TPA NEWSLETTER ...from the Tennessee Poultry Association

Highly Pathogenic Avian Influenza in Lincoln Co. Tennessee

March 7, 2017 - UPDATE from the TN Department of Agriculture USDA Press Release

USDA's National Veterinary Services Laboratories (NVSL) confirms the HPAI virus that has affected a Lincoln County, TN broiler breeder premise is H7N9, of North American wild bird lineage.

- **This is NOT the same as the China H7N9 virus affecting Asia.** This virus is genetically distinct from the China H7N9 lineage.
- No additional poultry within the surveillance area have shown signs of illness.
- All samples from poultry within the surveillance area have tested negative for HPAI.
- The surveillance area is a 10 mile radius of the affected facility.
- The control/quarantine zone is a 10 km radius of the affected facility.
- The control/quarantine zone includes approximately 50 other commercial poultry houses.
- For testing of backyard poultry flocks, only those within the control/quarantine zone will be sampled.
- The investigation continues to determine the source of the virus.

- ***March 6, 2017*** - VIDEO: Press Conference at Ellington Ag Center VIDEO: C.E. Kord Diagnostics Lab

- ***March 5, 2017*** - Detection in Lincoln County
  Tennessee Press Release USDA Press Release
  VIDEO: Dr. Charles Hatcher Comments (Part 1)
  VIDEO: Dr. Charles Hatcher Comments (Part 2)

  www.allinallgone/tennessee-poultry-association.com

Flock Tests Positive For Low Pathogenic Avian Influenza in Giles Co.

March 9, 2017— **TDA Press Release:** The state veterinarian confirms that a flock of chickens at a commercial poultry breeding operation has tested positive for low pathogenic avian influenza (LPAI).

This chicken [primary] breeder operation is located in Giles County, TN. The company that operates it is a different company from the one associated with the recent detection of highly pathogenic avian influenza (HPAI) in Lincoln County. At this time, officials do not believe one premises sickened the other.

On March 6, routine screening tests at the Giles County premises indicated the presence of avian influenza in the flock. State and federal laboratories confirmed the existence of H7N9 LPAI in tested samples.

"This is why we test and monitor for avian influenza," State Veterinarian Dr. Charles Hatcher said. "When routine testing showed a problem at this facility, the operators immediately took action and notified our lab. That fast response is critical to stopping the spread of this virus."

As a precaution, the affected flock was depopulated and has been buried. The premises is under quarantine. Domesticated poultry within a 10 kilometer (6.2 mile) radius of the site are also under quarantine and are being tested and monitored for illness. To date, all additional samples have tested negative for AI and no other flocks within the area have shown signs of illness.

The primary difference between LPAI and HPAI is mortality rate. A slight change to the viral structure can make a virus deadly. Avian influenza virus strains often occur naturally in wild migratory birds without causing illness in those birds. With LPAI, domesticated chickens and turkeys may show little or no signs of illness. However, HPAI is often fatal for domesticated poultry. □

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To register, contact Tracy 931-225-1123 or tracy@tnpoultry.org

USDA clarifies highly pathogenic avian influenza situation in TN

March 8, 2017 from PoultryWorld.net

The isolated case of HPAI in the US in Lincoln County, Tennessee has been controlled by depletion, according to information provided in a March 6th conference call organized by the USDA-Animal, Plant Inspection Service (APHIS)-Veterinary Services, Dr Jack Shere, deputy administrator.

Surveillance of 31 contract farms within a 10 mile radius of the index farm have not yielded any influenza virus applying PCR assay.

Notable points regarding the AI outbreak

- The index farm comprised 8 houses each holding approximately 7,000 mature broiler breeder hens.
- On Thursday March 2nd, clinical depression was noted in 1 house with a flock mortality of approximately 100 birds amounting to 1.4%.
- On the following day, 500 birds died and representative specimens were submitted to the Kord State Diagnostic Laboratory in Tennessee.
- Initial tests confirmed the presence of H7 avian influenza and tissues were submitted to the National Veterinary Services Laboratory (NVSL).
- The isolate was confirmed as an H7 avian influenza by NVSL and limited gene sequencing demonstrated that the isolate was highly pathogenic consistent with the mortality pattern.
- The initial sequencing assay confirmed that the virus was of North American lineage and was not associated with Eurasian strains responsible for the 2015 Midwest epornitic and the severe outbreaks of H7N6 HPAI in South Korea and Japan. Characterization of the neuraminidase component is pending.
- Virus was not isolated from any of the other clinically unaffected 7 flocks on the farm.
- A decision was made by the Company in consultation with state and Federal veterinary authorities to deplete the farm. In accordance with contingency planning, carbon dioxide foam generators were available and on Saturday March 4th 5 houses were depleted followed by the remaining flocks on Sunday. Dead birds were buried on site.
- Surveillance initiated within the 10 mile zone failed to yield any virus on PCR assay. These tests will be repeated. It is also possible that serologic surveillance will also be carried out to determine whether any flocks show antibodies against avian influenza, which might indicate previous exposure to low-pathogenicity virus.
- Backyard farms in the surveillance zone in both Tennessee and contiguous Alabama are in progress with anticipated results late on March 7th.
- Surveillance of wildlife is in progress although it is noted that 3 isolates of low- pathogenicity H7 have been identified from a large sample of hunter-killed waterfowl in Tennessee. Some low-pathogenicity H7 isolates were obtained this season from hunter-killed waterfowl along the Atlantic flyway.
- An epidemiologic investigation has been initiated to determine the source of infection, presumably from free-ranging [in the wild, not domesticated] birds. It is noted that a pond is located on the index farm.
- Hatching eggs collected from the farm were destroyed in the egg-store at the company hatchery. All eggs and feed on the farm were disposed of by burial along with carcasses.
- Movement of live birds within the surveillance zone are subjected to quarantine restrictions, which require specific permits based on demonstration of freedom from avian influenza.

Lessons learned from previous outbreak

In reviewing the limited information concerning the outbreak and the prompt response it is evident that lessons learned during 2015 and applied during 2016 have been effective in containing infection affecting 1 house out of the 8 on the site. This minor outbreak can be regarded as another 'pop-up' event which will in all probability reoccur since migratory waterfowl and possibly other birds serve as carriers of the virus for a few weeks at a time.

For more info: **http://www.poultryworld.net/Health/Articles/2017/3/USDA-clarifies-HPAI-situation-in-Tennessee-103434E/?cmpid=NLC|worldpoultry|2017-03-08|USDA_clarifies_HPAI_situation_in_Tennessee**

INSIDE THIS ISSUE:

Why does meat taste better when browned?

Information obtained from the *Food Explainer*, Nadia Arumugam in Slate.com

Why is food that is browned tastier than the same food cooked to the same temperature via steaming, boiling, or microwaving?

Thank the Maillard reaction (which occurs most readily when the surface temperature of food is more than 300 degrees Fahrenheit) and caramelization (which kicks in at about 320° F).* These chemical reactions not only bring about a color change, they also produce hundreds of flavor compounds that create the rich, savory notes and appetizing aromas we associate with roasted, grilled, and seared dishes—notes and aromas that are noticeably absent from foods cooked by wet methods like steaming, boiling, and poaching.

For a food to reach such high surface temperatures, it must be fairly dry on the outside. When in direct contact with a hot skillet or surrounded by the scorching air of a 400° F oven, the water molecules on the surface of foods quickly vaporize, resulting in the familiar sizzling sound of searing or roasting foods. Once all the moisture has evaporated, the dehydrated exterior of the food becomes hot enough to trigger the Maillard reaction in a few minutes.

By contrast, foods cooked by wet methods are only able to reach 212° F, the boiling point of water. (The Maillard reaction can take place at lower temperatures, but it takes much, much longer, such as when meat broth develops a dark color and rich flavors after hours of simmering.) So steak grilled to medium rare (135° F) will taste, and look, quite different from a steak poached to the same internal temperature, since the exterior of the former will have reached a much higher temperature.

So what's the difference between the Maillard reaction and caramelization? The Maillard reaction takes place only when both protein and carbohydrates or sugars are present. Cooked at high heat, protein breaks down into its building blocks, amino acids, which then react with a group of sugars known as simple sugars. (Ribose, which is found in beef, pork, salmon, chicken, and many types of mushrooms, is one example of a simple sugar.) The reacting amino acids and sugars rearrange themselves to form ring-type structures that reflect light in such a way that the food takes on a brown hue. These transformations also produce a plethora of volatile flavor and aroma compounds, which combine with one another to produce even more nuanced tastes and smells. Ranging from malty, grassy, and chocolaty to oniony, meaty, and earthy, they depend on the exact composition of particular foods.

Unlike the Maillard reaction, caramelization is exclusively the breakdown of sugar molecules under high heat. Sugars such as glucose and sucrose unravel, and a wealth of sweet, bitter, and nutty flavor molecules are formed.

The ratio of the Maillard reaction to caramelization that transpires on a piece of food depends on its protein and carbohydrate content. Carrots, for example, have lots of carbohydrates, so roasting these root vegetables will result in considerably more caramelization than Maillard compounds. Seared steak, on the other hand, will have been browned and enriched mostly from the Maillard reaction.

Not all dry cooking methods produce browned and ultra-flavorful foods. Microwaves generate electromagnetic waves, causing water molecules within foods to vibrate, which in turn produces enough heat to cook muscle or vegetable tissue. Unlike the air in conventional ovens, the air in microwaves is not heated, so it can't brown the surface of most foods. (Sliced bacon and very thin slices of vegetables and fruit are exceptions: Since they dehydrate easily while cooking, they are able to reach the high temperatures needed for the Maillard reaction and even caramelization.)

Food Explainer thanks Jeff Culbertson, (now retired) food science professor at Washington State University. □

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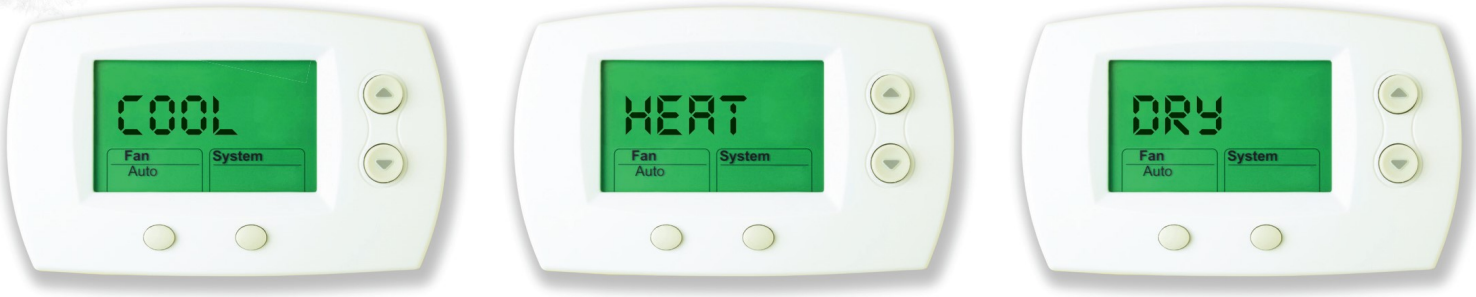

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US poultry trade partners roll out avian flu bans

March 8, 2017 from WattAgNet.com

In response to the highly pathogenic avian influenza case in Tennessee, a number of trading partners are announcing import restrictions of US poultry products.

U.S. trade partners are suspending some imports of U.S. chicken products in light of the country's outbreak of highly pathogenic avian influenza (HPAI).

As of March 8, **Hong Kong**, **Japan**, **Mexico**, **Singapore**, **South Africa**, **South Korea**, and **Taiwan** have established, or are implementing, import bans based on the recent outbreaks of avian influenza in the country, according to official and media reports.

On March 5, an outbreak of HPAI was identified in a Tyson Foods broiler breeder flock in Lincoln County, Tennessee. The U.S. Department of Agriculture (USDA) Animal and Plant Health Information Service (APHIS) identified the HPAI strain as H7N9 of North American wild bird lineage. The 73,500 birds in the infected flock were depopulated and testing and surveillance for the disease near the breeder farm is ongoing.

On March 6, Wisconsin state agriculture officials confirmed a low pathogenic avian influenza outbreak, of the strain H5N2, was identified in a turkey flock in Barron County, Wisconsin. That 84,000 bird flock is being monitored and quarantined but not depopulated. A report on the outbreak was filed with the World Organization for Animal Health (OIE).

The USA Poultry & Egg Export Council (USAPEEC), a non-profit organization that promotes global trade of US poultry products, released a statement calling for countries importing poultry products to take a regionalized approach to the disease rather than a national ban.

