

TPA NEWSLETTER...from the Tennessee Poultry Association

CAFO REGULATIONS TO BE REDUCED FOR TN!

Legislation brought by the TN Dairy Producers Association and the TN Poultry Association was passed this session that will right-size Tennessee's CAFO permitting requirements, so that they no longer exceed what is required at the federal level by EPA.



CAFO LEGISLATION PASSED FOR TENNESSEE

Legislation (*HB 1017 Hawk* and *SB 899 Bell*) was successfully brought by the Tennessee Dairy Producers Association and the Tennessee Poultry Association this past session to make Tennessee law regulating CAFOs no more stringent than the federal level that is required by EPA, under the Clean Water Act (CWA). This move came after TPA, Farm Bureau (TFBF), the Department of Agriculture and other commodity groups worked for more than two years with TDEC to develop a more workable permit process but could not reach an agreement.

continued on page 14

POULTRY OPERATIONS TO START REPORTING AMMONIA EMISSIONS?

Yes, but not just yet... and with some luck, will hopefully not have to start doing so. *How did this come about and what does this mean?*

Due to a recent ruling issued by the US Court of Appeals for the District of Columbia Circuit, that overturned EPA's former position to not require this monitoring and reporting, all animal feeding operations are subject to start reporting air emissions from waste.

If directed to do so, farms with animal waste air emissions will have to report under the Comprehensive Environment Response, Compensation and Liability Act (CERCLA) and the Emergency Planning Community Right to Know Act (EPCRA), two programs that are meant to inform the National Response Center and local first responders of hazards that may call for emergency action.

Until now, EPA had provided an exemption from CERCLA reporting of low-level emissions of ammonia and hydrogen sulfide generated from the natural breakdown of animal manure after the agency's evaluation demonstrated that any emergency response to such emission reports was "unnecessary, impractical and unlikely." EPA had further previously limited EPCRA reporting of such emissions to one-time reports for continuous releases from large, confined animal feeding operations. USPOULTRY and NPPC (National Pork Producers) intervened in the lawsuit to defend the agency's common sense exemption.

The effective date to start reporting was to be June 1, 2017. EPA has been recently granted a stay to petition the courts, so any reporting will now not be required to begin prior to July 9, 2017.

The NPPC and USPOULTRY announced on June 6, 2017 that they are seeking a rehearing. This request for a rehearing is also being supported by the American Farm Bureau Federation, NCBA, UEP, National Milk Producers Federation and the National Council of Farmer's Cooperatives.

EPA's Office of Emergency Management (OEM) has not issued any program directives but is actively working on producing guidance should this ruling go into effect.

If required to report, it is anticipated that most farms with reportable animal waste air releases would be able use the continuous release reporting option per www.epa.gov/epcra/cercla-and-epcra-continuous-release-reporting. □



TPA ANNUAL MEETING & SUMMER GETAWAY

August 4-5, 2017

Sheraton Nashville Downtown

Register online at www.tnpoultry.org

REGISTRATION DEADLINE - JUNE 30, 2017

Special Guest Speakers

Dr. Charles Hatcher

TN State Veterinarian

Greg Watt, President/CEO

WATT Global Media

Stephen McBride

TN Farm Bureau

Former National FFA Officer

For more info contact Tracy at
tracy@tnpoultry.org or 931-225-1123

SATURDAY, AUGUST 5, 2017 ACTIVITIES

8:00 am - Golf Tournament at Pine Creek
(breakfast served at 7:00 am)

9:00 am - Sporting Clays Shoot at
Nashville Gun Club
(lunch and awards will follow)

9:00 am - A Musical Journey Through
Nashville Tour
♦ Self-guided tour of the Ryman Auditorium
♦ Lunch at the Wildhorse Saloon
♦ Country Music Hall of Fame & Museum
♦ Return to Sheraton at 2:00 pm

5:00 pm - Reception

5:30 pm - Dinner, Awards Banquet,
Live Auction

8:00 pm - Live Music with Brandon Ray

Brandon Ray to perform at 2017 TPA Annual Meeting & Summer Getaway

"We work all week, in a smokestack town. 'Til the freakin' weekend comes rolling around!" Brandon Ray belts out intermixed with infectious handclaps on the chorus of this new track "American Way," a song that encapsulates the best elements of country and good ole rock n' roll.

The West-Texas native knows a thing or two about the American Way. At a young age his parents instilled the notion to follow his passion while emphasizing the importance of hard work. "In the early days I used to barricade myself in my room for hours and emerge with a horrible excuse for a song and annoy my parents with it. They did nothing but encourage me to keep going. In a way, they were my first publishers," Ray laughs.

Music was ever-present in his childhood home. His father had a deep love for legendary rockers like Stevie Ray Vaughan and Steely Dan, while his two brothers introduced him to the musical greats Metallica, Mellencamp and Nirvana. Ray's mother kept a prominent force of country music throughout the household with the help of icons such as George Strait and Johnny Cash. Despite the house filled with music, his first love was baseball and he dreamed of pitching for the Texas Rangers, but was benched after two foot surgeries that ultimately shifted his focus to playing guitar and songwriting.

By age 13, Ray had saved enough money to buy his first guitar and hasn't looked back since. Everything from that point on has been a means to an end in an effort to achieve his American Dream. He's held every job imaginable; lawn care, delivery boy, waiter, construction worker, guitar teacher and even lifeguard - where he once resuscitated a boy who nearly drowned at the city pool. Brandon still gets Christmas cards from the boy's family. At 18 he was out on the road with his first band and played 750 shows in 3 years including supporting the likes of Fall Out Boy, Switchfoot and grueling summers on Vans Warped Tour.

After arriving in Nashville, Brandon landed a publishing deal, representation at CAA, toured playing guitar for Brett Eldredge and has lent vocals to numerous demos for various publishers and songwriters...all while developing his own sound.

His new batch of songs are smothered in the American richness that Brandon has soaked up crisscrossing the heartland. One part country, one part rock n' roll, but all heart, the new songs sew together his wide variety of influences, like a patchwork quilt. On the track "That Could Be Us," the romantic idealist approaches love with the same hopefulness he applies to his career. Ray paints a vivid picture of potential love when he sings, "That song on the radio, in your head like a movie. You can see it when you close your eyes, that moment when a boy meets girl. Their world ain't never gonna be the same."

It's been a long road from Big Spring to selling t-shirts & CDs for gas to opening for Taylor Swift. But it won't be long before that road is sound tracked by Brandon Ray's explosive choruses blaring on country radio as he rolls on.

A boy can dream. □



HPAI in Mexico

May 11, 2017 from www.unitedeqq.com/newsletter/readfile.cfm?id=600

An outbreak of highly pathogenic avian influenza (HPAI) serotype H7N3 was reported in Jalisco State of Mexico to the World Organization for Animal Health (OIE) on Friday, May 5. The outbreak started on Apr. 18 on a farm in Tepatitlan de Morelos, Jalisco State, which was detected through active surveillance. Of the 151,000 susceptible birds, 10 cases were confirmed. Official reports indicate Mexico had been free of HPAI since May 2016; the source of the outbreak is unknown at this time. The Jalisco state is located on Mexico's Pacific Coast, west of Mexico City.

Following active surveillance on-going in Altos de Jalisco area, H7N3 avian influenza virus was isolated in a commercial layer farm. The flock had been vaccinated against the disease 18 weeks prior to the detection and the birds did not show any clinical signs. According to reports, the farm is under quarantine and the birds were sent to an authorized slaughterhouse near the site. Epidemiological investigation is on-going. □

EPA's Office of Water Plans to Repeal WOTUS

May 5, 2017 Source: National Turkey Federation (NTF)

EPA's Office of Water launched plans this [first] week [of May] to repeal the unworkable Waters of the United States (WOTUS) rule, indicating there will be a quick turnaround after last night's [May 4th] formal **notice** was published. This action rescinds the previous Obama administration rule and formally brings back the 1986 guidance that has long governed the federal government's decisions about which streams and wetlands receive federal protection under the Clean Water Act. President Trump's EPA has indicated its plans to move swiftly to repeal and replace the Obama Administration rule, with ideas and comments from state and local officials on the issue due to EPA June 19. □

N.C. governor vetoes animal waste lawsuit bill

By [Meatingplace Editors](#) on 5/8/2017

North Carolina Gov. Roy Cooper on Friday vetoed legislation that aimed to limit monetary damages in civil lawsuits filed by neighbors of hog and poultry farms if a court deemed the smell from animal waste to be a nuisance.

The North Carolina Pork Council, in a statement, urged the legislature to override the veto, noting the bill had passed with bipartisan support.

Cooper said in a statement that nuisance laws can be used to protect property rights and that special protection for one industry opens the door to weakening nuisance laws in other areas, potentially harming homeowners and the environment. □

Welcome New Allied Members



[BioWALL](#)

Katie Baumgart
515-574-9703



[Diversified Imports](#)

Stan Joyner
573-624-5574



[Farmers Poultry Supply](#)

Andy Ratliff
256-734-5485



[Kemin Animal Nutrition and Health](#)

Shane Guy
270-201-4277



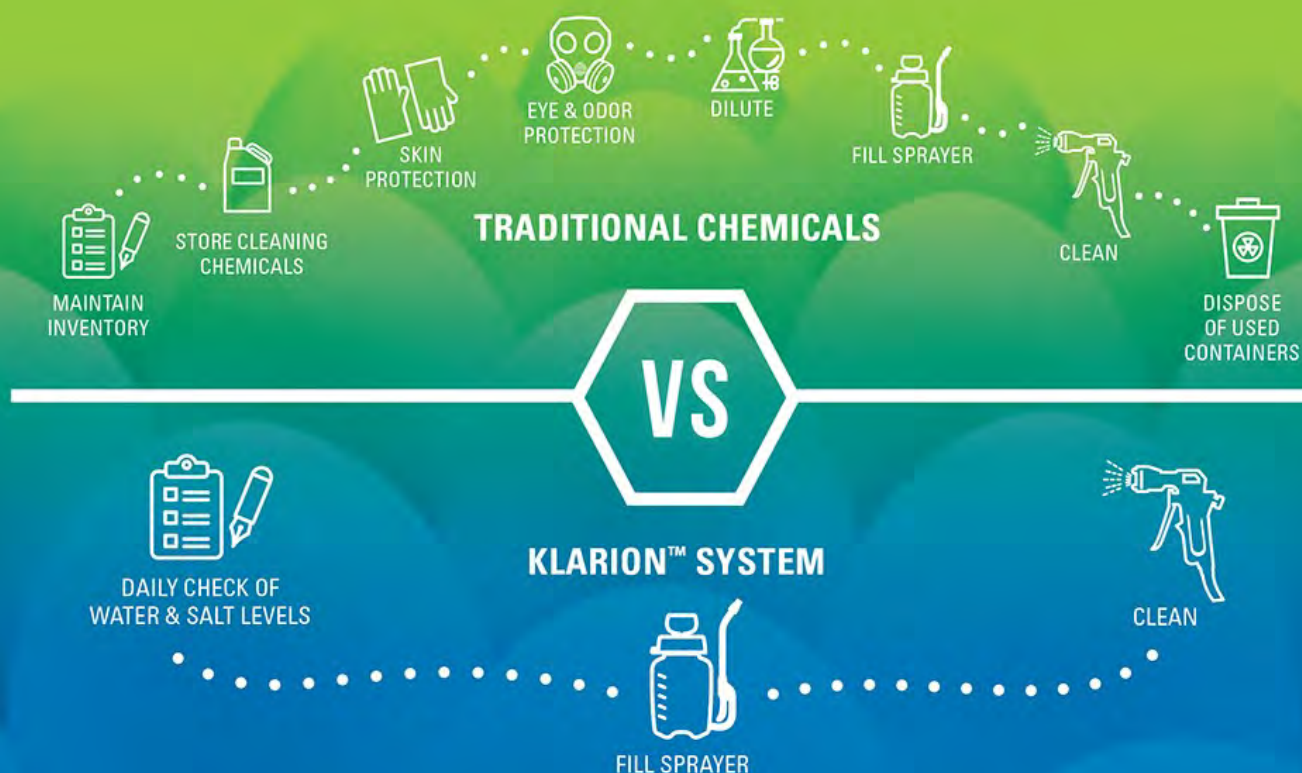
*Sewing the United States poultry industry
for 49 consecutive years!*

