultural University in China.

The research looked at the product ProPhorce™ SR (a butyric acid) and its effect on healthy broilers under normal circumstances. The findings show that with the butyric acid, a significant difference was realized with regard to the feed conversion. At the same time, the research showed constant growth rates. These conclusions are in line with the results which have been achieved with the same product in Europe.

Strong development of the villi. Professor Yang who led the research explains: "The research showed that you need 2% less feed when using the butyric acid product in order to realize the same daily growth. We also noticed an increase in villi length up to 35%. The animal's feed uptake capacity was enhanced by the strong development of the intestinal wall, so the chicken will use the feed more efficiently." □

Researchers Investigate New Vaccine Options for ILT

Sept. 15, 2015 – US POULTRY and the US POULTRY Foundation announced the completion of a funded research project at the University of Georgia in Athens, Ga., in which researchers have developed a new vaccine candidate for infectious laryngotracheitis (ILT) to be applied *in ovo*.

The group, led by Dr. Maricarmen García, found that deleting a gene from the ILT virus makes the virus less virulent and more useful as a vaccine. The new vaccine gives good protection against ILT but is not safe enough to use *in ovo* in chicks with no maternal antibody against ILT. Continued efforts are being made to make the vaccine safer. For a detailed summary, click here. □

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USDA Receives Petition to Revise the Humane Methods of Slaughter Act
Sept. 4, 2015

The U.S. Department of Agriculture (USDA) recently received a petition from a coalition of animal welfare groups requesting a revision to the Humane Methods of Slaughter Act (HMSA) and the Federal Meat Inspection Act (FMIA) with the goal of "improving enforcement of the law."

The HMSA was passed in 1958 to decrease the suffering of livestock during slaughter by requiring animals to be sedated and insensible to pain at time of slaughter. The FMIA was passed in 1906 to prevent adulterated and misbranded meat from being sold, and provides oversight for sanitary conditions during slaughter and processing.

The 38-page petition states that after a review of reports by the USDA's Officer of the Inspector General; the Government Accountability Office; undercover investigations carried out by the groups; and FSIS humane slaughter enforcement records, the coalition determined that the HMSA and FMIA are "enforced inconsistently and arbitrarily, or not at all."

The complete petition submitted to the USDA may be found here.

2015 TPA ANNUAL MEETING & SUMMER GETAWAY

AUGUST 7-8, 2015 HILTON NASHVILLE DOWNTOWN

DATES TO REMEMBER

LIVE PRODUCTION WELFARE SEMINAR
September 15-16, 2015
DoubleTree Hotel
Nashville, TN

ENVIRONMENTAL MGMT SEMINAR
September 24-25, 2015
Hilton Sandestin Beach Golf Resort & Spa
Destin, FL

POULTRY PROTEIN & FAT SEMINAR
October 1-2, 2015
Double Tree Hotel
Nashville, TN

REAP COST SHARE DEADLINE
November 2, 2015

TPA GROWER MEETINGS
November 10, 2015
9:30 - 2:00 CST
Discovery Park of America
Union City, TN

November 11, 2015
9:30 - 2:00 CST
Hyder-Burks Pavilion
Cookeville, TN

November 12, 2015
2:30 - 7:00 EST
The Museum at 5ive Points
Cleveland, TN

CANCELED

TVA GREEN POWER PROVIDERS SOLAR PROGRAM DEADLINE
November 13, 2015

Sept 11th USDA Crop Report

Information provided by TPA Board Grower Member Tony Swindle, Commodities Buyer for Pilgrims

On Friday, September 11th USDA issued their current supply and demand reports. In the corn balance sheet they started by adjusting the demand for the 14/15 crop year with increases of 5 mln bushels to the ethanol grind and 25 mln bushels to exports resulting in a carryout of 1.732 bln bushels. Taking this as the beginning stocks for 15/16, yield on this year's crop was reduced from 168.8 to 167.5 bushels per acre. The report indicated record plant populations on a per acre basis of 29,300 coupled with high ear weights as well. Production was pegged in corn at 13.585 bln bushels, a reduction of approximately 100 mln from their August report. The demand for corn came in marginally lower than the August report with a 25 mln bushels decline in the feeding category due mostly to wheat and small grains alternatives. USDA pegged ending stocks for 15/16 at 1.592 bln bushels which reflects a stocks to use ratio of 11.5%. The estimate on the average farm price was raised by a dime on either side with the range being 3.45 to 4.05. Market trade reaction to this data was friendly after the release with corn closing .13 cents higher on the day.