Mexico According to a report USAPEEC issued to its members on March 7, **Mexico** will impose a ban on raw poultry originating from Lincoln County, due to the HPAI detection. The report said the country's agriculture department, known by its Spanish acronym Senasica, updated its sanitary standards to include the restrictions. All products, including hatching eggs and day-old chicks, from the county are banned.

The USAPEEC report said the USDA had not yet received the official notice from Senascia on March 7.

Asian nations According to a March 7 report from Reuters, **South Korea**, **Japan**, **Taiwan** and **Hong Kong** are limiting imports of U.S. poultry due to the disease.

The report said **South Korea** will ban imports of U.S. poultry and eggs. Live poultry and shell eggs are subject to the ban, while heat-treated chicken meat and egg products can still be imported.

"**Korea**, which, per current protocols, banned all uncooked U.S. poultry and egg products, including hatching eggs and day-old chicks, continues to work on a regionalization plan with the U.S. that would limit any ban by **Korea** to the affected state, county, or a designated geographic zone around the affected farm," USAPEEC said in a statement.

South Korea is experiencing its own worst-ever outbreak of HPAI. As food prices spiked due to massive depopulation of the Korean poultry industry, the country has allowed its first-ever U.S. egg imports.

Japan is blocking imports of poultry from Tennessee, the news report said. **Hong Kong** is banning imports specifically from Lincoln County, Tennessee.

A March 6 report published by Bloomberg and Reuters said **Singapore** suspended the import of poultry, poultry products, processed eggs and live birds from Lincoln County, Tennessee, and Barron County, Wisconsin. A March 6 report by CNA said **Taiwan** has banned poultry imports from Tennessee and poultry meat from Wisconsin.

South Africa March 7 USAPEEC notice also said South Africa will be following OIE guidelines for restricting poultry imports, meaning imports from Tennessee will be halted. The country will likely set a certification date for Feb. 9, 21 days prior to the HPAI event. □

Global avian influenza web portal

Dec. 30, 2016 information from WattAgNet.com

The World Organization for Animal Health (OIE) has created a web portal on avian influenza to help the public gain a better understanding of the international AI situation. Providing easy access to recommendations on how to control it, and raising awareness of the current global avian influenza situation are the main objectives for creating the portal. This platform furthermore describes the actions taken by the OIE and its partners. Notifications and expert opinions *can be accessed in real time*, and the global evolution of the various strains of HPAI can be followed in real time. For more information go to the OIE portal.

Additionally, the OIE network recently published a report on the H5N8 situation which includes advice based on surveillance. □

Battle against HPAI continues in Europe

Feb. 10, 2017 from WattAgNet.com

New outbreaks of highly pathogenic avian influenza (HPAI) in poultry have been reported in France, Germany, Poland, Czech Republic and Sweden over the last week.

France's avian influenza losses mount – over 200 cases confirmed in poultry

The battle continues to gain control over H5N8 HPAI in the duck- and goose-growing center of southwest France. According to the latest report of the ministry of agriculture to the World Organization for Animal Health (OIE), 24 outbreaks were confirmed in the second half of January. More than 103,000 birds are confirmed lost to the disease in that report alone, and not all the affected birds were included in the report. Culling is being carried out preemptively, and more than 90,000 birds were destroyed as a result of the latest outbreaks.

On February 9th, France's ministry of agriculture put the total number of HPAI outbreaks in poultry at 227 - an increase of 29 from last week.

As part of the procedure for testing wild and domestic poultry for the H5N8 HPAI virus, the veterinary service has also been able to detect other avian flu viruses. In the last week, these have included two low-pathogenic viruses – H5N1 in a waterfowl flock, and H5N3 at a duck farm.

New H5N8 HPAI outbreaks in other European countries

According to Germany's federal ministry of food and agriculture, the number of outbreaks has reached 58, including zoos and animal parks - an increase of 17 from a week ago.

Thirty-one outbreaks were confirmed by the German authorities to the OIE in the last week. These resulted in the death or destruction of almost 189,000 birds at seven farms, in three backyard flocks and at two zoos in six regions of the country.

There have been eight new outbreaks in poultry in Poland. As well as two backyard flocks, six farms were affected, leading to the loss of more than 211,000 birds.

In the Czech Republic, the veterinary authority confirmed nine new outbreaks in poultry to the OIE - one farm with more than 21,000 ducks, and eight backyard flocks.

Italy's Ministry of Health has reported one new HPAI outbreak in a flock of around 23,000 fattening turkeys at Parma in the Emilio-Romagna region.

According to the Italian health authority and research institute for animal health, 36,737 laying hens have been slaughtered in Rovigo in the Veneto region. The farm was considered to be a "high-risk contact premises" linked to a previous outbreak in the same area, and a preventative cull was ordered.

In Sweden, a small backyard flock was confirmed with the H5N8 virus in Södermanland county.

UK government reviews poultry housing rule

As the threat of HPAI rose in the United Kingdom at the end of last year, the government ordered all poultry flocks to be kept housed to reduce the risk of infection spreading to domestic birds. This measure, under the Prevention Zone, expires at the end of this month.

The agriculture ministry, Defra, has proposed a more targeted approach, with mandatory biosecurity measures across the country and continued housing or range netting in higher risk areas. This would allow poultry to be kept outside after February 28th, while still taking reasonable precautions against further outbreaks.

HPAI virus detected in wild and captive birds

For the first time, the H5N8 HPAI virus has been detected in Belgium – in ornamental birds of different species belonging to a hobby breeder in East Flanders.

According to new reports sent to the OIE, H5N8 virus has also been confirmed in wild birds in Poland, the Netherlands, Romania, Greece, Slovakia, Germany, Finland, Sweden, the United Kingdom, Ireland and Denmark.

For more info: www.wattagnet.com/articles/29770-france-confirms-200-avian-flu-cases-in-poultry □

Defending the Flock

Denise L. Brinson, Senior Coordinator for NPIP, shares that USDA/APHIS has updated their Avian Influenza web pages to include new resources and information for commercial poultry biosecurity. This is their new *Defend the Flock* campaign, which places materials out there for use by federal, state and industry partners, as well as for commercial owners and growers and can be found at www.aphis.usda.gov/animalhealth/defendtheflock. □

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TPA at your service!

Meet your TPA staff – Tracy Rafferty, Member Services, and Dale Barnett, Executive Director

Tracy Rafferty, Member Services, has been with TPA since November of 2013. Everyone who has ever met or spoken to Tracy knows how fortunate the Association is to have her serving in this position. Dale comments that he sometimes detects varying degrees of disappointment if he answers the office phone first instead of Tracy, and he's perfectly fine with that and is always happy to transfer the caller to her! Memberships and relationships with the allied companies and sponsors have greatly increased and strengthened since Tracy came on board, and TPA is very grateful for her dedicated efforts and many contributions.

All of the financial aspects for TPA are handled most professionally by Tracy in taking care of the accounting, invoicing and record keeping for the office. She and Dale work closely together to ascertain that all entries are correct and that everything stays within budget and that goals are met, per the Board's direction and the oversight of TPA's treasurer, Shane Joyner.

This quarterly newsletter is another example of the great work that Tracy does for TPA. Tracy takes care of all the layout, listings and editing and she handles all of the advertising in working with the various company and industry contacts. As the newsletter has grown to being an average of over 30 pages each issue, this is now an ongoing feat. It is not uncommon for Tracy to already be working on the next issue, before the current issue is even finalized and posted. Tracy also maintains the website and social media for TPA. Not only did she work with the IT staff at U.S. Poultry to give our website a new facelift last year, but she solely maintains our Facebook and Twitter accounts. If you are not already plugged into these sites, you are encouraged to take a look at the wonderful information that gets shared and help us spread the positive message in support of the poultry industry. The list of followers continues to grow and is quite impressive, a true credit to her work and dedication. Furthermore, all of the flyers, posters and printed materials produced for TPA's various events and fundraisers are a product of Tracy's many talents.

Tracy is originally from Calhoun, KY and has a marketing degree from the University of Kentucky. To no surprise, she is an avid and very loyal Wildcat fan – *especially* when it comes to basketball. Tracy and her husband, Mike, have two boys, Blake and Zeke. Blake is currently pursuing a doctorate in speech & communication disorders at the University of TN. He and his wife Michelle spent a year as newlyweds in Taiwan teaching English, after both graduating from Lee University. Zeke is an 8th grader. He is quite the student and a star soccer player (and is just a really cool kid all the way around!) Tracy and Mike also enjoy being grandparents to his daughter Jamie's three children, who live in Beaver Dam, KY. Tracy and Mike recently purchased a track of land nearby where they hope to retire someday so they can continue enjoying the grandchildren even more.

Dale has been serving as the Executive Director for TPA since the middle of October 2011. His first day on the job was leading the grower meeting in Union City with everyone crowded into a small meeting room at the local library to listen to presentations being given by Jim Donald, Gene Simpson and Dennis Brothers from Auburn. Dale's predecessor, Donna Abernathy, had everything lined up in great shape and ready to go, and thankfully Dale was able to jump right in without a hitch.

Having grown up with horses and livestock in Bedford Co., Dale was very active in 4-H and FFA. Ironically, this is how he ended up interviewing with TPA as he and Donna had come up through the local 4-H program together. Dale had only recently moved his family to Bedford Co. from North Carolina and was looking for a career change, so the timing was perfect for both he and TPA when Donna recommended him for the position so that she could move on to pursue other career opportunities.

When he started with TPA, Dale was completely new to the poultry industry as his professional career had mostly revolved around horses. With degrees in animal science from MTSU and then grad school at UK, he taught equine management and reproduction courses at the university level for a total of 12 years at NC State and Murray State in KY. He has conducted research, co-conducted horse extension programs, trained numerous students and helped fine-tune veterinarians in areas of equine reproduction. He additionally has coached national winning horse judging teams, managed some of the larger horse shows in the US and has judged over 250 horse shows of various breeds, including numerous national and world championship shows.

Dale comments that the vision of TPA under the leadership of Dan Nuckolls and Scott Black has been very exciting, during which time the Hall of Fame, the Farm Family of the Year and the Workhorse awards were initiated, and the annual spring scholarship fundraiser and college career fair events have been added. Meeting and getting to know each of those inducted into the Hall of Fame has been one of the highlights for Dale. Hall of Famers Don Crawford and Bill Baisley quickly became friends for life, and Dr. Charlie Goan continues to mentor Dale when called upon and when he doesn't have to. More recently, under the leadership of Chynette Todd and the current TPA Board, Dale has enjoyed the encouragement and support to be even more involved with assisting the various university ag programs where he can, helping more students obtain careers in the poultry industry, working more closely to support growers where possible and to be more involved in Nashville to affect policy and positive change for the poultry industry and for agriculture overall. Dale's personal goal at the moment is to see the current CAFO regulations overturned in TN for the growers, to no longer exceed the regulations set by EPA under the federal Clean Water Act and he has partnered with other close allies in agriculture in getting a bill presented this legislative session to do just this.

continued on page 10

TPA at your service! *continued from page 9*

Dale and his wife, Liz, have two daughters that many of you know from them helping out during the Annual Meeting every August. Jordan is a freshman in the nursing and ROTC programs at TN Tech University. She became a CNA at the age of 16, and as a youth first responder her favorite saying is that "I hope nothing bad happens to you, but if it does I want to be there!" Meagan is a sophomore in high school, an honors student on the varsity tennis team and is interested in becoming a neonatal physician someday. And just so you know, she is currently teaching her dad how to teach her to drive. LOL!!!

In the past 5 years, TPA's revenues and operating budget have more than doubled and the Association's presence and activities have really grown. TPA is proud to have Dale and Tracy serving in their respective positions working directly with the Board and the industry to make this all happen. □

Growers: Need a *free* energy audit?

EnSave Inc. has partnered with the Southeast Tennessee RC&D on an application for a USDA Renewable Energy Development Assistance grant, with notification expected this Spring. If this grant is awarded, free renewable energy assessments will be made available to approximately 30 growers in southeast TN. Separately, the Ag Biosystems Engineering folks at the **University of TN** are also working on obtaining funding to conduct an energy audit study for about 20 growers across the state.

Sound interesting? Contact TPA so you can be the first to receive more information once either of these opportunities become available. Note that there is no guarantee of funding, and other eligibility criteria may apply. □

TPA SERVICE TECH WORKSHOP — March 1, 2017 in Murfreesboro

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VFD training module now available

The National Veterinary Accreditation Program (NVAP) through USDA/APHIS is announcing the availability of a new training, *Module 29 Veterinary Feed Directive.*

Upon completion of this module, participants will be able to:

- Describe the need for antibiotic stewardship in regard to antibiotic resistance;
- Understand the FDA's regulatory oversight of animal drugs;
- Describe the Federally-defined key elements of a lawful veterinarian-client-patient relationship;
- Recognize the classes and uses of antibiotics requiring a VFD;
- Describe the components of a complete VFD;
- Understand the recordkeeping requirements associated with a VFD;
- Apply expiration date and duration of use guidelines to a VFD; and
- Locate additional resources related to VFDs.