**Offering a Variety of Cage Free Systems,
Composting and Drying Equipment**

P.O. Box 39 • Register, GA 30452 • (912) 681-2763 • Fax (912) 681-1096
www.farmerautomatic.com • fa@farmerautomatic.com
www.aggero.com • Email: info@aggero.com

INSIDE THIS ISSUE:

- Page 2 & 40: TPA Annual Meeting & Summer Getaway info & registration
- Page 5 & 6: Scholarship fundraiser results & photos
- Page 7: Testing procedures for HPAI infographic
- Page 15 & 36: Lab grown meat & other meat alternatives - in the news
- Page 15: Sign up for a free farm energy audit with UT
- Page 20 & 21: More info on Wooden Breast
- Page 24: Zero-turn mowers can be tax exempt for Ag in TN
- Page 28: Domino's Pizza says "Farmers know best"
- Page 38 & 39: TPA Youth Art Contest - Entry Form and Rules
- Page 41 & 42: Allied Membership Directory
- Page 43: News Around the Complexes



**SPEND LESS TIME CLEANING
AND MORE TIME ON PRODUCTION.**

**BY THE TIME YOU'RE READY TO CLEAN USING
TRADITIONAL CHEMICALS, YOU COULD BE
DONE WITH THE KLARION SYSTEM.**

KLARION CLEANING AND SANITIZING SYSTEM

Keeping your hatchery clean is now faster, safer and more cost-effective than ever before:

- The Klarion system produces a powerful cleaner and sanitizer in your facility on demand in the concentrations and volumes you need. No need to order, store or dilute chemicals
- These solutions are produced in an electrolytic cell using just water, salt and electricity
- The cleaner and sanitizer are non-irritating to eyes and skin and are fragrance-free. No protective gear for workers is required
- Pay for what you produce; there is no investment in capital equipment. Users typically experience savings of 30% compared to traditional chemical cleaners

**SEE IF YOUR HATCHERY QUALIFIES FOR A FREE TRIAL:
VISIT KLARION.COM OR CALL 630.517.1010**



Klarion™
THE SAFER CLEANING SOLUTION

From *Spraying Systems Co.*

TPA Scholarship Fundraiser Results

TPA held its annual scholarship fundraiser golf tournament and sporting clays shoot on April 20 & 21 at the Hermitage Golf Course and the Montgomery Co. Shooting Complex. Approximately \$15,000 was raised to support students who either grew up on a TPA member poultry farm or who are pursuing a career in the poultry industry in TN. We appreciate everyone who sponsored and participated in this event. (See pics on page 6.)

Shooting Winners:

- 1st - Shane Joyner (Tyson - Obion)
- 2nd - Keith Riley (Tyson - Obion)
- 3rd - Allen Lyle (Tyson - Obion)
- 4th - Mark Turner (TN Farm Bureau Federation)
- 5th - Clint Lauderdale (Jones-Hamilton)

Golf Winners:

1st place, 1st flight - International Paper/Tyson

Randy Bratton
Andrew Blair
Hayden Blair
Russ Bratton

2nd place, 1st flight - Linde

Eric McNamee
Andy Gardenhire
Chris Kline
Erin Sauter

1st place, 2nd flight - K Supply/Keystone

Tim Cook
Ryan Thompson
Kevin Griffin
Matt Mitchell

2nd place, 2nd flight - Hubbard


Jay Daniels
Sean Holcombe
Greg Carter

Closest to the pin


Junior Kinser - #3
Hayden Blair - #7
Jay Daniels - #15 □

Longest Drive

Eric McNamee - #13



THANK YOU To Our Sponsors



Diamond

Boehringer Ingelheim (Merial)
Cobb-Vantress

Platinum

American Proteins
Cumberland
Live Oak Bank
Marel Stork Poultry Processing
Tyson Foods - Shelbyville

Gold

Aviagen
Tyson Foods - Obion Co.

Silver

Ceva
Farm Credit MidAmerica
Hubbard
Koch Foods
Randy Jones & Associates
Southwestern Sales Co.

Bronze

Keystone Foods
Silver Bullet Water Treatment

IT'S TIME FOR SOME GOOD CLEAN LIVIN'

IF ABF IS IN YOUR FUTURE PLANS, WE CAN HELP YOU CLEAN THINGS UP!



CLEANER EGGS



CLEANER FEED PANS



CLEANER ENVIRONMENT

The truth is, we've had ABF (antibiotic-free) on our minds long before it was a daily talking point in the industry. Our products are designed to **maximize your bird's health and performance**, which can provide a better way to ABF profitability.



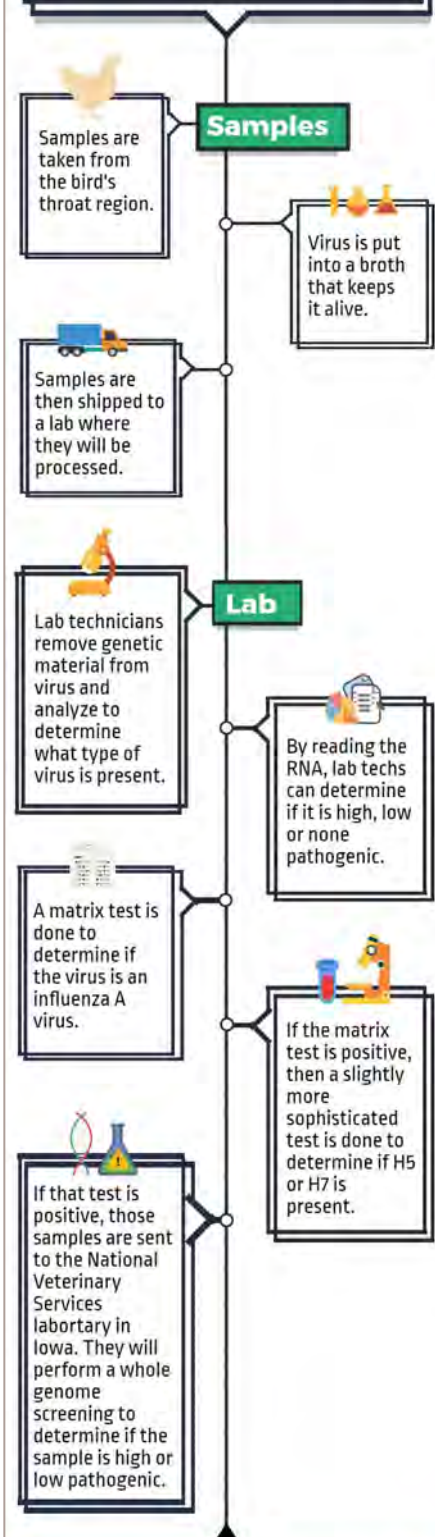
Big Dutchman.
Innovation Breeds Success

+1 616 582 4000 | bigd@bigdutchmanusa.com | WWW.BIGDUTCHMANUSA.COM



Steps in avian flu testing process

Kord Animal Health Diagnostic Laboratory provides a step-by-step for how to test for avian flu.



Copyright WATT Global Media 2017

Source: Dr. Bruce McLaughlin, Director of Kord Animal Health Diagnostic Laboratory

Infographic: Steps in avian flu testing process

MARCH 27, 2017 in WATTAGNET.COM BY [ROY GRABER](#) AND [JENNIFER KELLER](#)

In a recent video posted on the TN Department of Agriculture's [YouTube](#) channel, Dr. Bruce McLaughlin, Director of the Kord Animal Health Diagnostic Laboratory, explained the procedures involved in the avian influenza testing process. Those steps are listed in the infographic, shown at left.

McLaughlin adds that while at the lab, technicians must take special biohazard precautions to prevent from becoming infected with the virus themselves.

"We have the traffic through the laboratory very strictly regulated. We have people wearing disposable booties and lab gowns, and doing changes of clothing and even showering out from the lab after being in contact with any infected bird, so the possibility of a human becoming infected here are very, very low," he said.

Tennessee's first case of avian influenza was confirmed in a Lincoln County broiler breeding facility. Testing showed that it was a highly pathogenic H7N9 strain. Four days later, a low pathogenic H7N9 avian influenza strain was detected in another commercial broiler breeder flock in Giles County. The third case was also in Lincoln County, and was also of the highly pathogenic H7N9 variant.

Track 2017 avian flu outbreaks in North American poultry

To help poultry growers and producers monitor these outbreaks of avian influenza, WATTAgNet has again created an interactive map tracking cases confirmed by the Animal and Plant Health Inspection Service (APHIS) in North America in 2017: <https://batchgeo.com/map/2017-avian-influenza-outbreaks>. □

Preventative Culling, 'Stamping out' under fire

May 5, 2017 editorial in PoultryWorld.Net

Within the poultry industry there is consensus on two main routes to mitigate the damage of an Avian Influenza outbreak. Vaccination is one, mainly adopted by countries where the disease is endemic and *who don't have a large export of poultry products*.

The second is stamping out of the virus by a combination of culling the infected flock and preventative destruction of contact flocks or farms within a close range. Both options have their pros and cons. Vaccines will not protect 100% and carry the risk that the virus can stay under the radar. Mass culling, especially of non-diseased flocks, goes against common sense. That said, this is generally accepted in the poultry production chain to stay on top of an infection. The incident of French farmers protesting and hindering a preventative culling campaign in the hard hit Pyrénées-Atlantique duck production region, is an exception.