In the bean complex 14/15 crush was increased by 25 mln and exports by 10 mln to put ending stocks at 210 mln bushels. Moving into this year crop yield was increased from the August report by .2 tenths to the acre at 47.1. Very large pod counts and pod weights were noted and most in the market are expecting pod weight to increase as late season rains and greenness in the crop will allow for more development. On the demand front, crush was increased by 10 mln bushels and exports left unchanged. Ending stocks were pegged at 450 mln bushels down 20 mln from the August data. Market struggled to see this as friendly after the release of the report but traded in sympathy with the stronger corn prices to close marginally higher last week.

Looking forward, most private forecasters see this as supportive for corn and neutral to negative for the bean complex. Weather to finish off the crops has not been a concern and the forecast has no early freeze thru the end of September to shut down the growing season early. Lots of focus is on the currency situation in Brazil as the value of real to the dollar is at 12 year lows. The interesting thing here is that a bushel of beans in Brazil today is worth nearly $18/bu, which will support a large planting area as they approach their planting season. The next set of data from USDA will come on Sept 30th with the release of their stocks-in-all position report, with no surprises expected. □

Study: Mitigating foodborne pathogens with blue LEDs

by Rosie Burgin Jul 24, 2015 in World Poultry

Blue light emitting diodes (LEDs) have strong antibacterial effect on major foodborne pathogens, and are most effective when in cold temperatures (between 4°C and 15°C) and mildly acidic conditions of around pH 4.5, a team of scientists from the National University of Singapore has found.

This opens up possibilities of using blue LEDs as a chemical-free food preservation method. Acidic foods such as fresh-cut fruits and ready-to-eat meat can be preserved under blue LEDs in combination with chilling temperatures without requiring further chemical treatments that are commonly needed for food preservation.

Antibacterial effect of LEDs

While LEDs are most commonly known as an energy-saving light source, they have also been known to have an antibacterial effect. Bacterial cells contain light sensitive compounds that absorb light in the visible region of the electromagnetic spectrum (400-430 nm), which is mainly blue LED light. Exposure to illumination from blue LED light can hence start off a process within the cells that ultimately causes the cells to die.

Existing studies on the antibacterial effect of LED illumination mostly evaluated its efficacy by adding photosensitizers to the food samples, or by using very close distance of less than 2 cm between the bacterial suspension and LED light source. These conditions would not be viable for application on food preservation.

The NUS team, led by Assistant Professor Yuk Hyun-Gyun, from the Food Science and Technology Program at the NUS Faculty of Science, is the first so far to show that factors such as temperature and pH levels, which are typically related to food products, can affect the antibacterial effect of LEDs.

Major foodborne pathogens studied

In this study, the team placed three major foodborne pathogens – Listeria monocytogenes, Escherichia coli O157:H7 and Salmonella Typhimurium – under blue LED illumination, and varied the pH conditions from acidic to alkaline. The team found that higher bacterial inactivation was achieved at acidic and alkaline pH conditions than when neutral. In particular, acidic conditions were more detrimental than alkaline conditions for L. monocytogenes. For E. coli O157:H7 and S. Typhimurium, alkaline conditions were most detrimental although acidic conditions were also sufficiently effective in deactivating them.

"The next step for us is to apply this LED technology to real food samples such as fresh-cut fruits, as well as ready-to-eat or raw sea foods and meats products, to investigate whether LED illumination can effectively kill pathogenic bacteria without deterioration of food products," said Asst Prof Yuk.

These findings were recently published in the Food Microbiology journal in June 2015.

University Researchers Develop Antibiotic Alternative for Animal Producers

By Michael Fielding on 6/9/2015 in MeatingPlace.com

University of Wisconsin-Madison animal scientists have developed an antibiotic-free method to protect animals raised for food against common infections.

The innovation comes as growing public concern about antibiotic resistance has induced McDonald's, Tyson Foods and other industry giants to announce major cuts in antibiotic use in meat production.

"You really can't control the bugs forever; they will always evolve a way to defeat your drugs," Mark Cook, a professor of animal sciences and entrepreneur, said in a news release. http://www.news.wisc.edu/23812

The work focuses on a fundamental immune "off-switch" called Interleukin 10 or IL-10, manipulated by bacteria and many other pathogens to defeat the immune system during infection. Cook and animal sciences associate researcher Jordan Sand have learned to disable this switch inside the intestine, the site of major farm animal infections such as the diarrheal disease coccidiosis.

Cook vaccinates laying hens to create antibodies to IL-10. The hens put the antibody in eggs that are then sprayed on the feed of the animals he wants to protect. The antibody neutralizes the IL-10 off-switch in those animals, allowing their immune systems to better fight disease.

In experiments with 300,000 chickens, those that ate the antibody-bearing material were fully protected against coccidiosis.

"People have manipulated the immune system for decades, but we are doing it in the gut. Nobody has done that before," Cook said. □

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NEWS FROM AROUND THE COMPLEXES

Hubbard, LLC - Sean Holcombe and **Josh Cox** presented **Steve Crosson** with Certificates of Achievement for the best producing Hubbard Classic and Hubbard H1 Parent Stock flocks in the US.