The module, which is free of charge and does not require a user name or password, is available here: **Veterinary Feed Directive**. □

Can multiple feed mills fill a VFD order?

Dec. 13, 2016 from WattAgNet.com

Under the updated veterinary feed directive rule, the same feed mill is supposed to fill the entire order for feed containing a medically important antibiotic.

But what happens if the mill unexpectedly shuts down for mechanical reasons or runs out of the VFD medication?

Read more to learn what to do if it takes more than one feed mill to complete a VFD order. □

What to expect from a VFD audit

From Part 5 in a series from the VFD News Center and Poultry Health Today

Now that FDA is conducting audits to make sure everyone is complying with the new veterinary feed directive rules, what can veterinarians, feed mills and producers expect from an FDA audit? And how should they go about preparing for one?

William Flynn, DVM, PhD, deputy director for FDA's Center for Veterinary Medicine, clarified some hazy points concerning audits for the new VFD in an exclusive interview with *Poultry Health Today* and the VFD News Center at More. □

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Pilot Project in Maryland to Convert Chicken Manure to Energy is Officially Now Producing Electricity

February 17, 2017, in Agricultural News

A $3-million pilot project to convert chicken manure into energy as part of a program sponsored by the Maryland Department of Agriculture and Biomass Heating Solutions Inc. (BHSL) of Ireland is officially producing electricity.

The project uses the energy generated by the system to provide heat for new chicks or to run air conditioning systems to cool the four chicken sheds at the farm during the summer months. Bob Murphy, the farmer who owns the Double Trouble Farm where the project launched, noted that the early impact of the project has been what he described as significant in terms of lower humidity and ammonia levels in the chicken house.

Maryland contributed nearly $1 million to launch the project in Dorchester County in November of 2014 with a goal of establishing greater sustainability systems that also could reduce pollution from chicken waste. The equipment also produces fertilizer, making the entire process a closed-loop system, according to the BHSL website.

"I hope this pilot project is the start of a broader initiative to turn poultry manure from a potential pollutant into a viable source of energy," said BHSL Chairman Dennis Brosnan.

Maryland produces an estimated 300 million chickens annually and along with the 1 billion chickens produced in the general Chesapeake Bay area makes up about 12 percent of the annual U.S. production. ◻

OSHA sued for "overreach" in Oklahoma federal court

Jan. 5, 2017 information obtained from The Oklahoman

The Oklahoma State Home Builders Association, the U.S. and state chambers of commerce, the National Chicken Council, the National Turkey Federation and the U.S. Poultry & Egg Association have sued the U.S. Department of Labor over a new workforce rule.

The lawsuit claims that OSHA had no authority to issue the rule, called *Improve Tracking of Workplace Injuries and Illnesses*. The suit alleges that the rule violates the defendants' rights under the First and Fifth amendments to the U.S. Constitution.

The rule requires certain employers to submit illness and injury records to OSHA electronically, to be made available to the public online; requires employers to create "reasonable" procedures for employees to report injuries, without defining "reasonable"; and gives OSHA more authority to remedy alleged discrimination and retaliation against employees for reporting injuries, according to the lawsuit.

According to a state co-plaintiff, the lawsuit was filed in Oklahoma City because it is considered a friendly venue due to the conservative nature of the district courts in that particular circuit.

For more details and to read the full story by Richard Mize with staff writer Brianna Bailey contributing, go to http://newsok.com/article/5533258. ◻

Critical periods during incubation

Information provided from WorldPoultry.net

WorldPoultry.net has being doing a series of articles regarding the four main aspects of turning hatching eggs that have been identified as being integral to the ultimate success of incubation; turning during storage, critical periods for turning during incubation, turning frequency during incubation and turning angle during incubation. Key points from the second article in this series focuses on critical periods for turning during incubation are as follows.

- It has become very clear that the most critical period for turning broiler hatching eggs was during the first week of incubation. Interruption of turning during very early incubation has affected the number of dead embryos not only at that time in early incubation but also throughout subsequent incubation.
- Furthermore, lack of turning during early incubation appeared to produce worse results for older flocks than for younger flocks. This can be attributed to differences in albumen quality that has been related to flock age. Good quality hatching eggs (younger flock eggs) have been shown to be less sensitive to decreased turning than poor quality hatching eggs, for example older flock eggs.
- An absence of turning during E0-E2 (age of embryo from day 0 to day 2) caused the greatest decline in fertile hatchability. Also observed - differential effects as an absence of turning during E0-E2 days that primarily increased early deads - while an absence of turning from E3-E8 primarily increased late deads, even though fertile hatchability was similar in both groups.
- Although the absence of turning during various periods from E0-E8 of incubation caused a significant decrease in hatchability of fertile eggs, turning was not absolutely necessary after E15 of incubation. Additionally, cessation of turning at E14 -E15 may have a beneficial effect on the hatchability of the eggs from older flocks in comparison to the eggs from younger flocks due to improved machine airflow that may reduce variation in egg temperature. In fact, we found a significant interaction between cessation of turning after the second week and machine capacity (size of machine). Hatchability of the eggs from an older flock was increased in the absence of turning during E15-E18 of incubation in a higher egg capacity setter but not in a smaller capacity setter, which may reflect airflow issues with certain larger single-stage machines.

To see the full article and the figures adapted from Elibol and Brake (2004 & 2006a) to support this information go to WorldPoultry.net. □

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PROPANE UPDATE & INCENTIVES

March 7, 2017. Source: www.eia.gov/outlooks/steo/report/winterfuels.cfm

FORECAST: Propane inventories, which were at record-high levels throughout last winter, went into this heating season at even higher levels. U.S. inventories of propane reached 104.0 million barrels as of September 30, almost 4 million barrels (4%) higher than at the same time last year. Last winter, inventories of propane were drawn down by 33.8 million barrels during the heating season (October-March). An inventory draw of 40.6 million barrels is expected this winter. The projected draw would leave inventories 32% above the previous five-year average at the end of the heating season in March. Current inventory levels should be sufficient to allow for even stronger-than-projected inventory draws given colder weather, higher crop-drying use, or stronger exports. With the addition of new export facilities over the past several years, and a new Gulf Coast terminal expected to begin operations later this month, the United States has the capacity to support higher-than-forecast levels of propane exports when spot shipments are economically viable.

Inventories on the Gulf Coast have been the main contributor to the record-high storage levels, with propane inventories in that region 55% above the previous five-year average for the week ending September 30. Much of this storage is at facilities connected to industrial users and export terminals, and transport of the propane to the Midwest and Northeast is often costly. However, propane inventories in the Midwest and Northeast are 9% and 42% above the five-year average, respectively, as of September 30. Higher inventory levels and improved rail delivery networks for propane should contribute to more robust propane supply chains than three years ago, when the Midwest saw prices spike during extremely cold weather. However, local markets could still see tight supply conditions, particularly in cases of severely cold temperatures.

SPOT PRICING: As of March 5th, spot prices at Mont Belvieu were at $0.628, after coming back down from the high for the year (and for the past two plus years) at $0.918 on Feb. 2nd. The lowest price reached last year was $0.296 in Jan. of 2016.

Allowing for an average of $0.41 per gallon for tariffs, handling and delivery to most areas, the average current retail price is roughly $1.04/gal. Larger accounts can often negotiate a lower price agreement by as much as $0.05/gal., or more. To follow Mont Belvieu, TX spot pricing: https://ycharts.com/indicators/mont_belvieu_propane_spot_price. □


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1 Perozo, F. et al (2008). Avian Pathology, 37:3, 237-245.
2 Merial internal data.
3 Merial internal data.

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Merial's Vaccine for Newcastle Disease Now Available in the U.S.

January 17, 2017 – *Merial, now part of Boehringer Ingelheim (since Jan. 1, 2017), announces the introduction of Avinew™ to the U.S. after 20 years of proven results internationally.*

In 1987, Dr. Pedro Villegas and Dr. John Glisson, from the University of Georgia College of Veterinary Medicine, were trying to isolate virus from the intestinal tract of turkeys. While analyzing the intestinal and fecal contents of both affected and unaffected turkeys, Villegas and Glisson saw something they did not expect to find in the intestinal tracts of healthy birds: a Newcastle Disease (ND) virus. This virus is frequently isolated in the respiratory tract, but it was a surprise to find it in the intestinal tract of healthy turkeys. Further investigation demonstrated that the infected birds developed ND antibodies while showing no respiratory reaction. This offered the first scientific evidence that this virus, designated the VG/GA strain, might be a candidate for vaccine development.

The next step was to vaccinate chickens with the VG/GA strain and challenge them with a virulent ND strain. These birds showed no clinical signs and no mortality occurred. Evidence of the potential value of the VG/GA strain as a vaccine was becoming apparent.

Historically, poultry producers had to cope with chronic post-vaccination respiratory reactions in chickens given the traditional lentogenic ND strains. [Lentogenic strains have low virulence, produce mild signs with negligible mortality; loss of egg production.] Merial recognized the value of developing a vaccine from an asymptomatic ND strain such as VG/GA. This development project was started in the U.S. and completed in France, culminating with the release of Avinew in the international market.

A hallmark of exotic Newcastle Disease strain is the presence of the virus in the intestinal tract or gut. Traditional lentogenic strains, such as Hitchner B1 and LaSota, do not normally multiply in the gut. At the time the VG/GA strain was discovered, the conventional method for differentiating non-lentogenic strains was by checking for intestinal shedding of the virus. Because the VG/GA strain replicates in both respiratory tract and gut, Merial realized that the presence of the vaccine virus in the gut might complicate this method of detection. As a result, the decision was made to market Avinew only in countries where the presence of the vaccine virus in the gut would not be an issue.

More recent technological advances have brought about the development of tests that can now differentiate the VG/GA strain from field type ND viruses. This new technological development gave Merial the opportunity to introduce Avinew to the U.S. poultry industry.

continued on page 20

Ag groups prevail in Mississippi River Basin case

From MeatingPlace.com on 12/19/2016, by Tom Johnston

A federal court tossed a lawsuit in Dec. by environmental groups that sought to force the EPA to impose stricter nutrient standards on farmers in the Mississippi River Basin, according to court documents.

Interveners in the case called the court's decision a victory for agriculture. The lawsuit, filed in Louisiana's Eastern District in March 2012, would have imposed stringent regulations on the amount of nitrogen and phosphorous that could be in the world's second-largest river basin.

The lawsuit piggybacked on a petition the environmental groups sent EPA in 2008 asking the agency to draw up a regulation for the entire, 2 million-square-mile basin. The EPA declined the petition, saying that rather than invoking its federal rulemaking authority the more practical and effective means to address the issue was to continue working with the 31 affected states to develop and oversee their own regulations.

The federal Clean Water Act gives states responsibility for such pollution control, although in a similar case involving the Chesapeake Bay the agency did establish standards regulating mostly farm and agricultural storm water runoff. Ag groups lost their challenge in that case.

In the more recent case involving the Mississippi River Basin, the plaintiffs argued that the federal law required the EPA to determine whether to promulgate a regulation based on scientific data that they say show that current controls are not working, and the agency's refusal to do so violates the law.

But the court sided with the EPA, saying that the agency's explanation for not regulating were "grounded in the statute" in that the statute is "by design a states-in-the-first-instance regulatory scheme," even if the data were to show that that approach isn't working.