However, it is not only people involved in poultry production which the industry and legislators have to reckon with in dealing with **avian influenza**. With the virus popping up in more and more countries, consumers are also becoming more aware of standard operating procedures, i.e. preventative culling. In Germany the public prosecutor started a criminal investigation into the culling of day-old chicks, that couldn't be delivered to the designated farm due to AI. In the Netherlands, animal rights activists started a public awareness campaign with the title: 'Stop preventative culling'. Society's acceptance of 'stamping out' is slowly crumbling, increasing the pressure on the industry to come up with an alternative plan to stop AI. Who wants to take the first step? □

WHAT DO YOU WANT TO READ ABOUT?

Let us know topics that are of interest to you and we'll do our best to include them in our upcoming newsletters. Email tracy@tnpoultry.org.



Appelbaum Farms



Newman Poultry Farm



Harrison Dairy

ALONG WITH:

US Park Service | Oak Ridge National Laboratory | Covenant Transport | University of Tennessee
Clayton Homes | Toyota Corporation | Hillside Winery | Calhoun's | Thunder Hollow Farm | Y - 12
And many more



GESOLAR

USDA
GRANT
OPPORTUNITY

Does an investment with a 20% - 40% return for 25 years sound like a good place to put your money? If yes, call us today at 1-844-657-4869 and join the growing ranks of businesses who have invested in solar and trusted us as their installation partner.

Nolen Poultry Farm



With a great return, a quick payback, and no moving parts, solar is one of the few things that we do that I don't have to worry about whether it is working from one day to the next. It was such a good deal that we actually installed a second system.



John Harrison (Sweetwater Valley Farms)



Sweetwater Valley Farms



Covenant Transport



Vanderbilt University



Kirksey Farms

THEY CHOSE **GES SOLAR**



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE
BIG ORANGE. BIG IDEAS.



VANDERBILT
UNIVERSITY



BENEFITS OF GOING SOLAR

- A 30% federal investment tax credit is available
- 100% depreciation can be taken under section 179 deduction in the first year of operation
- ROI ranges between 28% - 45+%
- Our Solar electric systems can help to reduce or eliminate your energy bill
- USDA Grant opportunity available to pay for a significant portion of your project

WHY CHOOSE US?

- Licensed State Electrical and Solar Contractor
- One of the oldest solar installation companies in the Southeast
- We do all the paperwork for you
- We have 100% customer satisfaction
- We are the only solar installation company that offers a 1st year revenue guarantee
- Our team of designers and project managers are Certified NABCEP PV Installation Professionals

For more information call us directly:

Our office: 1-844-657-4869

Trevor Casey: 865-660-5400

Email: trevor.casey@GESsolar.net

Or Visit: www.GESsolar.net



GES Solar

911 Cross Park Drive, Suite E-120
Knoxville, TN 37923

THE VACCINE FOR ALL SEASONS



From summer heat to winter frost, the ecology of a broiler house is constantly changing, which can lead to an increased coccidiosis challenge. The precocious strains of HatchPak Cocci III vaccine induce optimum immunity with minimal lesions.¹ So, at whatever level of coccidiosis challenge, your flock can be safely protected year round.

Boehringer-Ingelheim.com



For more information, contact:

Brandon Bess
Area Sales Manager
Brandon.Bess@Merial.com
336.214.9258

Mike Johnson
Senior Sales Manager/Key Account Manager
Mike.Johnson@Merial.com
678.644.8463



¹ Merial internal data.

HatchPak® is a registered trademark of Merial. © 2017 Merial Select, Inc. Gainesville, Georgia. All rights reserved. Merial is now part of Boehringer Ingelheim.



Researcher Develops Potential New Vaccine for Both Newcastle Disease and ILT

TUCKER, Ga. – Mar. 20, 2017 – USPOULTRY and the USPOULTRY Foundation announce the completion of a funded research project at Auburn University in Auburn, Ala., in which a researcher has developed a potential new vaccine for both Newcastle disease and infectious laryngotracheitis. The research was made possible by an endowing Foundation gift from Pilgrim's, and the research project is part of the Association's comprehensive research program encompassing all phases of poultry and egg production and processing. A brief summary of the completed project is shown below. A complete report, along with information on other Association research, may be obtained by going to USPOULTRY's website, www.uspoultry.org. The project summary is as follows.

(continued on page 24)

CME Crop Prices

Source: Egg-Cite.com, by Simon M. Shane — June 1, 2017

On May 26th 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)	July '17	374 (372)	Sept. '17	381 (379)
Soybeans (cents per bushel)	July '17	926 (953)	Sept. '17	927 (953)
Soybean meal (\$ per ton)	July '17	301 (307)	Sept. '17	304 (309)

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

- Corn: July quotation up by 2cents (+0.5 percent)
- Soybeans: July quotation down by 27cents. (-2.8 percent)
- Soybean Meal: March quotation down by \$6/ton (-2.0 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 April 11th USDA-WASDE Report #564 for a review of price projections and quantities of commodities produced in the 2016-17 season. □



Advanced Oxidation Process for Water Treatment

Courtesy of Ashley Crider, [Silver Bullet Water Treatment](#)

Water quality and consumption have always been a crucial factor in agriculture, especially in animal husbandry. Clean drinking water leads to better production and animal health.

In the article, "Why Have My Hens Stopped Laying?" (Jacquie Jacob and Tony Pescatore, 2012), the authors discuss potential causes for the decrease of production among laying hens. The researchers conclude that not only does water represent approximately 70% of the hens' total body weight, but water also is the most essential nutrient for egg laying productivity as hens are more sensitive to lack of water than they are to lack of feed.

Clean water also is essential in broiler production. University research published in the article, "Drinking Water Quality for Poultry" (Thomas A. Carter and Ronald E. Sneed, 1996), found that bacteria contamination is as a major cause of productivity declines in all types of poultry operations. Due to how quickly bacteria forms in water systems, the authors recommend those systems be cleaned daily.

Traditional water treatment methods like chlorine and iodine based disinfectants, are seen by some to be effective. However, chlorine can reach toxic levels if not monitored closely and can be harsh on equipment over periods of time. Iodine can be considered a safer option, but is usually very costly.

Advanced Oxidation Processes (AOPs), a modern, technologically advanced water treatment method, are designed to remove organic and some inorganic materials in water by oxidation. AOPs are safe for the birds and equipment, eliminates the need to use harsh or toxic chemicals, and cleans the producer's water system daily to remove bacteria and other unwanted contaminants. Research has shown that by using AOPs, poultry growers are put in a better position to enhance feed conversion, maximize productivity, improve overall health of the birds, and extend the life of their equipment. These benefits are why AOPs have become one of the top water treatment options for today's industry-leading producers.

Clean water is the ESSENTIAL ingredient in ALL poultry operations and AOPs are one of the best tools to provide your birds the most important nutrient they consume.

To discuss chemical-free advanced oxidation processes for water treatment please contact Ashley Crider with [Silver Bullet Water Treatment](#) at ashley.crider@silverbulletcorp.com or (479) 715-9864. □

TREATING WATER. BETTER.™

“Silver Bullet has been the best product that we have seen to decrease bacterial contamination in water and assist in eliminating iron and other minerals from livestock drinking water.”

- Steven D. Dudley, DVM
Veterinary Medical Center - Worthington, MN



- Improve Taste and Odor
- Reduce Bacteria and Biofilm
- Reduce and Prevent Scaling
- Aid in Disease Prevention
- Decrease Mortality Rate

www.SilverBulletCorp.com

Ashley Crider • 479-715-9864 • ashley.crider@silverbulletcorp.com

It's Time to **RETHINK** Litter



In the era of antibiotic-free production, house management starts well before placement. It starts by managing litter from the floor up, not the ceiling down like conventional wisdom taught.

ABF profitability starts with litter. And healthy litter starts with PLT®. Get the full story at JonesHamiltonAg.com/ABF

JH 
Ag
WE KNOW pH MATTERS

SERVICING THE TN VALLEY AREA

WE BELIEVE IN
**A FAIR PRICE
FOR PROPANE,
TOP NOTCH SERVICE**
THE LOCAL FOLKS
THAT MAKE IT ALL HAPPEN



**THOMPSON
GAS**

**Call Robby McKim
706-455-8426**

**Now signing guaranteed delivery propane contracts for the
2017/2018 season with reasonable credit terms available**

Propane industry leaders respond to supply concerns, plan next steps

May 18, 2017 information by [Megan Smalley](#) from [LP Gas Magazine.com](#)

The rise in propane exports is one factor that has changed propane supply dynamics in recent years, according to the National Propane Gas Association.

Increased propane production levels and export demand, along with decreased domestic demand, have pushed the topic of propane supply to the forefront of many retailers' minds. "People are asking, 'What are we going to do if we have some more 'winter' next year if our supply situation is the same?'" says Phil Squair, senior vice president of public and governmental affairs at the [National Propane Gas Association](#) (NPGA). "And that's a legitimate question to ask."

A recent [ICF](#) study revealed that propane production in the United States grew by 70 percent from 2009 to 2015, while domestic demand declined slightly. The U.S. also served as a major importer of propane a few years ago, while today it's one of the largest exporters of propane, according to Stuart Weidie, NPGA chairman and president and CEO of Blossman Gas. More than 10 billion gallons of propane were exported in 2016, he says, and transportation resources remain a concern for many retailers.

"The industry has always had supply issues," Weidie adds. "What is important for retailers to understand is that many of the dynamics or variables in the supply picture have changed while some have not. What's changed is that we are producing a tremendous amount of propane in the United States and haven't created enough demand to keep it here."

According to a letter emailed to propane industry members in late April, NPGA and the [Propane Education & Research Council](#) are taking steps at the federal, state and industry levels to address propane supply issues and help ensure reliable access to propane. These steps can be viewed at <http://www.lpgasmagazine.com/propane-industry-leaders-respond-to-supply-concerns-plan-next-steps/> □

PROPANE SPOT PRICING: As of May 30th, spot prices at Mont Belvieu were at \$0.653. The high for the year (and for the past two plus years) remains to be \$0.918 on Feb. 2, 2017. The lowest price reached this year has been \$0.556 in March. Allowing for an average of \$0.41 per gallon for tariffs, handling and delivery to most areas, the average current retail price is roughly \$1.06/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.

□

Grow Your Operation with US!



FARM • EQUIPMENT • HOME • CONSTRUCTION • HOME EQUITY • REAL ESTATE



Eric Smith
RELATIONSHIP MANAGER,
POULTRY SPECIALIST
ATHENS SERVICE CENTER
423-605-9235

River Valley
AGCREDIT
"Lending Support for Generations..." 

CAFO LEGISLATION PASSED FOR TENNESSEE

(continued from page 1)

Tennessee currently requires all medium-sized CAFOs built after May 1, 1999 or located on an impaired stream, and all large-sized CAFOs to have a State Operating Permit (SOP) for water quality purposes. SOPs were developed after 2009 when court cases on the federal level restricted EPA from requiring a federal National Pollutant Discharge Elimination System (NPDES) permit, unless the CAFO actually disposed of wastewater by discharging into creeks and streams. Because of this court ruling, most CAFOs were no longer required to have a federal permit because CAFOs by design do not dispose of wastes directly into streams. As a result, Tennessee and other states implemented a SOP regardless of whether the operation discharges wastes to ensure the operation has proper waste handling facilities and land applies wastes according to a nutrient management plan.