Tyson Foods announced a program to donate $50 million in cash and in-kind donations over the next five years in the fight against hunger in the United States, the company said in a recent news release.

Aviagen, Inc. appointed Dr. Eric Jensen as VP of Veterinary Services for Aviagen North America. Dr. Jensen joined Aviagen in 1995 and has more than 30 years of experience as a veterinarian specializing in poultry medicine.

"In order to grow as a leader, it's important to gain a variety of experiences throughout your career and to develop and mentor others. Most of all, do not be afraid to speak up. You have something to contribute," said **Jeannell Goines**, sales manager, **Aviagen**, speaking to attendees at USPOULTRY's 2015 Women's Leadership Conference in Myrtle Beach, S.C. In her presentation, "Profiles of Industry Women in Leadership Roles," Goines provided a personal account of learning experiences during her path to career success. (Source: USPOULTRY)

ALLIED MEMBER NEWS

Marel Stork Poultry Processing nominated for innovation award: An energy-efficient scalding method that prepares poultry for de-feathering, developed by Marel Stork Poultry Processing is one of the finalists for the 'Food Valley Award', a Dutch innovation award for the Agri-food business. The innovative scalding system for loosening poultry feathers prior to de-feathering, called 'AeroScalder', saves up to 75 percent in water and 50 percent in energy compared to traditional immersion scalding systems. The product hangs from an overhead conveyor and automatically passes the nozzles blowing the scalding air.

Scott Herndon is now the Territory Sales Manager for **Marel Stork** covering TN, KY, MS and LA beginning in February of this year.

Jones-Hamilton Co., as part of a yearly initiative to support emerging talent in the poultry science industry, recently awarded travel grants to six undergraduate students so they could attend the 2015 Poultry Science Association Annual Meeting, held July 27-30 in Louisville, Kentucky.

Chore-Time has released a new floor flood version of its

Revolution® Feeder. Like the Revolution® Rotary Gate model, the new Floor Flood model features the comfort of Chore-Time's patented sculpted grill, better bird starts and top feed conversion, but with greater management simplicity.

Phages in Chicken Transfer Antimicrobial Resistance to Bacteria

By Michael Fielding on 6/5/2015 in MeatingPlace.com

Researchers from the University of Veterinary Medicine in Vienna, Austria, found phages (viruses that exclusively infect bacteria and are therefore **harmless** to humans) in chicken meat that are able to transfer antimicrobial resistance to bacteria. *Phages* [therefore] *can contribute to the spread of antimicrobial resistance.*

"The most frequent way is the transfer via mobile genetic elements such as plasmids, or via transposons, the so-called jumping genes," Friederike Hilbert, scientist at the Institute of Meat Hygiene at the Vetmeduni Vienna, said in a news releas. "Transfer of resistances via phages was thought to play a minor role so far."

Hilbert and her colleagues isolated phages from 50 chicken samples purchased from Austrian supermarkets, street markets and butchers. They found phages in 49 samples. "Phages do not pose a risk to humans because they can only infect bacteria. No other cells or organisms can be infected."

Their analysis showed that one-quarter of the phages under study were able to transduce antimicrobial resistance to E. coli bacteria under laboratory conditions. They transduced resistance to kanamycin, tetracycline, ampicillin and chloramphenicol. No phage was able to transduce resistance to an extended-spectrum beta-lactam resistance (ESBL).

"This mechanism could also be important in clinical settings, where multi-resistant pathogens are on the rise. We assume that phages acquire resistance genes from already resistant bacteria and then transfer those genes to other bacteria," says Hilbert. "*Our results could explain why resistances spread so rapidly among bacteria.*"

More robust than bacteria. Scientists have known for a while that phages are able to transduce genes, but this was considered a rare event for genes encoding resistance to antibiotics. Newer DNA analyses show, however, that phages leave their signature in bacterial genomes. This way of transfer is presumably more frequent than thought. Phages may therefore play a major role in bacterial evolution.

Compared to bacteria, phages are significantly more resistant to disinfectants. Alcohol, in particular, is hardly active against phages. "Common disinfection methods are often inappropriate against phages," Hilbert added. The food industry may choose disinfectants that are active against bacteria but may be ineffective against phages.

Treating bacterial infections with phages has become a promising alternative in combating antimicrobial-resistant pathogens. Hilbert recommends testing therapeutic phages for their ability to transfer resistance genes. □

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TPA Board Member Clint Lauderdale of Jones-Hamilton Co. out catfishing the TN River. Congratulations on the catch, Clint!

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Grower Meetings
November 10, 11, & 12, 2015
Union City, Cookeville, Cleveland

Tennessee
Poultry Association