In his order, U.S. District Judge Jay C. Zainey wrote, "Presumably, there is a point in time at which the agency will have abused its great discretion by refusing to concede that the current approach — albeit one of first choice under the CWA — is simply not going to work. But for now, plaintiffs have not demonstrated that EPA's assessment was arbitrary, capricious, or contrary to law." □

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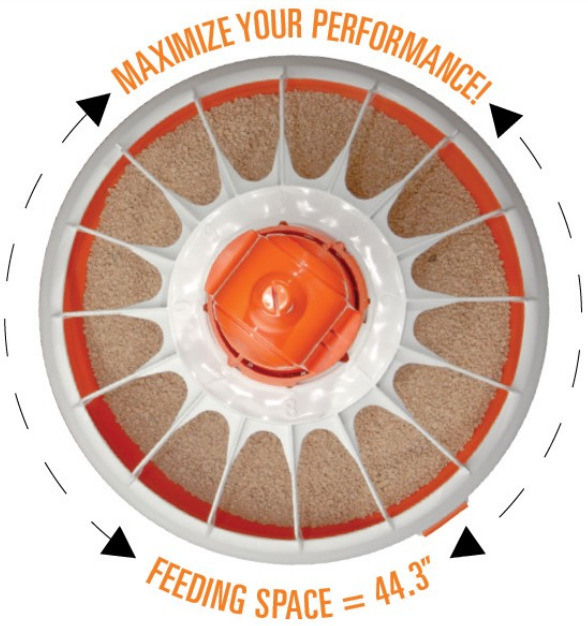

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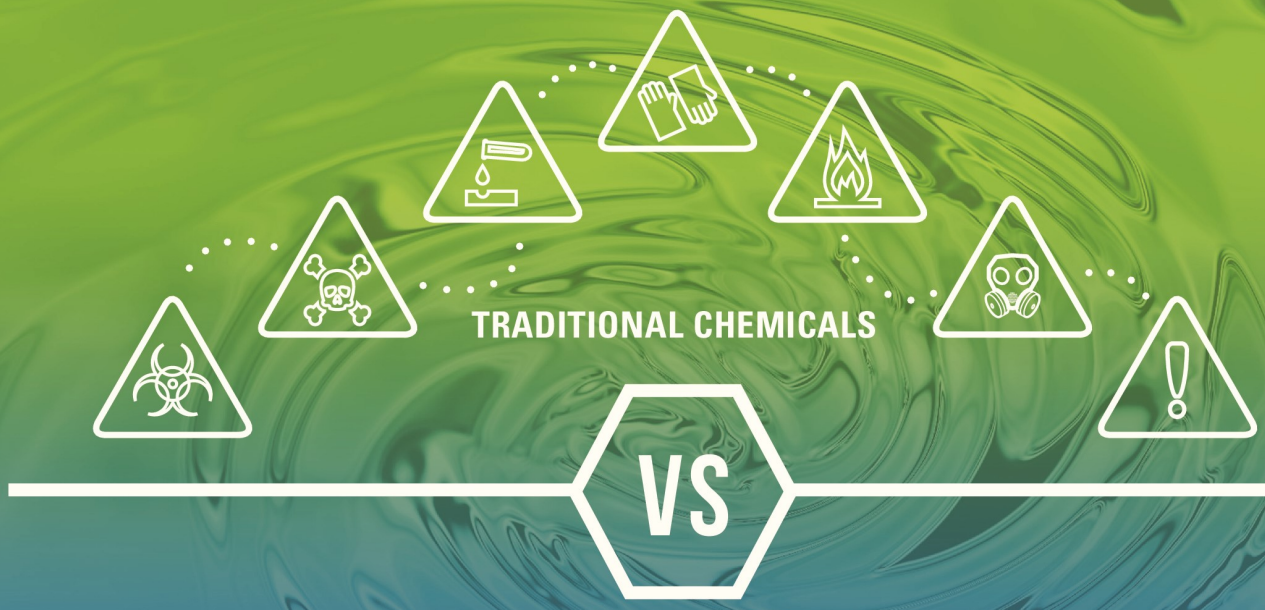

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Merial's Vaccine for Newcastle Disease Now Available in the U.S. *(continued from page 17)*

Having Avinew available will be a great benefit to U.S. poultry producers. Dr. Glisson commented, "In my judgment, no vaccine ever offered to the poultry industry has been researched as thoroughly. Billions of birds have shown the same positive results we saw on the first group of chicks we tested more than 25 years ago." Dr. Villegas added, "I am very pleased that after successful global use in countries with several pathogenic strains, including very virulent strains, Avinew is now available in the U.S." What Glisson and Villegas anticipated in 1987 is now a reality. With more than 200 billion doses sold globally, Avinew has proven to be the vaccine of choice for Newcastle Disease due to its safety and efficacy. Dr. Glisson and Dr. Villegas are now professors emeriti, and Dr. Glisson serves as the VP of Research Programs for the U.S. Poultry & Egg Association. □

(L to R) Matt Neal, Vice-President for Farm Credit Mid-America and Bryan Wright, TN Farm Bureau Member Services recently met with TPA's Dale Barnett and Andrew Blair, Complex Manager for Tyson Shelbyville, to discuss plans for the 2017 Shooting Hunger events. Tyson OBC will be cooking and providing the meal for the June 8th shoot at the Carroll Co. Shooting Sports Park in west TN, and Tyson Shelbyville will be doing the same on Sept. 28th at the Nashville Gun Club. This event over the past two years has provided for more than 228,000 meals for hungry Tennesseans through the Second Harvest Food Bank of Middle TN and Mid-South Food Bank. For more information and to register a team or as an individual to shoot go to http://www.tnfarmbureau.org/shootinghunger. □

Legislation could entice more young farmers by offering student loan forgiveness

By Elizabeth Crawford, 16-Feb-2017 in the FoodNavigator-USA.com

With the average age of farmers in America climbing ever closer to the average age of retirement, legislators hope to encourage more young people to enter the profession by offering them financial assistance in the form of loan forgiveness.

For more information go to www.foodnavigator-usa.com/Regulation/Legislation-could-entice-more-young-farmers-by-offering-student-loan-forgiveness □

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Animal rights activists compromise birds' health

When activists trespass on farms, they are violating the law as well as biosecurity protocols
Feb. 3, 2017 in WattAgNet.com by ROY GRABER

As ironic as it may sound, animal rights activists are likely putting the health and well-being of chickens and turkeys at risk.

During the 2017 International Production & Processing Expo (IPPE), Hannah Thompson-Weeman, vice president of communications for the Animal Agriculture Alliance, talked about some of the tactics that animal rights activists use in hopes of getting their message out that they believe animals are harmed in agricultural production. But whether they realize it or not, they could be doing more harm to poultry.

'Stealth visitors'

One animal rights group, Direct Action Everywhere, has started to conduct what it refers to (as) "stealth visits" to turkey and layer farms, Thompson-Weeman said. What is a stealth visit? Well, it's not exactly on the up-and-up. In layman's terms, it is trespassing in order to obtain photographs, video footage and to free birds they think are suffering.

"They go in after hours, get access to a barn, and bring in their video crew, bring in their open rescue volunteers," she said.

But trespassing isn't the only thing that is apparently wrong here. Those of us familiar with the poultry industry and (who) have been on farms have undoubtedly gone through a variety of biosecurity measures such as putting on sanitary coveralls, using a foot bath and doing many other things to make sure we don't bring with us viruses that could be harmful or fatal to the birds.

"Do you think they are following biosecurity protocols? Do you think they know biosecurity protocols? Probably not. So these folks that are claiming to be advocating for animal care are putting those animals at risk by doing this," she said.

Will Thompson-Weeman's questions about biosecurity protocols ever be answered by the stealth visitors? Again, probably not. Because in order answer those questions, they would have to admit to breaking the law.

Ignorance, deceit and selfishness

The animal rights movement already has put animals in harm's way by deceptively obtaining employment at farms and processing plants and allowing things to happen to animals that shouldn't in order to get images that it hopes will further its cause. And now it appears it is doing something just as wrong here.

Just last week, in response to my earlier blog about animal rights activists' role in the demise of the Ringling Bros. and Barnum & Bailey Circus, one person sent me an email which included the statement: "The animal rights movement is downright selfish." I couldn't agree more. □

Second state moves to require country-of-origin labeling

From MeatingPlace.com by Michael Fielding on 2/6/2017

On the heels of the introduction of a bill in South Dakota that would require retail beef products sold in the state to bear a country-of-origin label, a committee in the Wyoming House has approved a similar bill. A majority of House Agriculture Committee members on Thursday [Feb. 2] voted in favor of sending House Bill 198 to the full House of Representatives, according to media reports. Mandatory federal country-of-origin labeling (COOL) was bitterly opposed by the meat processing industry and ultimately dismantled by a series of World Trade Organization decisions. □

Did You Know the Poultry Protein & Fat Council Is on Facebook?

The Poultry Protein & Fat Council grew out of leadership action by the poultry rendering industry. Stay up to date on their activities and research by following them at https://www.facebook.com/Poultry-Protein-Fat-Council-1411156175798288/ .

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Is GM technology the future of poultry vaccines?

Dec. 27, 2016 information from WorldPoultry.net by Rosie Burgen, Editor Special Projects

Scientists at The Pirbright Institute have used genetic engineering to develop a more efficient and effective vaccine for Marek's disease (MDV), which could pave the way for a new generation of poultry disease vaccines.

MDV is currently controlled by vaccination and over 20 billion vaccine doses are administered worldwide each year. Turkey herpes virus (HVT), is widely used in the development of avian vaccines as a method of delivering elements of avian pathogens, into birds to create the immune response that protects them against disease.

The technologies currently available for creating HVT recombinant vaccines are difficult and time consuming to use, however. In the case of Marek's disease, the existing methods also hinder the level of protection the vaccines can offer, as birds are only protected against a few strains of Marek's disease virus, leaving them vulnerable to the most dangerous strains.

Advances in technology have facilitated the development of a new gene editing technique **called CRISPR/Cas9 (Clustered Regularly Interspaced Palindromic Repeats/ associated Cas9), which enables greater speed and accuracy in targeting, cutting and editing gene sequences.**

Dr Yongxiu Yao, a senior scientist working in the Viral Oncogenesis group at the Institute, used the CRISPR/Cas9 technology to genetically modify HVT, inserting part of the Marek's disease virus into it to generate a completely new genetically modified (GM) vaccine, which is capable of protecting against the most dangerous strains of the virus.

This innovative vaccine will also be much quicker and easier to produce, with the potential to deliver multi-million pound savings for the UK and global poultry industry. Dr Yao said, "This was a great opportunity to create a new generation of vaccines. HVT is widely used in the production of a variety of avian disease vaccines and genetically engineering it in this way has unlocked its potential to protect against all strains of Marek's disease virus, as well as other dangerous avian viruses such as avian influenza, which is also a danger to humans.

For more information go to the International Journal of Vaccines and Technologies or click **here**. □

ALLIED MEMBER NEWS

The **Jones-Hamilton Company** recently appointed **Josh Payne, Ph.D.,** as the new Technical Services Manager of the Agricultural Division. Payne will be responsible for supporting territory managers with on-site technical guidance as well as providing oversight of field and laboratory trials. He brings nearly 20 years of poultry litter management experience with a focus on nutrient management, pathogen control and water quality.

Dr. Payne's prior role as State Poultry Specialist at Oklahoma State University gave him the experience necessary to assist producers in identifying environmental factors that may affect agricultural productivity. He developed educational outreach programs for commercial and small flock poultry production, provided training and support for County Educators, and also served as coordinator for the state's Poultry Waste Management Education Program. Payne received a B.S. in Agriculture from Arkansas State University, a M.S. in Poultry Science from the University of Arkansas, and a Ph.D. in Poultry and Animal Science from North Carolina State University.

The **Jones-Hamilton Company** announces the addition of **Jonathan Peeples** and **Steve Carpenter** as Territory Managers in the Agricultural Division responsible for the sale and service of industry leading litter amendment, PLT®, as well as the water acidifier, LS-PWT^2.

Jonathan Peeples

Jonathan Peeples will support customers throughout North Carolina, South Carolina and Northeast Georgia. He brings more than 20 years breeder and broiler production experience from his prior roles with Gold Kist, Pilgrim's Pride and Hubbard Breeders.

Steve Carpenter will serve producers and integrators in Georgia, Alabama, Tennessee and Kentucky. Carpenter is a valuable addition to the company with more than 15 years of experience in breeder and broiler production and management through his previous work with Wayne Farm and Nipcam Services.

Steve Carpenter

Three new technologies for improved efficiency and performance within poultry production environments are being introduced by **Cumberland Poultry**, a division of GSI. Included are:

Cumberland's new Mega Flow 58C is a 58-inch composite fan featuring a durable, non-corrosive construction that promotes longer life and less maintenance, available in both high flow and high efficiency models.

Other features include a new butterfly design that eliminates the metallic ring, resulting in preassembled butterfly doors to improve installation time and reliability; standard one-size fasteners that make assembly quick and efficient; and flush mount design that allows retrofit over wall openings from 57.5 to 63 inches. The Mega Flow 58C fan is expected to be available to producers during the second quarter of 2017.

The EDGE Precision Bin Scale System is easy to install on full or empty bulk feed tanks for precise monitoring of feed levels and bird consumption. Each scale module offers inputs for eight load cells.

Two models are available, offering EDGE precision load cell accuracy of approximately two percent with factory calibrated units to eliminate field calibration, or units having approximately five percent accuracy requiring field calibration. The new EDGE Precision Bin Scale System is expected to be available to producers during the third quarter of this year.

Two-stage pan performance inside one complete feeder is the unique concept behind Cumberland's HiLo Plus pan feeding system, adding flood feeding to an already dependable pan design. As the birds grow, producers can raise the pan feeder to automatically close the flood window. Multiple feed levels can be set to optimize feed consumption, and the 360-degree action allows play in the pan feeder while reducing bruising and injury to the birds. "This new system combines all the benefits of the HiLo pan feeder with flood feeding capability," noted Rieck. The HiLo Plus Pan Feeder is expected to be available to producers during the third quarter of 2017.