Tennessee's SOP permit requirements currently closely follow the federal permit requirements which were developed for large-sized CAFOs. By including medium-sized CAFOs to comply with the same requirements, many farmers believe the permit requirements are too burdensome and expose them to daily record keeping and nutrient management plan violations that are not related directly to water quality.

During the legislative process the bill was amended to move the effective date to March 1, 2018, as TDEC pledged to renew negotiations for a more workable and less burdensome permit process. Based on the legislation as originally drafted, TDEC indicated the department would no longer offer a SOP but only offer a federal NPDES permit. By moving the effective date to 2018 there is an opportunity to develop a permit process that protects CAFO operations from allegations of water quality violations while at the same time is not over burdensome and expensive to develop. If all parties come to an agreement there will need to be legislation next session to allow for this to happen. If there is not an agreement this legislation as passed this session will go into effect March 1, 2018. Technical guidance from a variety of sources can be available to assist any grower that will not be required to have a CAFO permit, to show proof of ongoing nutrient management and best management practices. □

Your Choice, Our Commitment



M99
Best in class FCR and Growth

M22
Increased Breast Meat Yield

Hubbard
YOUR CHOICE, OUR COMMITMENT

Hubbard is a company of
GROUPE GRIMAUD
Driving you to Performance

www.hubbardbreeders.com

Cage-Free Eggs defined by the UEP

May 2017 UEP Press Release

"Cage-free eggs are laid by hens that are able to roam vertically and horizontally in indoor houses, and have access to fresh food and water. Cage-free systems vary from farm-to-farm, and can include multi-tier aviaries. They must allow hens to exhibit natural behaviors and include enrichments such as scratch areas, perches and nests. Hens must have access to litter, protection from predators and be able to move in a barn in a manner that promotes bird welfare." □

FREE ENERGY ASSESSMENTS

Growers interested in having **UT** conduct an energy efficiency assessment of their farm, or obtain advice and information on alternative heating/cooling systems, or solar power can request consideration by filling out this online linked below. UT will subsequently conduct a follow-up interview to set up a farm visit.

<https://goo.gl/forms/J9EBQ632IFZZSMBQ2> □

First 'lab-grown' chicken and duck meat potions created

March 24, 2017 by Jake Davies in PoultryWorld.net

An American firm has created the first 'lab-grown' portions of chicken and duck meat. And according to reports from those present at the product's launch in late March, the taste and texture is close to real chicken.

4-6 week growing period

San Francisco-based Memphis Meats took stem cells capable of self-renewal from chicken and duck without harming the animal. These cells were then grown for 4-6 weeks before being harvested, cooked and consumed.

Last year, the firm successfully created a meatball using the method, and says it has a number of other products in development. It is also working to scale-up production, with the aim of making the method commercially viable.

Requires only a 10th of the land & water

The firm describes its produces as 'clean meat', and is marketing it as a more sustainable way to produce protein. It claims growing meat in the lab is better for the environment, removes the need for raising livestock and could remove food-borne illnesses.

"We expect our process to require less than a 10th of the land and water, and less than half the energy that it takes to produce conventional meat," the company says.

Launch by 2021

Memphis Meats hopes to have products on the market by 2021.

Uma Valeti, co-founder and chief executive of Memphis Meats, said: "It is thrilling to introduce the first chicken and duck that didn't require raising animals. This is a historic moment for the clean meat movement.

"Chicken and duck are at the centre of the table in so many cultures around the world, but the way conventional poultry is raised creates huge problems for the environment, animal welfare, and human health.

"It is also inefficient. We aim to produce meat in a better way, so that it is delicious, affordable and sustainable. We really believe this is a significant technological leap for humanity, and an incredible business opportunity—to transform a giant global industry while contributing to solving some of the most urgent sustainability issues of our time." □

Climate and Campylobacter prevalence – is there a link?

May 15, 2017 from PoultryWorld.net

A study investigated the link between the prevalence of Campylobacter in Thai broiler flocks and climatic factors, such as rainfall, humidity and ambient temperature.

Notes of interest:

- ◆ Commercial broilers are rarely colonized with Campylobacter before they are two weeks old
- ◆ Colonization is most prevalent worldwide in temperate zones
- ◆ In the U.S., between 29.5 to 87.5% of the flocks are positive
- ◆ A study looking at 442 commercial flocks, from 68 farms in the most densely populated areas of Thailand were studied
 - * 57% positives for Campylobacter
 - * Increased rainfall and relative humidity were associated with increased colonization
 - * There was no relationship with ambient temperature

For more information go to www.poultryworld.net/Health/Articles/2017/5/Climate-and-Campylobacter-prevalence--is-there-a-link-132366E/?cmpid=NLC|worldpoultry|2017-05-15|Climate and Campylobacter prevalence ? is there a link? □

Research reveals key challenge for Campylobacter vaccine

May 8, 2017 in PoultryWorld.Net by Jake Davies, Editor Poultry World

New research has suggested that the immune response of broilers does not develop fast enough to fight off campylobacter present in the gut.

In what was the [first study of functional immunity to campylobacter in chicken](#), researchers found antibodies play a role in the clearance of the bacteria in the gut. But, crucially, it fails to develop sufficiently in the lifespan of commercial broiler birds.

The response is also not sufficient to remove the bug from the gut entirely – just to prevent it harming a bird's health.

It **suggests** that a vaccine that worked by prompting an immune system response would be ineffective.

Immune response starts after broiler slaughter age

Scientists chemically inhibited the production of white blood cells in broiler chicks before introducing campylobacter jejuni at the age of 3 weeks.

They then monitored bacteria levels in the gut for the following 9 weeks, finding that an antibody-associated drop in bacteria levels only became apparent after 7 weeks.

It **suggests** that the immune response only begins to mature at around 6 weeks of age – too late for commercial poultry.

The work was undertaken at the University of Liverpool. Paul Wigley, of the university's Institute of Infection and Global Health, said: "It's likely to be very challenging to produce a protective immune response in broiler chickens before slaughter age, which is around 6 weeks of age."

"Vaccines that focus on a cell-mediated immune response, or alternatively some way of speeding up the production of antibodies in broiler chickens, may offer more promising routes to controlling campylobacter, and ultimately reducing the amount of contaminated chicken in our supermarkets."

A number of vaccines in development

Prof Wigley told Poultry World that a number of vaccines were in the later stages of development – and even licensing, with the expectation that a product may become available within 5 years. "It wouldn't have to be fully effective, just reducing the level of colonization may have an effect on the food chain."

Campylobacter-free chicken is unlikely

He added that it was unlikely campylobacter would ever be entirely removed from poultry. But it could be reduced to the extent that chicken was no more contaminated than other sources of infection, such as red meat, pets or the environment.

The work was funded by the Biotechnology and Biological Sciences Research Council (BBSRC) and the paper "B lymphocytes play a limited role in clearance of *Campylobacter jejuni* from the chicken intestinal tract" is published in Scientific Reports. □



API Farm Mortality

HANCEVILLE DIVISION

The most convenient and environmentally friendly method of poultry mortality disposal



American Proteins, Inc. Farm Mortality Service

*For information and details, contact
Randall Smith*

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

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

256 - 970 - 6100

www.youtube.com/watch?v=69y2_Rd7arg

Sonny Perdue Sworn in as 31st U.S. Secretary of Agriculture

April 25, 2017 USDA Press Release

Sonny Perdue was sworn in as the 31st U.S. Secretary of Agriculture by fellow Georgian and Associate Justice of the U.S. Supreme Court Clarence Thomas in a brief ceremony today at the Supreme Court building. The U.S. Senate confirmed Secretary Perdue by a vote of 87-to-11 on Monday evening. After Secretary Perdue took the oath of office, he addressed employees at the U.S. Department of Agriculture (USDA) before getting to work on his first day. Also this morning, USDA launched his official Twitter handle: [@SecretarySonny](https://twitter.com/SecretarySonny).

“The only legacy that I seek is the only one that any grandparent or parent seeks – to be good stewards, and to hand off our nation, our home, our fields, our forests, and our farms to the next generation in better shape than we found it,” Perdue said. “Making sure that Americans who make their livelihoods in the agriculture industry have the ability to thrive will be one of my top priorities. I am committed to serving the customers of USDA, and I will be an unapologetic advocate for American agriculture.”

Perdue’s policies as U.S. Secretary of Agriculture will be guided by four principles which will inform his decisions. First, he will maximize the ability of the men and women of America’s agriculture and agribusiness sector to create jobs, to produce and sell the foods and fiber that feed and clothe the world, and to reap the earned reward of their labor. It should be the aim of the American government to remove every obstacle and give farmers, ranchers, and producers every opportunity to prosper. Second, he will prioritize customer service every day for American taxpayers and consumers. They will expect, and have every right to demand, that their government conduct the people’s business efficiently, effectively, and with the utmost integrity. Third, as Americans expect a safe and secure food supply, USDA will continue to serve in the critical role of ensuring the food we put on the table to feed our families meets the strict safety standards we’ve established. Food security is a key component of national security, because hunger and peace do not long coexist. And fourth, Perdue will always remember that America’s agricultural bounty comes directly from the land. And today, those land resources sustain more than 320 million Americans and countless millions more around the globe. Perdue’s father’s words still ring true: We’re all stewards of the land, owned or rented, and our responsibility is to leave it better than we found it.

“As secretary, I will champion the concerns of farmers, ranchers, foresters, and producers, and will work tirelessly to solve the issues facing our farm families,” Perdue said. “I am proud to have been given this opportunity and look forward to rolling up my sleeves and getting to work as we continue to move the USDA and our nation forward.”

Upon nominating Secretary Perdue in January, President Donald J. Trump said, “Sonny Perdue is going to accomplish great things as Secretary of Agriculture. From growing up on a farm to being governor of a big agriculture state, he has spent his whole life understanding and solving the challenges our farmers face, and he is going to deliver big results for all Americans who earn their living off the land.”

About Secretary Perdue:

Sonny Perdue came by his knowledge of agriculture the old fashioned way: he was born into a farming family in Bonaire, Georgia. From childhood, and through his life in business and elected office, Perdue has experienced the industry from every possible perspective. Uniquely qualified as a former farmer, agri-businessman, veterinarian, state legislator, and governor of Georgia, he became the 31st United States Secretary of Agriculture on April 25, 2017.

Additionally, Perdue recognizes that American agriculture needs a strong advocate to promote its interests to international markets. The United States is blessed to be able to produce more than its citizens can consume, which implies that we should sell the bounty around the world. The relationship between the USDA and its trade representatives, as well as with the U.S. Trade Representative and Department of Commerce, will be vital. The work of promoting American agricultural products to other countries will begin with those relationships and will benefit us domestically, just as it will fulfill the moral imperative of helping to feed the world. Perdue has pledged to be an unapologetic advocate for American agriculture.

Under Secretary Perdue, the USDA will always be facts-based and data-driven, with a decision-making mindset that is customer-focused. He will seek solutions to problems and not lament that the department might be faced with difficult challenges.

As a youngster growing up on a dairy and diversified row crop farm in rural Georgia, Perdue never fully realized that the blessings of purposeful, meaningful work would serve him as well as they have in life. When he was a young boy feeding the calves and plowing the fields, he was an integral part of the workforce on his father’s farm. As the son of a mother who was an English teacher for 42 years, he benefitted from her teachings as well – not just by instilling in him the beliefs he still holds dear, but also by lending him an appreciation and respect for language and proper grammar. But more than anything in his life, it was the family farm which shaped Sonny Perdue. He has lived and breathed the exhilaration of a great crop and the despair and devastation of a drought. He learned by experience what his father told him as a child, “If you take care of the land, the land will take care of you.”

continued on page 20

ecodrum Composting, Simplified.

Ecodrum™ is the leading supplier of in-vessel mortality composting equipment. Since 2007, poultry and hog producers have relied on Ecodrum™ composters to dispose of their mortality in a cost-effective and environmentally sensitive manner.

Learn
more
about
how an
ecodrum™
can work
for you!



Benefits:

- Simple to operate
- Minimal electricity energy required
- Low cost operation
- Reduces odor and pathogens

Contact us:

701-446-6139

info@ecodrumcomposter.com

www.ecodrumcomposter.com

What is the best temperature for storing eggs?

From **Aviagen** Hatchery Tips 2017, Tip 22

Most hatchery planners aim to keep egg age under 7 days at set. However, even in broiler hatcheries this is not always easy, or even possible. You may need to build up numbers so that a single broiler unit can be filled using eggs from only one breeder flock, order sizes may not be exactly even day to day or there may be a general slowdown in the market for seasonal or other reasons. Most advice on egg storage conditions suggests that the temperature should be adjusted dynamically depending on the average egg age. However, in practice the advice is seen as too complicated and is rarely followed. Consequently, in many operations egg storage temperature stays firmly at 17-18°C, no matter what the egg age. In fact, the best advice is that egg store temperature should always be adjusted downwards to be optimal for the oldest eggs. Fresh eggs hatch just as well stored at colder temperatures, but older eggs suffer badly if the egg store is held too warm. The only thing you need to watch out for is the possibility of condensation when moving eggs from the cold egg store into the setter rooms.

Keeping eggs which need to be stored for longer at a lower temperature slows down the physical deterioration to the albumen and yolk membranes which are needed to support the best hatchability. The embryo will also be affected by both storage time and storage temperature, and colder storage slows down the rate of deterioration in the embryo as well. A recent collaborative study between Aviagen and Ankara University investigated the effect of storage temperature on hatchability in eggs stored for 14 days, as part of a larger investigation into how SPIDES treatments interacted with storage temperatures. In the study, covering young, prime and old grandparent flocks, hatchability was much better when 14-day-old eggs were stored at 15°C rather than 18°C. More unexpectedly, eggs stored at 12°C hatched no better than those stored at 15°C. The hatchery where the trials were done is unusual in having three separately controlled egg stores, so it was possible to run comparisons of the three storage temperatures simultaneously which gave a very robust comparison of the three storage temperatures. The trial was repeated over four batches of eggs, from young, prime and old flocks. Eggs stored at 18°C hatched worse than those stored at 15°C by an average of 4.4% over 4 comparisons covering young, prime and older flock ages. In contrast, when hatch of eggs stored at 12°C was compared with hatch of eggs stored at 15°C, there was no overall improvement.

Our conclusion from these trials was that unless eggs are only being set when very fresh (no more than 4 days old) it is probably better to run egg stores at 15°C rather than 18°C. When setting eggs within the hatchery condensation is unlikely to be a problem following storage at 15°C, but if you are worried check the dew point table in Investigating Hatchery Practice to make sure. □

Sonny Perdue Sworn in as 31st U.S. Secretary of Agriculture *(continued from page 18)*

The work ethic cemented in him by his farming roots has remained with Sonny Perdue throughout his life. As a younger man, he served his country in the U.S. Air Force, rising to the rank of Captain. After earning a Doctor of Veterinary Medicine from the University of Georgia, he put that training to use in private practice in North Carolina. As a member of the Georgia State Senate for eleven years, he eventually ascended to the position of President Pro Tempore as elected by his senate colleagues. As a two-term governor of Georgia, he was credited with transforming a budget deficit into a surplus, dramatically increasing the student performance in public schools, and fostering an economic environment that allowed employers to flourish and manufacturers and agricultural producers to achieve record levels of exports. He followed these accomplishments with a successful career in agribusiness, where he focused on commodities and transportation in enterprises that have spanned the southeastern United States. These experiences have proven invaluable in his current role as principal advocate for American agriculture and all that it serves.

Perdue is a strong believer in good government, in that it should operate efficiently and serve the needs of its customers: the people of the United States. As a state senator, he was recognized as a leading authority on issues including energy and utilities, agriculture, transportation, emerging technologies and economic development, and for his ability to grasp the nuances of complex problems. As governor, he reformed state budget priorities, helped Georgians create more than 200,000 new jobs, and promoted his home state around the world to attract new businesses. In 2009, the Reason Foundation's Innovators in Action magazine recognized Perdue as a leader who "aggressively pursued new strategies to increase the effectiveness and efficiency of government and deliver better value at less cost to taxpayers." In addition, he was named "Public Official of the Year" in October 2010 by Governing Magazine. To this day, his thoughts are never very far from the wishes of the citizens – the true owners of the government.

Perdue's views on agriculture have always been shaped by his first-hand knowledge of all of its aspects, both as a farmer and as an agri-businessman. He appreciates the daily concerns and needs of American farmers, while also understanding the intricacies of global commodities markets. He is acknowledged as a national leader in agriculture, having served as a board member for the National Grain & Feed Association, and as President of both the Georgia Feed and Grain Association and the Southeastern Feed and Grain Association. Perdue has long-standing, close relationships with the leadership of the National Farm Bureau and has been recognized by the Georgia 4-H and FFA programs, among others, for his leadership in agriculture.

As the product of Georgia, a state where agriculture is the leading economic driver, Perdue recognizes that agriculture is an issue and industry which cuts across political party boundaries. He recognizes that the size, scope, and diversity of America's agricultural sector requires reaching across the aisle so that partisanship doesn't get in the way of good solutions for American farmers, ranchers, and consumers.

Perdue has been married to Mary Ruff Perdue for 44 years and has four adult children and fourteen grandchildren. He and his wife have served as foster parents for eight children awaiting adoption. Perdue remains a licensed airplane and helicopter pilot and avid outdoor sportsman.

You can follow [Secretary Perdue on Twitter](#). □

USPOULTRY Funded Research Identifies Potential Wooden Breast Syndrome Causes in Broilers

April 20, 2017 – USPOULTRY and the USPOULTRY Foundation announce the completion of a funded research project at the University of Delaware in Newark, Del., in which researchers report a potential cause of wooden breast lesion in broilers. The research project is part of the Association's comprehensive research program encompassing all phases of poultry and egg production and processing. A brief summary of the completed project is shown below. A complete report, along with information on other Association research, may be obtained by going to USPOULTRY's website, www.uspoultry.org. The project summary is as follows.

Project #F059: Identifying the Onset of a Novel Muscle Disorder in Chickens through Differential Gene Expression & Histologic Analyses

(Dr. Benham Abasht, Dr. Carl Schmidt, and Dr. Erin Brannick, University of Delaware, Newark, Del.)

Dr. Benham Abasht and colleagues at the University of Delaware recently completed a research project in which they sought to characterize the early stages of a condition known as wooden breast in broilers. They found that the early lesions of the condition could be found in the breast tissue of one week old broilers, and the first stage of the condition involves inflammation of the veins in the breast tissue and accumulation of lipid around the affected veins. This is then followed over time by muscle cell death and replacement by fibrous and fatty tissue. Genetic analyses also indicated that there was dysfunction in lipid metabolism in affected birds. This new understanding that inflammation of veins is the likely cause of wooden breast lesions in broilers will provide important direction for future research on this condition.

For a detailed summary, click [here](#). □

White striping and woody breast myopathies

April 26, 2017 from PoultryWorld.net per V. A. Kuttappan, B. M. Hargis, and C. M. Owens, 2016 Poultry Science

Myopathies have been gaining the attention of poultry meat producers globally since 2009. The two main myopathies are white striping and woody breast.

Poultry meat is highly preferred mainly due to its health benefits, convenience in cooking, and reasonable cost. In the US the per capita consumption of poultry meat in 2015 more than doubled compared to that of 1965. The increase in consumer demand has put pressure on producers to increase production while reducing the cost and time of production. Broilers are continuously selected to attain greater body weight at younger ages.

In 1925, the average market live weight of a 112 d broiler was 1.1 kg (2.43 lbs.) while in 2015, a market weight of 2.8 kg (6.17 lbs.) was achieved at 48 d. Over the last 10 years, the continuous selection for broilers has resulted in almost a 5% increase in breast meat yield, contributing to more than one-fifth of bird weight. Selection for enhanced growth may have caused inherent muscle fiber defects or growth-induced myopathy. Myopathies have been gaining the attention of poultry meat producers globally since 2009. The two main myopathies are white striping and woody breast. White striping is a condition characterized by the occurrence of white striations parallel to muscle fibers on breast, thigh, and tender muscles of broilers, while woody breast imparts tougher consistency to raw breast fillets. The two myopathies, show these defects in varying degrees, often together on the same fillet.

The severity of the myopathies adversely affects consumer acceptance of raw cut up parts and/or quality of further processed poultry meat products. The mechanism by which increased growth rates in modern broilers initiates myopathies is not yet known, it is very clear from various studies that heavier birds have higher incidence of severe myopathies. Histologically, both conditions have been characterized with myodegeneration and necrosis, fibrosis, lipidosis, and regenerative changes. Even though gross and/or histologic characteristics of modern myopathies are similar to some of the known conditions, such as hereditary muscular dystrophy, nutritional myopathy, toxic myopathies, and marbling; white striping and woody breast could have a different etiology.

As a result, there is a need for future studies to identify markers for white striping and woody breast in live birds and genetic, nutritional, and/or management strategies to alleviate the conditions. Moreover, feeding birds with high energy and protein diets, age, gender, feed restriction, and genetics have been associated with increased severity of white striping.

Source: V. A. Kuttappan, B. M. Hargis, and C. M. Owens, 2016 Poultry Science. □

Wooden breast in broilers: Solution found

April 24, 2017 from PoultryWorld.Net by Tony McDougal, freelance journalist

Poultry farmers, integrators and slaughterhouses could benefit from the launch of a new product designed to solve the problem of woody breasts in broilers.

Focus on high breast meat yields

The main cause is the high growth rate and high breast meat yield. Due to the fast muscle growth and the enlarged muscle cells, the space between muscle fibers is reduced.