BioSafe Systems -- Already registered with the EPA as a sanitizer, SaniDate 15.0 is now also approved as a disinfectant. SaniDate 15.0 is a high-level, broad-spectrum sanitizer specifically formulated and labelled to meet the sanitization needs of the poultry, livestock and food processing industries. Consisting of a stabilized blend of 15% peroxyacetic acid and 10% hydrogen peroxide, SaniDate 15.0 is a proven hard surface sanitizer for food and non–food contact surfaces against both pathogenic and non-pathogenic organisms in federally inspected meat and poultry processing facilities, egg production and packaging plants, poultry and livestock housing and hatchery rooms. Additionally, SaniDate 15.0 may be used for line cleaning for poultry and livestock watering operations.

The **Big Dutchman** group based in Vechta, Germany, has acquired Qingdao Betco Asia Co., Ltd. (Betco Qingdao), which is the livestock building business of the North Carolina-based steel structure specialist Betco, Inc., with over 30 years of experience. ◘

DATES TO REMEMBER

FEED MILL MGMT SEMINAR
March 22-23, 2017
DoubleTree Hotel
Nashville, TN

COLLEGE CAREER FAIR
March 23, 2017
Embassy Suites
Murfreesboro, TN

REAP GRANT APPLICATION DEADLINE
March 31, 2017
Retrofit/energy projects
AgEMPS & Solar

SPRING SCHOLARSHIP FUNDRAISERS
Golf Tournament
April 20, 2017
Hermitage Golf Course
Nashville, TN

Sporting Clays Shoot
April 21, 2017
Montgomery Co Shooting Complex
Southside, TN

TPA ANNUAL MEETING & SUMMER GETAWAY
August 4-5, 2017
Sheraton Nashville Downtown

GROWER MEETINGS
November 7 - 9, 2017
Locations TBD

Nutritional strategies to reduce woody breast

From WattAgNet.com by Tara Loszach on Feb. 1, 2017

With the prominence of high-yielding broilers in the U.S. poultry industry, producers have seen an increase in the number of birds with woody breast. [Animal nutrition company] Adisseo and Texas A&M University have partnered to research ways in which woody breast can be reduced through nutritional and management strategies. At IPPE 2017, WattAgNet discussed these strategies with Rob Shirley, poultry technical services at Adisseo and Christine Alvarado, associate professor of poultry processing and products at Texas A&M.

"Woody breast is defined as breast muscle that is hard to the touch and can cause texture quality issues for consumers," said Alvarado.

Those texture quality issues include fibrousness and crunchiness, as well as overall unappealing attributes for consumers. This particular issue has become more common with the selection of high-yielding broilers. The trait is categorized on a scale of zero to three, with three being the most severe instances of woody breast.

Nutrition mitigation strategies
"Nutrition is very dynamic, and so is the management of the birds," said Shirley.

Until the genetics companies have bred this trait out of high-yielding broilers, companies can employ various nutrition and management strategies to reduce woody breast in these birds, according to Shirley.

Strategies Adisseo and Texas A&M studied include:

- Feeding the bird up to 45 days of age
- Supplementing with nutrients that affect vasculature and antioxidant properties of the meat (vitamin C or an increased vitamin premix)
- Slowing down the birds by reducing the amino acid density in the grower phase by about 15 percent

"If you're feeding a 1.09 digestible lysine diet, you're going to drop that to approximately 0.93 percent," said Shirley.

These strategies have reduced the number of two and three scores to zero and one, moving toward more favorable breast meat for the consumer.

Shirley noted that more research needs to be done to determine what the mechanism is behind how each of the nutrients affects the overall growth, development and protein turnover of the breast meat from day of hatch to market age.

For more information and to see the video presentation on this topic go to WattAgNet.com. □

H7N9 avian flu sickens more than 300 humans in China

FEB. 22, 2017 - from MEAT+POULTRY.COM **[NOTE: THIS IS NOT THE SAME H7N9 VIRUS THAT IS IN TENNESSEE OR THE U.S.]**

A total of 304 laboratory confirmed cases of human infection with avian influenza A (H7N9) virus in China, the World Health Organization (WHO) recently reported. The cases were reported to WHO between Jan. 19 and Feb. 14.

The global health agency said that there were 36 deaths reported at the time of notification. Two case patients had mild symptoms, while 82 case patients were diagnosed with either pneumonia (34) or severe pneumonia (48). The clinical presentations of the other 184 cases were not available. WHO noted that 144 case patients reported exposure to poultry or a live poultry market. Eleven case patients had no clear exposure to poultry or poultry-related environments, and 149 cases are under investigation.

The agency said that human infections with the H7N9 virus remain unusual and most human case patients are exposed through direct contact with infected poultry or contaminated environments such as live poultry markets. Human-to-human transmission cannot be ruled out although common exposure to poultry is likely, WHO said.

"Since the virus continues to be detected in animals and environments, and live poultry vending continues, further human cases can be expected," WHO said in a statement. "Additional sporadic human cases may be also expected in previously unaffected provinces as it is likely that this virus circulates in poultry of other areas of China without being detected." □

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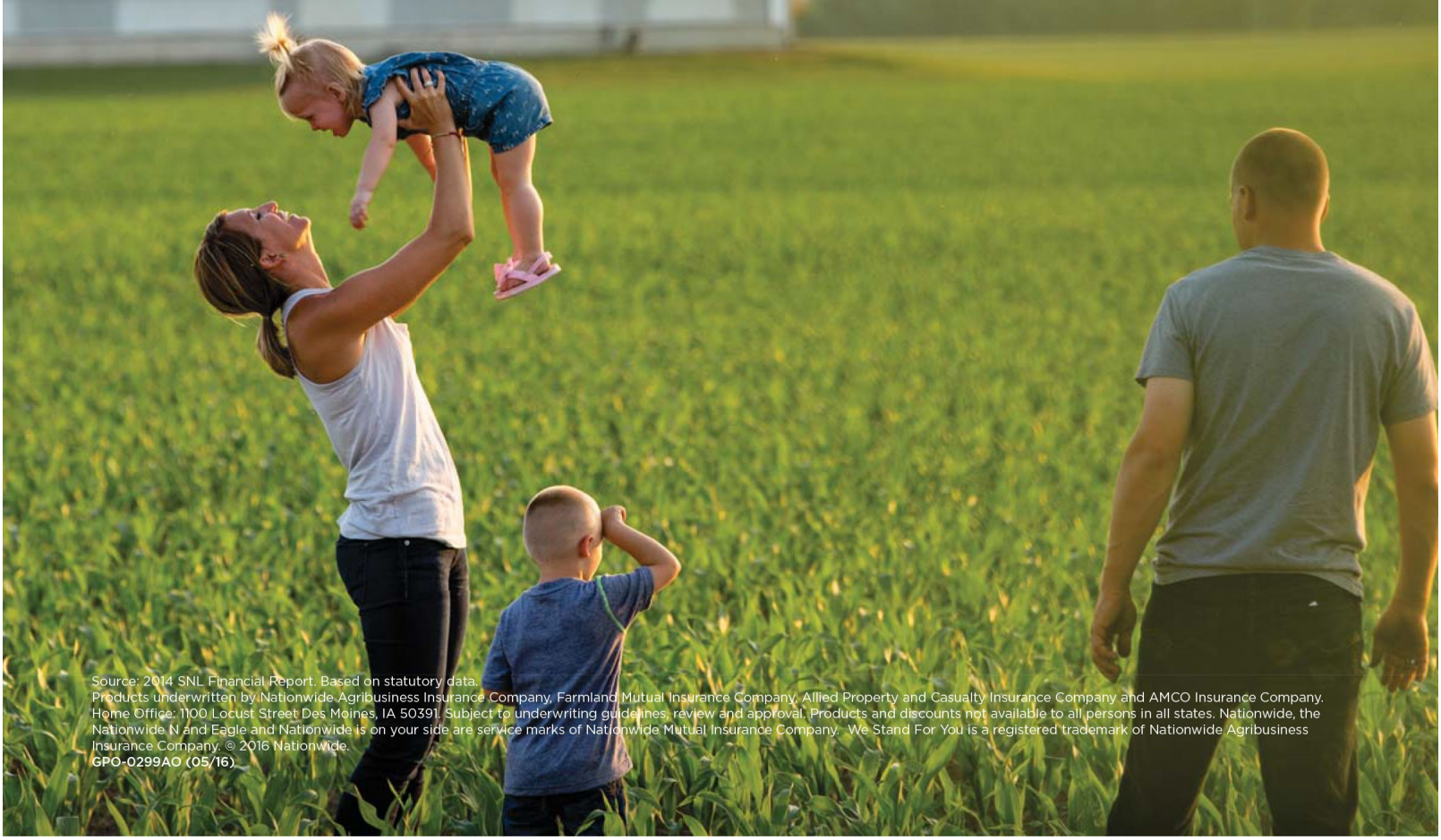

Source: 2014 SNL Financial Report. Based on statutory data.
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GPO-0299AO (05/16)

What's Really In That Chicken Nugget?

Information provided by the National Chicken Council

Chicken nuggets are in fact typically made of the same meat that you see in the supermarket, that is, broiler meat.

Most chicken nuggets start as a split breast of chicken. You might read on the package that the product contains, "rib meat." Rib meat is simply a natural extension of the breast meat. It is NOT an additive or a filler.

Other boneless chicken meat, from the legs and thighs, for example, or skin from the meat, could be added for flavor and texture. The meat might then be marinated to enhance the meat's juiciness and flavor.

The meat is then ground and formed, just like you would form a meatball from a ground meat product. It is then breaded and cooked, usually baked or fried in oil.

There are an abundant amount of choices of chicken nuggets when it comes to feeding your family, based on your budget, taste, values or dietary restrictions. There are gluten-free nuggets, nuggets that are lightly-breaded or have whole-grain breading, all-white meat nuggets, grilled nuggets or organic nuggets.

ALL ingredients, including nutritional information, must be stated on the product's label.

Keep in mind, too, that *all* federally inspected chicken processing plants follow strict food safety standards and operate under the watch of USDA inspectors at *all* times.

Chicken nuggets are excellent sources of protein, especially for growing kids, which are part of a healthy, balanced diet that includes plenty of fruits and vegetables.

Chicken Nugget Myth vs. Fact

MYTH: Mechanically separated chicken is used to make chicken nuggets.

FACT: Mechanically separated chicken has been used in poultry products since 1969. It is used primarily as an ingredient in frankfurters, lunch meat or other processed products. It is not typically used in the majority of chicken nuggets or patties, and it is not sold directly to consumers.

Like all meat and poultry products, however, mechanically separated poultry is regulated and inspected by USDA and products containing it must declare it as an ingredient on the label.

Mechanical systems prevent waste of nutritious meat and avoid the repetitive motion that would be required to perform close trimming by hand.

MYTH: "Meat glue" is used to hold chicken nuggets together.

FACT: Transglutaminase, referred to by some as "meat glue," is an enzyme sold for almost two decades that is used mostly in food service to bind pieces of meat together, such as a beef tenderloin or a strip of bacon to a filet. It is not used to make chicken nuggets. It is unnecessary – protein is extracted with salt and phosphate, then breast or thigh meat is ground or chopped and then easily formed into a nugget shape. The breading helps hold the nugget together, as well.

MYTH: "Retired Egg Layers" are used to make chicken nuggets.

FACT: "Retired egg layers" are NOT used for chicken nuggets. Cage layers possess little meat and many of them are not processed for meat at all. The birds that produce the eggs that become broilers (which are not kept in cages and do not produce eggs for the table) usually become "stewing hens" or go into soup or other products that involve long cooking.

What the experts are saying

For more information refer to Dr. Casey Owens, Associate Professor in the Department of Food Science and member of the Center of Excellence for Poultry Science at the University of Arkansas. Read more of what Dr. Owens has to say about chicken nuggets and mechanically separated meat in an interview with Best Food Facts. □

As Incomes in South Africa Grow; Poultry Consumption Rises

On December 9, 2016, in International Trade, Protein Consumption; per the NCC

South Africa's rising income has been accompanied by a significant increase in per capita meat consumption. Poultry meat accounts for most of the growth. Per capita poultry consumption has more than doubled from 17 kilograms in 1994-95 to 40 in in the 2013-14 marketing year and remains dominant over other meats, even though consumption of other meats has remained constant.