This restricts the blood supply to the muscles, which can no longer reach the desired oxygen levels. The resulting dead muscle cells harden the meat, causing the wooden breast.

However, after conducting major field trials in Europe and South America, the Nuscience Group believes it has developed an effective solution to the problem.

Reducing oxidative stress

The product Q-prove can lower the incidence of wooden breasts by reducing oxidative stress and supplying more oxygen to the cells, enabling the muscle cells to grow very fast without meat loss.

Trials have shown that at a higher age (around 42 days) the incidence of severe wooden breast can go up by 20%, but the company claims that adding the product can reduce this to around 2.5%.

The Belgium-based company believes its product will be helpful in markets with high growth rates, such as the United States, Brazil and Europe.

Also interesting: [US team identify wooden breast biomarkers](#)

For more information go to www.poultryworld.net/Meat/Articles/2017/4/Wooden-breast-in-broilers-Solution-found-124059E/?cmpid=NLC|worldpoultry|2017-05-03|Wooden_breast_in_broilers:_Solution_found □

Because your farm
is much more than land
and structures.



WE STAND FOR you.®

Your farm is your livelihood, your passion, your purpose and your family's future.

As the nation's number one farm insurer, we can provide the right coverage to help give you peace of mind and help protect your farm and its assets for generations to come.

**Ask your agent about Nationwide farm insurance
or find a farm agent near you at FarmAgentFinder.com.**



Randy Jones
RANDY JONES & ASSOCIATES, INC.
8600 US Highway 431 N
P O Box 1576
Albertville AL 35950
Phone: (256)878-3271
jonesr8@nationwide.com

Source: 2014 SNL Financial Report. Based on statutory data.
Products underwritten by Nationwide Agribusiness Insurance Company, Farmland Mutual Insurance Company, Allied Property and Casualty Insurance Company and AMCO Insurance Company.
Home Office: 1100 Locust Street Des Moines, IA 50391. Subject to underwriting guidelines, review and approval. Products and discounts not available to all persons in all states. Nationwide, the Nationwide N and Eagle and Nationwide is on your side are service marks of Nationwide Mutual Insurance Company. We Stand For You is a registered trademark of Nationwide Agribusiness Insurance Company. © 2016 Nationwide.
GPO-0299AO (05/16)

TPA BOARD MEMBERS

President - Chynette Todd
CT Consulting
Cookeville, TN (931) 704-2336
chynette.todd@gmail.com

1st VP - Jay Daniels
Hubbard, LLC
Pikeville, TN - (423) 447-7679
jay.daniels@hubbardbreeders.com

Secretary/Treasurer - Shane Joyner
Tyson Foods - OBC
Union City, TN - (731) 796-1733
shane.joyner@tyson.com

2nd VP - Andrew Blair
Tyson Foods - Shelbyville
(731) 796-1519
andrew.blair@tyson.com

Past-President - Scott Black
Cobb-Vantress, Inc.

TPA Board Members

James Bradford, Pilgrim's - Chattanooga
Don Davis, Koch Foods - Chattanooga
Shane Guy, Kemin
Mark Ham, American Proteins, Inc.
Brian Johnson, Cumberland Poultry
Clint Lauderdale, Jones-Hamilton Co.
Dale McLerran, Grower - Moss
Don Stone, Marel Inc.
Tony Swindle, Grower - LaFayette
David Tallent, Grower - Spring City
David Wilds, Koch Foods - Morristown
Joe Williams, Pilgrim's

GOGGIN

WAREHOUSING

LOGISTICS • TRANSPORTATION • STORAGE • DISTRIBUTION

WE PROVIDE MORE

Feed Mill and Live Haul Transportation Services Available

931-684-8971

Contact: Keith Bellenfant

Keystone Foods filed for U.S. IPO: Marfrig

By [Anna Flávia Rochas](#) on 5/12/2017 in [MeatingPlace.com](#)

Keystone Foods has filed a request for an initial public offering with the U.S. Security and Exchange Commission (SEC), the Brazilian parent company Marfrig Global Foods announced.

Marfrig said in a statement that it will sell part of its stake in Keystone in the IPO, and will use the proceeds to finance the company's growth. The Brazilian meat processor added that it wouldn't be able to provide further details on the IPO process at this time, due to regulations. □

Evaporative Cooling Pad Water Usage

May 29, 2017 [Poultry Housing Tip](#) provided by Michael Czarick, Dept. of Poultry Science, University of Georgia

The latest University of Georgia Poultry Housing Tip provides information on typical evaporative cooling pad system water usage for various poultry growing locations across the U.S. <https://www.poultryventilation.com/sites/default/files/tips/vol29n1.pdf>. □

Interactive Poultry Health Tool

Courtesy of [PoultryWorld.net](#)

Check out the [interactive Poultry Health Tool](#) - with the latest insights and information on more than 40 of the most common poultry diseases. This site also provides a series of five videos on bird health, starting with early detection and includes a detailed live necropsy for better understanding anatomy and abnormalities due to disease challenges.

Everyone involved in grow outs and live production is encouraged to watch these short videos and to bookmark this site for quick reference. □

Look – Think – Act

[PoultryWorld.net](#) has a new resource available to aid in early detection and better understanding of various live production challenges. Information supported with great photographs addressing breast blisters due to poor litter quality, why broilers have hock burns, how to stop broilers from scratching their skin, how to recognize *Enterococcus cecorum* infection, how to recognize coccidiosis, problems with feed, what various changes in bird droppings indicate, etc. can be found at <http://www.poultryworld.net/Health/LOOK---THINK---ACT/> as provided by [Roodbont, Agricultural Publishers](#). □

Zero Turn Mowers may be Ag Exempt for sales & use tax, for farming purposes

May 2017 in the TN Farm Bureau news, *Agriculture Uses of Mowers Explained*

An increasing number of farmers are using zero turn mowers for farm purposes. The size and speed of these mowers make it more efficient for poultry farms to comply with contractual agreements, cattle producers to cut under electrical cross fencing, and nursery operators to provide weed control. Last year many farmers were denied the ability to buy mowers used for agriculture tax exempt even though this machinery was primarily used for agricultural purposes. Farm Bureau worked with the Department of Revenue to alleviate this situation. The Department recently released the following notice explaining that mowers used directly and principally in agriculture are tax exempt.

Mowers Used Directly and Principally for Producing Agricultural and Nursery Products for Sale May Qualify for the Agriculture Exemption

State law exempts certain appliances sold to qualified farmers and nursery operators that are used directly and principally in producing agricultural and nursery products for sale and consumption off the premises. Sales of mowing equipment and appliances may qualify for the agriculture exemption.

Mowers Used in Harvesting or Used to Aid in the Production of Agricultural and Nursery Products Are Considered to be Used Directly in the Production

The Department considers a mower to be used directly in the production of agricultural and nursery products when the mower is used in harvesting or to aid in the production of agricultural and nursery products. Mowing aids in the production of agricultural and nursery products when it controls harmful or toxic plants or reduces insect and rodent infestations.

While not an all-inclusive list, the following are direct uses of mowing equipment and appliances that aid in the production of agricultural and nursery products:

- Mowing areas around barns, coops, and pens where livestock or poultry are kept
- Mowing around barns, grain bins, and other storage facilities where farm or nursery products, and livestock or poultry feed are stored
- Mowing pastures including fence line areas where livestock graze

Mowing lawns is not part of an agricultural production process and does not qualify for the exemption.

Agricultural Equipment Must Be Used More Than 50% of the Time in the Production of Agricultural and to be Exempt

State law does not require that agricultural equipment and appliances be used exclusively in the production of agricultural and nursery products. It does, however, require that they be used primarily (more than 50% of the time) for this purpose. Thus, if the equipment or appliance has multiple uses, and some are non-agricultural uses, the equipment or appliance must be directly used more than 50% of the time in the production of agricultural and nursery products in order to qualify for the exemption.

Mowers designed for residential use on lawns and landscaped areas generally do not qualify for the agricultural exemption because they are typically used for non-agricultural purposes. If a farmer or nursery operator purchases a residential lawn mower tax-exempt, the Department may ask them to submit additional information to verify they understand the requirements of the exemption and that the mower is used more than 50% of the time for exempt purposes.

A farmer or nursery operator is responsible for paying any tax, penalty and interest due on items that do not qualify for the exemption.

For More Information

Visit www.tn.gov/revenue. Click on Revenue Help to search for answers or to submit an information request to one of our agents. □

Researcher Develops Potential New Vaccine for Both Newcastle Disease and ILT

(continued from page 10)

Project #F060: Development of an Improved Recombinant Infectious Laryngotracheitis Vaccine

(Dr. Joseph Giambrone, Department of Poultry Science, Auburn University, Auburn, Ala.)

Dr. Joseph Giambrone at the Poultry Science Department of Auburn University recently completed a research project in which he created a new vaccine candidate for an important disease of chickens, infectious laryngotracheitis (ILT). This new vaccine was created by inserting a gene from ILT virus into the B₁ Newcastle disease vaccine, which is commonly used in broilers at one day of age. The vaccine is continuing to be evaluated for its ability to safely protect against both Newcastle disease and ILT when applied at the hatchery.

For a detailed summary, click [here](#). □

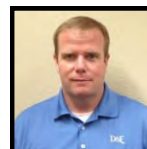
ALLIED MEMBER NEWS



Terry Cleghorn

D&F Equipment Sales, Inc. along with Alabama and Arkansas Machine Works proudly announces the promotion of tenured Director of Sales and Engineering, North America, **Terry Cleghorn** to the title of Senior Vice President. His career began in various plant management roles at Spring Valley, Gold Kist and Goldenrod processing facilities for 10 years before joining D&F in 1991. His knowledge, experience and leadership in the processing industry have brought tremendous growth to D&F Equipment Sales, Inc. over the past 30 years. Terry joined the company as a Territory Sales Engineer and in 2011 he took on the roll of Director of Sales and Engineering, North America.

D&F Equipment Sales, Inc. along with Alabama and Arkansas Machine Works announce the promotion of **Stuart Howell** to Director of Parts and Machining, North America. Stuart is a graduate of the University of Alabama with a B.S. in Business Management. He began his career with Tyson Foods Albertville, Alabama facility in management of all plant operations. He worked also for Pfizer Pharmaceutical in the hatchery division before joining D&F Equipment Sales, Inc. in 2013 in the Parts Division.



Stuart Howell

Boehringer Ingelheim Animal Health and Novozymes have announced a strategic collaboration to develop and commercialize probiotics for global poultry production. The parties will focus on developing products for hatcheries, the facilities where eggs are hatched before the chickens move to grow-out farms. As part of the agreement, Boehringer Ingelheim will market and distribute Novozymes' FloraMax® probiotic product for the U.S. poultry industry. Boehringer Ingelheim plans on expanding to other markets globally in the coming years.



Jake Smith

Ecodrum Composters is proud to welcome **Jake Smith** to their team as Regional Sales Manager, working with National Sales Director **Byron Irwin**.