South Africa's real per capita income has maintained almost uninterrupted growth since 2000, only dropping in 2009 with the global recession. The initial surge in poultry consumption in the early 2000's closely tracks the rapid rise in per capita income. While domestic production of poultry has expanded rapidly to accommodate demand, imports have grown at an even faster rate. □

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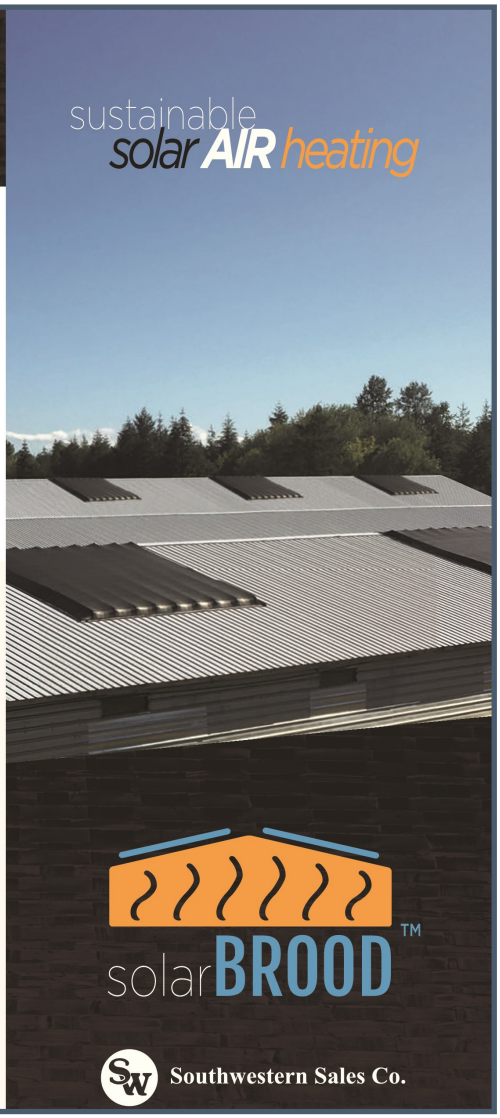

A Simple Guide to Chicken Farm Cash Flow Analysis

From LinkedIn on January 9, 2017

by Vance Keaton, Domain Expert & Senior Loan Officer at **Live Oak Bank**

There are many components that will determine the success of your business. Education, work experience, goodwill and cash flow are key factors that will ultimately lead to your farm's growth and profit. How are these aspects measured? It varies from borrower to borrower; first, let's define cash flow. Cash flow is the difference between revenues and expenses that a business incurs in any given period. If there's more cash coming in than going out, the cash flow is positive. If expenses are higher than revenue, the cash flow is negative.

Our underwriters look at various aspects of cash flow when funding a loan, including revenues and expenses, to determine a borrower's ability to repay the loan. If the borrower is being funded for new house construction, it is possible that their Integrator will offer him or her flock bonuses. Our underwriters will take flock bonuses into account for year 1-10 and year 11-20 projected gross revenues. Next, they will determine what a borrower's cash flow will be over time.

The underwriter's key responsibility is to tell a potential borrower's story and how his or her work experience and history will enable him or her to be highly successful in owning their farm. Many of our borrowers either studied agriculture or are part of families with agriculture experience.

Once a borrower's loan is funded, there will be ongoing factors that affect the business's cash flow. How you manage your business expenses, which includes payroll, loan payments, and insurance is crucial to overall cash flow.

Our key focus is to make sure the pulse of the business is healthy and that the borrower is performing to his or her best ability. Having cash flow as a key component of managing your business allows you to preserve your money and possibly find new savings. Have you thought about your business's cash flow lately? Understanding where you stand will allow you to be the most successful owner you can be. □

National Chicken Council Calls for Balance between Animal Care, Environmental, Economic Impact in Chicken Production

January 11, 2017

New study reveals negative sustainability implications of "slower growing" raising methods; NCC supports more research on chicken welfare

WASHINGTON, D.C. – NCC urges consumers, the food service and retail industries, and non-governmental organizations to invest in studying the impact in the U.S. of the growing market for "slower growing" broiler chickens. A study released today by the National Chicken Council (NCC) details the environmental, economic and sustainability implications of raising slower growing chickens, revealing a sharp increase in chicken prices and the use of environmental resources – including water, air, fuel and land. NCC also calls for more research on the health impact of chickens' growth rates, to ensure that the future of bird health and welfare is grounded in scientific, data-backed research.

"The National Chicken Council and its members remain committed to chicken welfare, continuous improvement and respecting consumer choice – including the growing market for a slower growing bird," said Ashley Peterson, Ph.D., NCC senior vice president of scientific and regulatory affairs. "However, these improvements must be dictated by science and data – not activists' emotional rhetoric – which is why we support further research on the topic of chicken welfare and growth rates."

Environmental Implications

In assessing a transition to a slower growing breed, the environmental impact is an important component often left out of the equation. If only one-third of broiler chicken producers switched to a slower growing breed, nearly 1.5 billion more birds would be needed annually to produce the same amount of meat currently produced – requiring a tremendous increase in water, land and fuel consumption:

Additional feed needed: Enough to fill 670,000 additional tractor trailers on the road per year, using millions more gallons of fuel annually.

Additional land needed: The additional land needed to grow the feed (corn and soybeans) would be 7.6 million acres/year, or roughly the size of the entire state of Maryland.

Additional manure output: Slower growing chickens will also stay on the farm longer, producing 28.5 billion additional pounds of manure annually. That's enough litter to create a pile on a football field that is 27 times higher than a typical NFL stadium.

Additional water needed: 1 billion additional gallons of water per year for the chickens to drink (excluding additional irrigation water that would be required to grow the additional feed).

Economic Implications

If the industry did not produce the additional 1.5 billion birds to meet current demand, the supply of chicken would significantly reduce to 27.5 billion less chicken meals per year.

The additional cost of even 1/3 of the industry switching to slower growing birds would be $9 billion, which could have a notable financial impact on foodservice companies, retailers, restaurants and ultimately – consumers. This will put a considerable percentage of the population at risk and increase food instability for those who can least afford to have changes in food prices.

A reduction in the U.S. chicken supply would also result in a decreased supply to export internationally where U.S. chicken is an important protein for families in Mexico, Cuba, Africa and 100 other countries.

NCC's Commitment to Chicken Welfare and Consumer Choice

"Slower growing," as defined by the Global Animal Partnership, is equal to or less than 50 grams of weight gained per chicken per day averaged over the growth cycle, compared to current industry average for all birds of approximately 61 grams per day. This means that in order to reach the same market weight, the birds would need to stay on the farm significantly longer.

For decades, the chicken industry has evolved its products to meet ever-changing consumer preferences. Adapting and offering consumers more choices of what they want to eat has been the main catalyst of success for chicken producers.

"We are the first ones to know that success should not come at the expense of the health and wellbeing of the birds," said Peterson. "Without healthy chickens, our members would not be in business."

All current measurable data – livability, disease, condemnation, digestive and leg health – reflect that the national broiler flock is as healthy as it has ever been.

"We don't know if raising chickens slower than they are today would advance our progress on health and welfare – which is why NCC has expressed its support to the U.S. Poultry and Egg Association for research funding in this area," said Peterson. "What we do know is there are tradeoffs and that it is important to take into consideration chicken welfare, sustainability, and providing safe, affordable food for consumers.

continued on page 31

National Chicken Council Calls for Balance between Animal Care, Environmental, Economic Impact in Chicken Production *(continued from page 30)*

There may not be any measurable welfare benefits to the birds, despite these negative consequences. Research will help us identify if there are additional, unforeseen consequences of raising birds for longer."

NCC in 2017 will also be updating its Broiler Welfare Guidelines, last updated in 2014, and having the guidelines certified by an independent third party. The guidelines will be updated with assistance from an academic advisory panel consisting of poultry welfare experts and veterinarians from across the United States.

"NCC will continue to be in the business of providing and respecting consumer choice in the marketplace," Peterson concluded. "Whether it is traditionally raised chicken, slower growing breeds, raised without antibiotics or organic, consumers have the ability to choose products that take into account many factors, including taste preference, personal values and affordability."

For additional information and resources about how chickens are raised, visit www.chickencheck.in.

Study Methodology

The study was conducted August-September, 2016 by Elanco Animal Health, in consultation with Express Markets, Inc., using a simulation model that estimates the impact of slow-growing broilers on feed, land, water utilization, waste/manure generated, and production cost. The model used average values of conventional vs. slow-grow broiler for mortality, grow-out days, feed conversion, days downtime, and placement density. A full copy of the study is available here. ◘

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The Nutritional Value of Chicken

Information provided by the National Chicken Council

You may have heard a lot about protein recently, especially because of the part it plays in combating the ever-expanding obesity epidemic. Experts say we need to get the right amount of high-quality protein, and chicken fills the bill.

Protein is key to the human diet, especially for younger people, because the body uses it to create new cells and maintain or repair existing cells. The body also uses protein to produce enzymes, which help catalyze processes such as digestion, metabolism and storage of fat.

Chicken consists of high-quality protein (that is, protein that contains the eight essential amino acids) and a relatively low amount of fat. In addition, fat in chicken is mostly of the unsaturated type, which protects against heart disease. Thus, chicken is often recommended by physicians and nutrition counselors as an alternative to red meat (beef and pork), which typically has more fat and more saturated fat. Chicken breast without the skin has less fat than sirloin steak, pot roast, 80 or 90 percent lean hamburger, pork chops, or ham.

The federal government's 2010 Dietary Guidelines for Americans encourage us to eat protein that, like chicken, is low in saturated fat. Did you know:

- A serving of 100 grams (about three ounces) of cooked skinless, boneless breast has only one gram of saturated fat and less than four grams of total fat.
- 100 grams of skinless, boneless breast has 31 grams of protein – more than half the recommended daily allowance of 46 grams of protein for an adult female.
- Chicken is naturally low in sodium. Skinless, boneless has only 74 milligrams of sodium per three and a half ounce (100 gram) portion.
- Chicken is versatile in the kitchen – Hot or cold, it's an easy ingredient in many ready- in- a- minute meals. Chicken is also a common ingredient among international cuisines, and readily absorbs the flavors of seasonings and spices. When your recipe calls for a meat that is too costly or not available, chicken is always a reliable substitute.
- When cooking plenty of food to have leftovers for future meals, nothing beats the ease of chicken. Leftover grilled or baked chicken prepared early in the week easily transitions to healthy meals such as cold chicken served over salad, or chicken salad mixed with reduced fat mayonnaise.

Under the U.S. government's "Dietary Guidelines for Americans 2010", consumers should include 5.5 ounces of protein from poultry, meat, nuts and beans in the daily diet, based on an average consumption of 2,000 calories per day. Therefore, a single three -ounce serving of chicken (an amount about the size of a deck of cards) provides more than half the protein recommended for a typical day.

Chicken is also a good source of niacin (vitamin B3), which aids in metabolism; vitamin B6, important to immune system and blood sugar level maintenance; biotin (vitamin B7), which helps cell growth; and vitamin B12, which is involved in nerve cell and red blood cell maintenance. Chicken also contains iron (oxygen transport and cell growth) and zinc (immune system functioning and DNA synthesis).

The guidelines also recommend that a person consuming 2,000 calories per day should eat no more than twenty grams of saturated fat. Since skinless chicken breast has only one gram of saturated fat per 100-gram (3.5-ounce) serving, chicken offers an easy way to eat protein while keeping consumption of saturated fat to a minimum.

Skinless breast is both the portion of the chicken lowest in fat and the most popular with consumers. In surveys, consumers express preference for skinless, boneless breast by a margin of two to one over other chicken parts. Boneless breast is popular at retail grocery stores and is also the major ingredient in a host of prepared products. It is also present on restaurant menus ranging from fast food to fine dining.

Dark meat has a somewhat higher fat content than white meat and contains more connective tissue than white meat. Its fat content, however, is an advantage in some circumstances. For example, dark meat holds up to the intense heat of outdoor grilling because some of the fat and collagen melts during the cooking process and keeps the meat moist.

Ounce for ounce, the highest-fat portion of the chicken is the skin, with 41 grams of fat (and 454 calories) per 100 grams. However, only a small portion of skin is normally consumed (except in dishes such as "wings"), and removing skin will eliminate those calories. The skin can be left on during cooking without adding calories to the meat. Unlike beef or pork, chicken has little separable fat. A whole chicken will have a fat pad near the opening to the cavity which can be removed if desired. Otherwise, fat in the chicken is largely in the meat itself (especially dark meat); attached to the underside of the skin; or located between the skin and the muscle.

To reprint or share this article with your friends and community, go to http://www.nationalchickencouncil.org/chicken-the-preferred-protein-for-your-health-and-budget/ □

See Nutritional Chart on page 34

The Nutritional Value of Chicken

(Both raw and cooked figures are based on a portion size of 3-1/2 oz.)