BioSafe Systems is proud to welcome **Dean Allen** to the Meat, Poultry and Seafood Team as Regional Sales Manager based in Shreveport, LA. Dean will be charged with increasing the market share and sales of BioSafe's microbial intervention products, animal health sanitation products and food safety solutions. He will focus on developing lasting relationships with key decision makers and acquiring new customers.

Silver Bullet Water Treatment announces and welcomes **Ashley Crider** as the new Regional VP of Sales for the Southeast. Ashley is a graduate of UT-Martin where she earned a degree in Agricultural Business and a minor in Business Administration. She is a former service tech with Tyson in Obion Co.



Ashley Crider

Shane Guy has joined **Kemin Animal Nutrition and Health** as their new Key Account Manager - Southeast. Shane was previously the live production manager for Keystone Foods in KY.

Diverse rotations and poultry litter improves soybean yield

PUBLIC RELEASE: 15-MAY-2017 **AMERICAN SOCIETY OF AGRONOMY**

Continuous cropping systems without rotations or cover crops are perceived as unsustainable for long-term yield and soil health. Continuous systems, defined as continually producing a crop on the same parcel of land for more than three years, is thought to reduce yields. Given that crop rotations and soil amendments (cover crops and poultry litter) may alleviate issues associated with continuous cropping, research into their combined effects is necessary to make recommendations that improve soil quality and yield.

In an article recently published in *Agronomy Journal*, researchers studied combinations of cropping sequence (corn, soybean, and cotton) and soil amendment/cover crops (hairy vetch, Austrian winter pea, wheat, poultry litter and a fallow control) at two sites in Tennessee over a 12-yr study period. Based on 12-yr yields, a moderate-to-no yield penalty existed for continuous soybean, whereas yield benefits (11%) arose from poultry litter compared to wheat cover crop.

This study determined that across all study years, incorporating corn once within a 4-yr cycle resulted in 8% greater yields than continuous soybean, whereas cotton (once or twice within a rotation) did not. Consequently, including corn once within a 4-yr cropping rotation with poultry litter improved soybean yields, concurrent with increases in soil N, P, K, and soil organic carbon.

Adapted from Ashworth, A.J., F.L. Allen, A.M. Saxton, and D.D. Tyler. 2017. Impact of Crop Rotations and Soil Amendments on Long-Term No-Tilled Soybean Yield. *Agron. J.* 109. View the full open access article online at <http://dx.doi.org/doi:10.2134/agronj2016.04.0224> □

Visit our website at www.tnpoultry.org
Like us on Facebook and Twitter (@tnpoultry)

MORE THAN YOUR EQUIPMENT SUPPLIER



Your Rapid Response Team

Cumberland is on your team with solutions to protect your operation from the unexpected. The EDGE controller quickly identifies issues and responds with self-diagnostics, triple layer protection and instant notifications. Revolutionize your operation with the next generation of controls. Visit cumberlandpoultry.com



Proven & Dependable™



Copyright©2017 AGCO Corporation • Cumberland is a part of GSI, a worldwide brand of AGCO

Why measuring air speed at bird level may not be advisable

April 5, 2017 from www.PoultryTimes.com by Mike Czarick and Brian Fairchild

http://www.poultrytimes.com/poultry_today/article_2ee64db6-1a11-11e7-8035-0fd9530f54c8.html

Keeping market-age birds cool during hot weather is all about air speed. It's quite simple. The greater the air speed in a house, the greater the amount of heat removed from the birds, the lower their body temperature, and the better weight gains and feed conversions will be.

Though evaporative cooling pads do aid in bird heat removal during hot weather by keeping house temperatures from becoming excessive, their use results in higher humidity levels which reduces a bird's ability to cool itself by evaporating water off its respiratory system.

The fact is without sufficient air speed moving over the birds, evaporative cooling pads can often do more harm than good. Because air speed is the primary tool poultry producers have at their disposal to cool their birds, it is important that air speeds are monitored closely during hot weather.

The challenge with measuring air speed in a tunnel-ventilated house is that there is a high degree of variability across the cross-section of a house. Air speeds tend to be highest in the center of the cross-section then decrease as you move towards the sidewalls, floor and ceiling. The amount of variation in air speed across the cross-section is determined by factors such as wall smoothness, the use of tunnel doors and/or deflector curtains, heating system type and location, the number of tunnel fans operating, as well as the presence and size of the birds in a house.

In most houses these factors will cause air speeds to vary as much as 100 percent across the cross-section of the house. This level of variation not only makes it difficult to accurately determine the average air speed in a tunnel-ventilated house, but also can make it difficult compare air speeds between houses.

Since it is essentially only the air moving over the birds that produces the cooling effect, there is often a desire to measure air speed at bird level. Though this may seem an ideal place to measure air speed, the problem is that it actually it is one of the most difficult places to accurately measure air speed in a tunnel house. Air speed measurements near the floor tend to vary more than those taken in any other area in a house, often leading to measurement errors of a 100 ft/min or more.

The air velocity was measured 24 inches and 48 inches above the floor in a 40-foot x 500-foot tunnel-ventilated broiler house, approximately 10 feet from the sidewall and 100 feet from the tunnel fan end wall. The totally enclosed house had 8-week-old broilers and air speed measurements were being recorded every minute, 24 hours a day. The anemometer nearest the ground was roughly 12 inches above the heads of the birds when they were seated. During the 12-hour period, air speeds 12 inches above the birds were roughly 100 ft/min less than that measured 24 inches higher, which is fairly typical of what is seen in most tunnel-ventilated houses.

The reduction in air speed near the floor is due to the birds effectively turning the relatively smooth floor into a fairly rough surface which the air moving down the house has to flow over. Just as large sidewall posts tend to move air away from the sidewall, resulting in significantly lower air speeds near the sidewall, the rough surface created by market-age birds tends to push the air away from the floor and up towards the ceiling resulting in lower air speeds near the floor.

In the 40 x 500-foot house when the house was empty, the average air speed 24-inches above the floor was a little over 600 ft/min. When air speeds were measured six weeks later with market age birds present, air speed at floor level was roughly 100 ft/min lower. Air speeds at higher locations in the house increased slightly due to the air near the floor being displaced towards the ceiling by the presence of the birds.

The effect that the birds have on air speed near the floor is more apparent when the lights are off. When the lights shut off, the birds will sit down and become inactive. The relatively motionless birds present a relatively smoother surface for the air moving down the house, resulting in a significant increase in air speeds near bird level.

In a 50-foot x 560-foot house with market-age birds and all the tunnel fans operating 24 hours a day, the house lights turn off at 9 p.m. and back on at 3 a.m. During the day when the birds are active, air velocity near the floor was approximately 600 ft/min. Starting around 6 p.m., as the birds anticipated the lights turning off at 9 p.m., the birds began to be less active resulting in a smoother floor surface and higher wind speeds near the floor. When all the birds were seated at 9 p.m., air speed near the floor increased by nearly 100 ft/min compared to the daytime when the birds were active.

The birds in a tunnel-ventilated house not only tend to reduce air speeds near floor level but they also cause significant variations in air speed near the floor. Birds continuously standing up and sitting down result in a constantly changing surface that the air flowing down the house moves over, which in turn causes air speeds near the floor to vary. For instance, while air speed measurements 48-inches above the floor only varied between 25 and 50 ft/min, measurements 24-inches above the floor varied almost twice as much, 50 to 100 ft/min. Measurements taken near the floor one minute can increase or decrease 50 to 100 ft/min a minute or two later making it very difficult to obtain a true representative air speed measurement near the birds. To complicate matters, when measurements are made the birds in the house will often move away from the measurement locations which could result in even greater variations in air speed measurements near floor level.

continued on page 29

Activist-influenced food pledges increase poverty rates

MAY 3, 2017 BY [ROY GRABER](#) FROM [WATTAGNET.COM](#)

KSU professor: When a restaurant makes a supply chain pledge on perceived animal welfare issues, they are driving up food prices and subsequently the rate of poverty

Restaurants who act too quickly to sourcing only animal protein products such as [cage-free eggs](#), slower-growing broilers, crate-free pork and meat from [animals raised without antibiotics](#), they are harming the overall economy, according to Dr. Dan Thomson, Jones Professor of Production Medicine and Epidemiology, [Kansas State University](#). Thomson, speaking at the 2017 [Animal Agriculture Alliance Stakeholders Summit](#), expressed frustration with the amount of restaurant chains to jump on the bandwagon of perceived animal welfare issues, pushed by animal rights activists.

Activists using the fear factor

"Activists today are masquerading as the consumers. They are having the fear factor, or trying to get the food groups or food brands, to market the fear agendas," said Thomson. While Thomson said fear could be a dangerous tactic, but it has proven effective for those who use it.

(continued on page 29)

DOMINO'S STANDS ITS GROUND AGAINST ANIMAL RIGHTS 'EXTREMISTS'

May 4, 2017 By [Ken Anderson](#) Filed Under: [Livestock](#), [News](#) in [Brownfield Ag News for America](#)



Animal rights groups have been successful in pressuring many of the top food companies and restaurant chains to adopt stricter animal welfare policies, such as cage-free eggs and gestation stall-free pork. One notable exception is Domino's Pizza, based in Ann Arbor, Michigan, which has stood its ground in the face of extreme pressure from animal activists.

Domino's spokesman Tim McIntyre tells Brownfield their philosophy is simple: Farmers know best. "We will never tell a farmer how to farm. We will never tell a rancher how to raise his or her animals," McIntyre says. "What we believe is they're the experts. They have the most vested interest in raising their livestock. It's not just a job, we recognize that. It's a life and we appreciate that—and we're not afraid to stand up and say it."

Even though the "extremists", as McIntyre calls them, have pushed hard, he says Domino's will not cave. "Over the years, because we have taken the tact of what I'll call 'leaning into the punch'—and we've taken the punch and sometimes we punch back—we've been lucky enough to see that the extremists will go away when they realize that we are not going to cave," he says. "The best answer is to be deaf. To not hear them, to not respond, to not give them a platform. The biggest mistake we make is believing that they are reasonable people. We've learned they're not. That's why they're called extremists."

McIntyre is one of the speakers at this week's Animal Ag Alliance summit in Kansas City.

For more information and to listen to the audio go to <http://brownfieldagnews.com/news/dominos-stands-ground-animal-rights-extremists/> □

Delacon: Connecting with the consumers of today and tomorrow

May 8, 2017 in [PoultryWorld.Net](#) by Fabian Brockotter, editor of Poultry World

Delacon's CEO, Markus Dedl talked to Poultry World about connecting with Millennials – the consumers of today and the spenders of tomorrow.

"Consumers have the power to change every aspect of the animal livestock industry. Their concerns, their acceptance of production methods, should be critical in how our customers and how we ourselves organize our businesses", says Delacon CEO Markus Dedl. He commissioned a survey among millennial foodies to get insights into their take on food production.