Nutrient	Skinless, boneless breast	Skin-on, bone-in breast	Drumstick, skinless	Drumstick, skin-on	Thigh, skinless	Thigh, skin-on	Wing, skin-on	Wing, without skin	Whole Chicken, meat only	Whole Chicken, meat and skin
Calories	165	197	175	216	209	229	290	203	167	239
Protein (grams)	31	30	28	27	26	25	27	30	25	24
Total fat (grams)	3.6	7.8	5.7	11.2	10.9	15.5	19.5	8.1	6.6	13.4
Saturated fat (grams)	1	2.2	1.5	3	3	4.3	5.4	2.3	1.8	3.7
Monounsaturated fat (grams)	1.2	3	1.9	4.2	4.1	6.1	7.6	2.6	2.5	5.4
Polyunsaturated fat (grams)	0.7	1.7	1.4	2.5	2.5	3.4	4.1	1.8	1.5	2.9
Cholesterol (milligrams)	85	84	93	91	95	93	84	85	75	76
Sodium (milligrams)	74	71	95	90	88	84	82	92	75	73
Iron (milligrams)	1	1	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.3

Values for raw (uncooked) product

Nutrient	Skinless, boneless breast	Skin-on, bone-in breast	Drumstick, skinless	Drumstick, skin-on	Thigh, skinless	Thigh, skin-on	Wing, skin-on	Wing, without skin	Whole Chicken, meat only	Whole Chicken, meat and skin
Calories	114	172	119	161	119	211	222	126	119	215
Protein (grams)	21.2	20.8	20.6	19.3	19.7	17.3	18.3	22	21.4	18.7
Total fat (grams)	2.6	9.3	3.4	8.7	3.9	15.3	16	3.5	3.1	15.1
Saturated fat (grams)	0.6	2.7	0.9	2.4	1	4.3	4.5	0.9	0.8	4.3
Monounsaturated fat (grams)	0.8	3.8	1.1	3.4	1.2	6.3	6.4	0.8	0.9	6.2
Polyunsaturated fat (grams)	0.4	2	0.8	1.9	1	3.3	3.4	0.8	0.8	3.2
Cholesterol (milligrams)	64	64	77	81	83	84	77	57	70	75
Sodium (milligrams)	116	63	88	83	86	76	73	81	77	75
Iron (milligrams)	0.4	0.7	1	1	1	1	0.9	0.9	0.9	0.9

SOURCE: USDA National Nutrient Database for Standard Reference (http://www.nal.usda.gov/fnic/foodcomp/search/)

Mycotoxin deactivation with natural enzymes

Nov. 2016 from AllAboutFeed.com

Using enzymes is one of the efficient approaches against the toxic effects of mycotoxins, which transforms the mycotoxin into a non-toxic molecule. But this approach doesn't work yet for all types of mycotoxins.

Different mycotoxins have different effects on animals, as they all use different mechanisms. Also, some animal species are more sensitive than others when they are exposed to mycotoxins. The mycotoxin deoxynivalenol (DON) for example interferes with the protein production directly at the molecular level. Another mycotoxin, aflatoxin, interferes [not only] with DNA replication, but also with DNA transcription. This in turn causes a reduction in the amount of available messenger RNA, which can be rate-limiting for ribosome activity and protein biosynthesis. Fumonisins interfere with sphingolipid (fatty acids occurring in cell membranes of brain and nervous tissue) metabolism and signaling, and low concentrations of fumonisins have an effect on immunomodulation and can increase disease susceptibility. Trichothecenes, in addition to direct interference with protein biosynthesis, also causes reduction of feed intake.

Several approaches and technologies may be used to deal with mycotoxins. One of the approaches, examined and implemented by Biomin, to mycotoxin mitigation is to make additional, microbial enzymes available which act in the gastrointestinal tract and convert mycotoxins to non-toxic metabolites. These enzymes are provided as feed additives and can be delivered with their parent microbes. Alternatively, these enzymes are isolated from recombinant production hosts and provided as feed additives in the same manner as other widely used enzymes such as the non-starch polysaccharide (NSP) degrading enzymes or phytases.

Fungi have been producing mycotoxins in the environment for many millions of years, and mycotoxins evolved to play a role in natural ecosystems. Biological evolution is driven by interactions. Co-evolution of predator and prey is well-known, and plant pathogen interactions or competition of fungi for substrate, in both of which mycotoxins can play a role, are also examples.

Developing an animal feed detoxification technology based on a microbial mycotoxin degrading enzyme is a comprehensive task with many challenges and possible pitfalls, and therefore, so far only 1 recombinant enzyme has passed the scrutiny of regulatory authorities and reached the market.

Adsorption of aflatoxin to binders has been used to make contaminated feed more suitable for animal nutrition. Adsorption to bentonites has been implemented and attempted, with more or less success, for other mycotoxins. Biotransformation is a much more sophisticated development. Reliable and validated biomarkers are important to test the efficacy of the enzymes.

To learn more about these interactions and how naturally occurring enzymes can be used and even trained to break down certain mycotoxins go to www.allaboutfeed.net/Mycotoxins/Articles/2016/11/Mycotoxin-deactivation-with-natural-enzymes-2919142W/?cmpid=NLC|allaboutfeed_focus|2017-02-16|Mycotoxin_deactivation_with_natural_enzymes, which was written based on the information of Wulf- Dieter Moll (Biomin Research Center), presented at the 2016 Biomin World Nutrition Forum. □

Research Indicates New Tool for Reducing Ammonia Emission

Mar. 8, 2017 – USPOULTRY and the USPOULTRY Foundation announce the completion of a funded research project at the University of Georgia in Athens, Ga., in which the researchers found evidence of a new tool to reduce ammonia emission from broiler litter. The project summary is as follows.

Project #687: Effects of Nitrocompounds to Minimize Ammonia Emission in Broiler Litter

Dr. Woo Kim and Dr. Casey Ritz at the University of GA's Department of Poultry Science evaluated the addition of nitrocompounds to broiler diets to minimize the emission of ammonia from the broiler litter. They found that adding nitroethanol or nitropropanol into broiler diets influences the degradation of uric acid to ammonia and does not have negative effects on broiler performance. The observed effects on ammonia emission may be due to the inhibition of uric acid-utilizing bacteria in the poultry manure by the nitrocompounds. For a detailed summary, click here. □

US Poultry Statement on Trump's Executive Action on WOTUS Rule

Mar. 1, 2017 – John Starkey, president of U.S. Poultry & Egg Association, released the following statement in response to President Trump's executive action regarding the Waters of the U.S. (WOTUS) rule. "US POULTRY is very pleased that the thousands of family owned and operated poultry farms will gain relief from this unreasonable, uncertain and confusing WOTUS rule. Like many other agricultural groups, we never believed EPA's rule fairly considered comments from the growers and producers who own and operate these farms. In fact, it caused greater confusion and significantly expanded EPA's authority on private, predominately family owned farmlands far beyond the scope authorized by the Clean Water Act. "Ultimately, our Association saw little choice other than to join with other agricultural and business groups in litigation against EPA over this rule. With this executive order, we look forward to finding opportunities to work with EPA to continuously improve the environmental sustainability of poultry farms across the nation in a cooperative and productive fashion." □

Reducing poultry processing waste maximizes yield, profits

Feb. 28, 2017 from WattAgNet.com by Eduardo Cervantes Lopez

Following waste reduction strategies during poultry processing not only helps to maximize the volume of processed poultry produced and better respond to growing demand, but can increase profitability while lessening the impact on the earth's finite resources. From pre-slaughter to packing, there are several activities where waste is likely to occur. Paying particular attention to these key areas, ranging from minimizing harm to broilers during harvesting to the proper training of plant staff, can help to ensure that poultry processing is carried out in the most profitable and sustainable way possible.

Pre-slaughter

A failure to properly manage the feed withdrawal period can lead to downgraded and rejected product at the processing plant. Common problems resulting from a badly managed feed withdrawal include weight loss and carcass contamination. To minimize rejects and waste, birds must have sufficient access to water pre-slaughter, for example, and harvesting must take place within four hours of suspending feed supply. Typical issues that may be apparent due to badly managed feed withdrawal include a full crop, dehydrated intestines, a dilated gallbladder, shrunken liver, a hardened gizzard cuticle and weight loss.

Harvesting and cages

Poor handling and any resultant harm to broilers during capture and caging can lead to poor-quality carcasses, raising the number of rejects. However, there are several best practices that can be followed to minimize quality issues. Any birds separated from the rest of the flock during harvesting must be allowed sufficient space. If crowded together, birds will start to fight for space, scratching and pecking each other, and damaged skin can lead to rejected carcasses.

Birds should always be captured by the body, holding the wings close to it, but without putting too much pressure on the abdominal air sacs. Studies have shown that, in flocks where broilers are caught by the body, the number of rejected birds is 50 percent lower compared with birds caught by the legs. Cages and containers must be in good condition and of an appropriate size, ensuring that not only are broilers not harmed, but are also comfortable during transport and while waiting at the processing plant. Filled cages should be kept inside the poultry house until all are ready to be loaded. In this way, maximum advantage will be taken of circulating air, minimizing possible suffocations.

Transportation to the processing plant

To avoid mortalities during transport, measures must be taken to dissipate evaporative heat. Depending on environmental conditions, fans can be placed at the end opposite to where birds are loaded, to help to keep them cool and supply them with air. Additionally, a mobile awning can be erected where birds are loaded. If made from mesh, this can reduce light penetration but still allow air flow.

The microclimate within the truck needs to be carefully monitored if dead on arrivals are to be prevented.
It should not be assumed that if the birds that reach the lairage [holding area at the plant] alive they will also reach the overhead hangers alive. In many plants, it can take up to four hours from arrival to complete processing, so the lairage must be properly ventilated to prevent suffocation while birds wait to be slaughtered. A failure to address the above points will increase the number of dead-on-arrival birds and reduce the volume of Grade A meat produced.

Hanging

The area where live birds are handled at the processing plant should be darkened and illuminated with red, green or blue light to keep them calm and prevent stress. Workers must handle birds carefully as, for example, excess pressure on the legs can result in bruises or reddening appearing further along the processing line, and these roughly handled birds may be rejected by quality control inspectors.

Entrance to the stunner

A poorly adjusted breast stunner will lead to birds flapping their wings intensely, resulting in bruises and trauma of the breast and wings. Additionally, blood will accumulate in the pectoral muscles due to the heart sending more blood to keep them oxygenated, possibly leading to downgrades. Too much time in transit between being hung and slaughtered will also result in more blood flowing to the wings due to the forces of gravity. Excess blood may also be present in the wings if bleed time is not properly adjusted to reflect hanging time, and again the number of rejects will rise.

Stunning, slaughter and bleed out

A failure to properly place birds in shackles can also lead to poor stunning, and birds may reach the automatic killing system still conscious. This will increase the workload of those responsible for guaranteeing that all birds entering the bleed-out tunnel are dead. If the automatic killer is only partially successful, then there may still be an accumulation of blood in the neck, another cause of rejects. Any birds that enter the scalder still alive will take on a reddish color.

Scalding and plucking

If birds are observed floating in the scalder, or the movement of the water is uneven, problems and losses will occur at plucking. The same will occur if the heat gained by the carcass is lost on the way to the plucker. If birds pass through the plucker at low temperatures, the damage to carcasses can range from minor to major, including skin loss and bone dislocation, due to the greater pressure needed to remove the feathers. Birds damaged in this way will be rejected by quality control. *continued on page 38*

Gulke: Corn Marches Toward $4 Despite Ethanol-Blending Unknowns

March 4, 2017 from AgWeb.com by Nate Birt – Top Producer, Managing Editor

New-crop corn futures for December 2017 continued their advance toward $4 this week. The move extends an uptrend and comes in spite of disputes over possible changes to EPA's ethanol-blending requirements, notes Jerry Gulke, president of the Gulke Group.

"We made some weekly key reversals higher in corn, old crop and new crop, and almost in wheat, and a big one in soybean oil. Soybeans have held their own," says Gulke in an interview with "Weekend Market Report" guest host Nate Birt for an episode airing Saturday, March 4, 2017. "What corn did here is tested last week's low and last week's high, and closed above last week's high. In December corn, it's kind of significant because we closed near $4, and $4 was supposed to be the ceiling, so to speak—that there was going to be a lot of selling there at $4 futures."

New-crop corn closed 8 cents higher, and old-crop corn closed 10 cents higher, Gulke says. Although rumored changes to ethanol-blending rules didn't materialize, additional activity surrounding biofuels this week suggests bullish news could be in store for grain producers in the months ahead.

"I'm sure when Trump heard about this, he had a fit: We're basically subsidizing importing of Argentine soybean oil to use in our biodiesel to get that $1-per-gallon credit," Gulke explains. "I wondered for years who designed this plan that benefits from imported oil. It looks like that's going to get cut off by its knees. That was an important aspect. If we could go to E15 nationwide, that's a 50% increase over E10. The ideological part of me says given enough time, that means a 50% increase in the crush for corn for the new demand for ethanol that could come. Maybe it's five years, maybe it's 10 years. It certainly isn't something that's not going to reduce (demand)."

The market saw that potential this week and figured that a 50% increase could translate to a 2-billion-bushel increase in corn crush into ethanol over time. "They kind of got ahead of themselves," Gulke acknowledges. "But the good news is that we didn't crash and burn. Corn closed 10 (cents) higher in spite of all the negative hype. There are some underpinnings that are going on really in an uptrend that we've had in grains for quite a while, and this just added to it at a good time."

He continues: "Now the free market is going to have to do the work of buying more acres back from soybeans, if that is going to be the case. And of course in soybeans, if you're going to use more soybean oil, you can probably say, 'I'm going to crush more soybeans. I can't afford to lose any of these acres that already are going to soybeans this year.' Beyond the wildest imagination of a lot of bears out there, we probably could get into a bidding war for acres out here if we aren't careful.

For more information go to http://www.agweb.com/article/gulke-corn-marches-toward-4-despite-ethanol-blending-unknowns-naa-nate-birt/ □

CME: HPAI-infected Poultry Barred from Entering Food System

March 8, 2017 information and excerpts from The Poultry Site

(This article is referencing the broiler breeder flock that was depopulated March 4, 2017 in Lincoln Co. Tennessee)

The flock of 73,500 birds were euthanized and the property quarantined consistent with USDA-Animal Plant Health Inspection Service (APHIS) mandates. Meat from the birds will not enter the food system. This was the first confirmed case of HPAI in commercial poultry in the US this year.

Breeder hen meat is usually further processed for use in soups, pot pies, or similar food products. As of 1 February, the USDA estimated that the US broiler-type hen flock was about 55 million birds.

The worst outbreak of avian influenza was in 2015, but the broiler (meat-type chickens) industry was able to avoid any direct losses of birds. The turkey and egg industries were not so lucky. Egg production in 2015 declined 5 per cent from the prior year and turkey production was down 2 per cent.

In 2015, the first outbreak of avian influenza in a Minnesota turkey flock on 6 March. The second and third instances came on March 8 and 10 in turkey flocks in Missouri. For the most part, the disease ran its course in the Mississippi Flyway by the end of the first week in June.

Even though broiler-type chicken production was unaffected by avian influenza in 2015, consumer concerns about the product arose. The impact on demand from the discovery of HPAI in recent days becomes a focal point for the US meat industry and global meat markets. South Korea has already announced a ban on imports of poultry from the US within a day of the USDA-APHIS news release.

The case for economic damage from the disease due to consumer demand was obvious for turkey in 2015, with exports declining sharply in the month following when the disease was discovered. Turkey exports have yet to fully recover. The effect on chicken was not so sudden in 2015, but there were still trade barriers attached to US chicken products in world trade that took more than a year to run their course.

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Reducing poultry processing waste maximizes yield, profits

Continued from page 36

Evisceration

It is at evisceration that the consequences of a poorly managed feed withdrawal can often lead to waste. Carcasses may become contaminated with feed or fecal matter or the carcass may be contaminated with bile. Carcasses contaminated in this way will have to go to reprocessing and examined to see if they can be reintegrated into meat fit for human consumption.

Energy

Processing plants tend to start all machines at the same time at the start of the shift, despite the fact that 15 minutes may elapse between the first birds being hung on the line and reaching the final part of the process. Any machines that are working, but are yet to receive carcasses, will be wasting electricity, and machine start times should be reviewed in developing any waste reduction program.

Water and ice

Water is too often used without care in the plant's various processes and when losses from hoses and valves are considered, then waste can be significant. In plants that use ice to cool carcasses, it may again be used to liberally, resulting in waste. If the pipes or channels that supply ice are poorly maintained, ice may be lost onto the floor, and if ice is poorly stored it may melt before it can be used.

Packaging

Packaging needs to be managed properly to avoid waste. It is also worth using good quality packaging to avoid breakages and need for replacement.

Processing plant staff

If plants are not ergonomically designed, additional staff will be needed to complete tasks. This will also be the case if equipment and working practices are not suitable for the task at hand. Additional staff costs will increase the cost per kilo of processed meat, and can be an expensive waste of resources.

For additional information go to:
www.WATTAgNet.com/articles/29047 □

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CME Crop Prices

Source: Egg-Cite.com, by Simon M. Shane – March 7, 2017

On March 3rd close of trading on the CME, yielded the following rounded quotations for corn, soybeans and soybean meal. Values for corresponding months as quoted for the previous week are indicated in parentheses:

COMMODITY					
Corn (cents per bushel)	March '17	378	(364)	May '17	386 (371)
Soybeans (cents per bushel)	March '17	1,025	(1,014)	May '17	1,037 (1,025)
Soybean meal ($ per ton)	March '17	328	(332)	May '17	333 (336)

Changes in the price of soybeans and soybean meal this week were:-

- Corn: March quotation up by 14 cents (+3.8 percent)
- Soybeans: March quotation up by 11 cents. (+1.1 percent)
- Soybean Meal: March quotation down by $4/ton (-1.2) percent)

For each 10 cent per bushel change in corn :

- The cost of egg production would change by 0.45 cent per dozen
- The cost of broiler production would change by 0.25 cent per pound live weight

For each $10 per ton change in the price of soybean meal:

- The cost of egg production would change by 0.40 cent per dozen
- The cost of broiler production would change by 0.25 cent per pound live weight

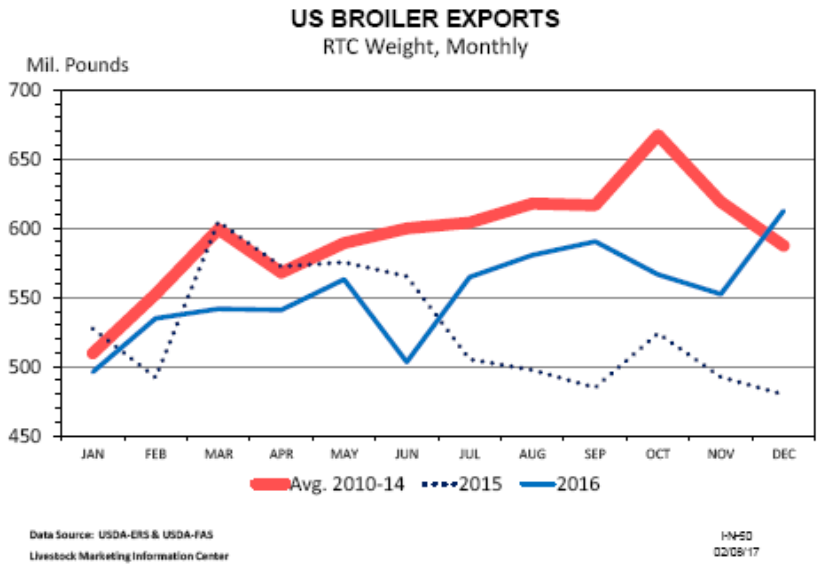
See posting on the February 9th USDA-WASDE Report #562 for a review of price projections and quantities of commodities produced in the 2016 season. □

CME: HPAI-infected Poultry Barred from Entering Food System

(continued from page 37)

US chicken exports in 2015 fell 13 per cent from the prior year, followed by a 5 per cent rebound in 2016. Prospects have been encouraging for a similar improvement this year, but this still leaves exports below the 2014 total.

The importance of exports to the chicken industry cannot be over-estimated, as competition from additional supplies of pork and beef in the domestic market becomes more intense.



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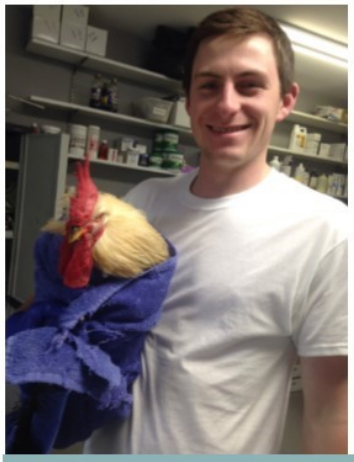
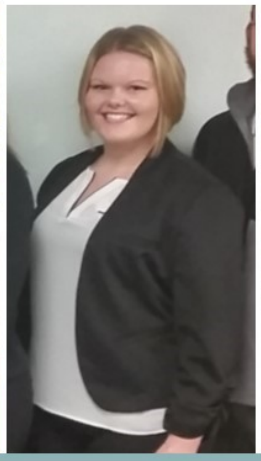
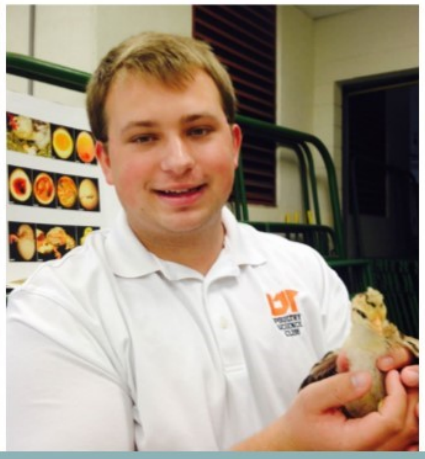

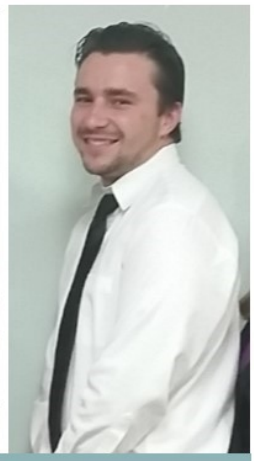

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NEWS FROM AROUND THE COMPLEXES

Cobb-Vantress announces **Mark Hamby** as the newest member of the North American Sales Team. Mark began his career with Con Agra in 1996 after graduating from the University of GA with a BS in Animal Science and a Minor in Poultry Science. He worked the first 17+ years of his career in operations with Con Agra/Pilgrims as a Broiler Service Tech, Broiler Manager, Breeder Manager, Live Production Manager and Plant Manager. The last 3 years he has worked for Zoetis as a Regional Account Manager in Georgia.

Aviagen, Elkmont, AL - Effective December 2016, Aviagen has appointed **Michelle Rowlett** as its new **Animal Welfare and Biosecurity Compliance Specialist**. Working from Aviagen's Elkmont, Ala., veterinary laboratory, Rowlett will visit all farms and facilities throughout Aviagen's US production base to ensure compliance with Aviagen's animal welfare and biosecurity programs. Another key responsibility will be to support the company's veterinary and production teams, as well as its contract farms.

Although new to this role, Rowlett has worked for the past 12 years in the Aviagen GP Production department and is knowledgeable in the company's specialized management practices and facility processes.

Originally from Collinwood, Tenn., Rowlett was raised on a commercial cow/calf facility and became familiar with Aviagen as a teenager, when she worked gathering eggs at a neighboring farm. She later went on to achieve a BS in Animal Science from the University of Tennessee at Martin and joined the Aviagen team as GP Pullet Poultry Specialist immediately upon graduating in 2004. She further broadened her experience base in 2011 when she became GP Breeder Poultry Specialist. Continuing to develop her knowledge of poultry breeding and live production management, Rowlett earned the title of Sr. Poultry Specialist in 2015.

Aviagen—**Phil Keenon** has been named to the position of Director of GGP Operations. Phil is a graduate of Auburn University and has been with Aviagen since 1999, previously serving as GP poultry specialist, GGP poultry specialist, and GGP breeder manager.

Forrest Aldridge, **Aviagen**'s assistant breeder manager in Elkmont, Ala., was honored with the prestigious "30 Under 30" award in January at the 2017 International Poultry and Production Exhibition (IPPE) in Atlanta. The award was presented by U.S. Poultry and Egg Association President John Starkey.

Aviagen – Crossville, TN. **De Wet Nortje** is the new general manager for Aviagen's Crossville, TN pedigree division. De Wet was formerly Technical Manager for Aviagen in Australia and New Zealand for the previous five years. Prior to that, De Wet served as Parent Breeding Executive for Earlybird Olifanstsfontein from 2009-2012, Marketing Director for Ross Poultry Breeders from 2005-2009 and Technical Advisor for Ross from 2002-2005 . De Wet has a vast amount of global breeder and broiler production and management experience from throughout his career, and we welcome him to Tennessee.

Deanna Martin, **Aviagen**, is a new pedigree supervisor in Crossville. Deanna is a Dec. 2016 graduate from TN Tech Univ. with a major in Agri-Business.

Cody Baltimore, a Dec. 2016 graduate from TTU has joined **Tyson OBC** in live production; **Daniel Pugh** moved over from the hatchery to manage the feed mill.

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