They outnumber Generation X and are far more influential than the baby boom generation. Millennials, born between the early 80s and mid-90s, are the most highly educated and culturally diverse group of all generations, closely connected to their social and environmental surroundings they are expected to make up approximately half the workforce by 2020. They are the consumers of today and will be the big spenders of tomorrow. "It is this group of people, highly involved with what they eat and how it is produced, we need and want to communicate with", says Mr. Dedl. He continues: "We think there is a tremendous opportunity to connect with millennials with a story about animal wellness, good management practices and natural plant-based feed ingredients."

To continue reading this article by Fabian Brockotter, editor of Poultry World, go to <http://www.poultryworld.net/Nutrition/Articles/2017/5/Delacon-Connecting-with-the-consumers-of-today-and-tomorrow-129430E/?cmpid=NLC|worldpoultry|2017-05-08|Delacon: Connecting with the consumers of today and tomorrow> □

DATES TO REMEMBER

TOP 5 WAYS TO INCREASE POULTRY HOUSE EFFICIENCY IN SUMMER

Featuring Auburn's Jess Campbell
Webinar Hosted by Live Oak Bank
June 27, 2017 - 4:00 CT

US POULTRY FINANCIAL MANAGEMENT SEMINAR

June 26-28, 2017
Omni Hotel, Amelia Island, FL

US POULTRY HATCHERY-BREEDER CLINIC

July 11-12, 2017
Nashville, TN

NCC CHICKEN MARKETING SUMMITT

July 16-18, 2017
[Watt Global Media](#)
Asheville, NC

TPA ANNUAL MEETING & SUMMER GETAWAY

August 4-5, 2017
Sheraton Nashville Downtown

US POULTRY WOMEN'S LEADERSHIP CONFERENCE

August 17-18, 2017
Destin, FL

US POULTRY LIVE PRODUCTION & WELFARE SEMINAR

September 19-20, 2017
Nashville, TN

The Vincit Group to Donate Crawfish Cooker to 63rd Annual Meeting & Summer Getaway



Why measuring air speed at bird level may not be advisable

(continued from page 27)

Though ideally it would be best to measure air speed at floor level, the highly variable nature of these measurements can easily lead to inaccurate measurements and possibly incorrect conclusions. As a result it is typically best to measure air speeds four to five feet above the floor and realize the air speed at floor level is around 100 ft/min lower when all the fans are operating. Measurements can be made at four to six locations across the width of the house and averaged. Though this does not produce a precise determination of the average air speed, it will provide at least a measurement that is repeatable and representative of the level of air movement in a tunnel-ventilated house.

Michael Czarick is an Extension engineer and Dr. Brian Fairchild is an Extension poultry scientist, both with the University of Georgia College of Agricultural & Environmental Sciences Cooperative Extension in Athens, Ga. □

Activist-influenced food pledges increase poverty rates

(continued from page 28)

Restaurants fighting for business of the wealthy

The cost of production for most of the farming practices pushed by animal rights activists is higher than traditional production methods, and those costs are eventually passed on to the consumer, not only in restaurants, but also at the grocery store. However, Thomson believes that restaurants are not that concerned about how changes in production practices can affect the price of food at the supermarket.

"Restaurants do not feed the poor. Restaurants feed the rich. Restaurants feed the people who can afford to have someone else plan the meal, cook the meal and do the dishes. We have only spent 4 percent of our personal income since 1929 – it has not gone up or gone down – on restaurants, on food outside the home. It's a captive supply for those restaurants that they're all fighting over," he said. "They're all fighting over people who have money. The rich can afford to err on the side of safety. The poor people in this country just want to eat."

A plea to retailers

Thomson said that when a restaurant chain announces that they will transition to meat and poultry raised without antibiotics, consumers do not instantly say they will eat out more. He wants restaurant and grocery chain executives to understand this. "Please, retailers, have patience," Thomson said. "This is about sustainability of mankind and providing food for people in an affordable manner. Poverty in this country is determined by the price of food, and it has been since 1963. If you increase the price of food without increasing the income of people in the country, you increase the poverty rate. I don't think restaurants understand that they can be inadvertently increasing the rate of poverty in the United States, which diminishes your tax dollar, because it increases the amount of people relying on food stamps."

Presently, Thomson said, about 25 percent of households in the United States live under the poverty mark.

Roy Graber is a staff reporter at WATT Global Media. Contact Graber via email at rgraber@wattglobal.com. □

Having Condensation Issues?

Call Sunbelt Rentals for all of your temperature and condensation control needs. Our Industrial Climate Control team offers a diverse range of solutions for the poultry industry and designs them specifically to fit your project requirements, ensuring you get the results you need. For unmatched 24/7 service and support and guaranteed one-hour emergency response, contact the experts at Sunbelt Rentals.

sunbeltrentals.com

888-379-7454 24/7

- *Maintain Compliance With USDA Standards*
- *Reduce Risk Of Microbial Growth*
- *Decrease Labor Costs Associated With Wiper Crews*
- *Save Energy By Reducing Defrost Frequency*
- *Uphold Production Schedules And Avoid Shutdowns*



Above ground burial of mass mortalities

Dr. Zac Williams, former poultry scientist at TN Tech University, attended the Mass Animal Mortality Workshop held by NC State University in Raleigh this past April. Zac has shared with Dr. Hatcher and with TPA what he learned about an above ground burial technique, technically referred to as mesophilic static pile composting of animal carcasses, or MSPC.

Per Dr. Williams: "In April I attended the mass animal mortality workshop held by NC State. Besides windrow composting and in ground burial two mass mortality handling techniques were also demonstrated. One was in-house composting for broiler breeders. Essentially all the dead birds are moved to the center of the house. The slats from one side are moved and placed on top of the slats on the other side. Then all the birds are moved to where the slats were and mixed with the manure. Then the compost pile is made in the center of the house. This seemed very labor intensive. The demonstration house was small, ~ 200' long with approximately 2500 birds and it took them 4.5 hours from start to finish (not including depopulation). This was the first time the crew had ever done this, so would assume they would get faster after the first house. In my opinion this was not a very good option, unless the farm is very small, maybe 2 houses.

Another technique covered was above ground burial. In this method, a trench, about 18" deep, is dug. The bottom layer is a carbon source, then a layer of carcasses and then a cap of soil, about 18" to 2' is put on top. The soil needs to be seeded to prevent erosion and predators from digging up the carcasses. This has two advantages over deep pit burial. It is safer for the environment and carcasses decompose faster as there is some aerobic digestion happening due to the plant root systems. The article provided below is complete with illustrations. For a lot of areas of Tennessee this is probably a better option than deep trench burial."

[Note: Mesophilic microbial activity occurs best in the temperature range of 68 to 113° F.]

Mesophilic Static Pile Composting Of Animal Carcasses

MSPC offers many of the benefits of traditional on-site burial while minimizing the potential for environmental impact.

Excerpts from [BioCycle](#) by Gary Flory and Robert Peer, March/April 2017, Vol. 58, No. 3, p. 65

The purpose of this research project conducted by the authors was to evaluate mesophilic static pile composting (MSPC) as an alternative to traditional burial methods [for bovine mass mortalities]. Traditional thermophilic composting, rendering and landfilling are all acceptable carcass disposal methods but during a large outbreak, additional options may be needed.

Traditional on-site burial entails excavating a pit 8 to 12 feet deep, placing a single or multiple layers of carcasses in the pit, and capping the pit with 2 to 3 feet of excavated soil. The final elevation of a burial pit is level with the ground surface. This process does not provide a suitable environment for biological decomposition, requires equipment not typically available on a farm and places decomposition fluids closer to the groundwater table. Traditional burial is considered a permanent disposal method which may require deed recordation and groundwater monitoring.

MSPC (also referred to as above-ground burial) offers many of the benefits of traditional on-site burial while minimizing the potential for environmental impact. Some potential benefits include:

- Simple, low technology design allows implementation with minimal training
- Low execution cost and relatively rapid to install
- Shallow trench depth and carbon layer to absorb decomposition fluids minimize environmental impacts and allow implementation in more diverse geologic settings
- Reduces potential for disease spread by keeping carcasses on the infected farm and minimizing need for external inputs
- Flexibility to implement as a temporary or permanent solution
- Carcasses could be excavated for permanent disposal (incineration, landfilling, composting) after initial disease eradication
- Above ground burial mounds could be re-graded and re-vegetated after complete carcass decomposition
- Can be implemented to manage carcasses during a natural disaster or foreign animal disease outbreak

Comparing Composting Methods

Traditional thermophilic composting and MSPC are similar in that both methods rely on aerobic biological activity to decompose the animal carcasses. MSPC occurs in a shallow trench within the biologically active soil zone (Figure 1, next page). Biological activity is enhanced by the addition of a carbon layer similar to composting. Increasing the depth of the trench by only a few inches reduces the amount of oxygen available for biological activity and significantly decreases the speed of carcass decomposition.

Unlike thermophilic composting, MSPC does not promote the activity of thermophilic bacteria and does not generate the high temperatures that are achieved during windrow composting. As a result, pathogen inactivation does not occur from heat treatment but as a factor of time and the absence of a live host.

While thermophilic composting may be advantageous in many circumstances, during the response to an extremely contagious disease [], MSPC can be implemented more quickly to minimize the aerosolization of virus particles, reducing the potential for the spread of disease.

continued on page 32

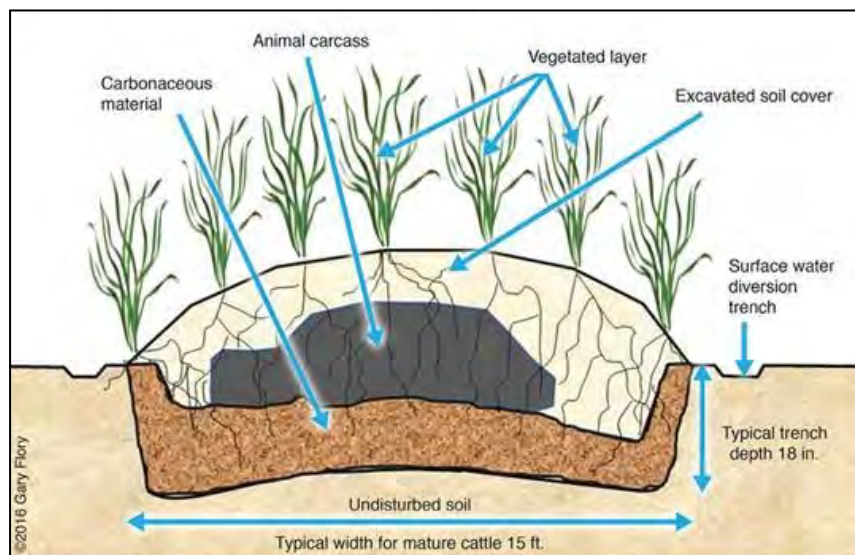


Figure 1. Cross section of aboveground burial system ©2016 Gary Flory

Technical Approach

The system designs assessed includes a shallow trench excavated into native soil to a depth of between 18 and 28 inches. Eight inches of loose soil or carbonaceous material are placed on the bottom of the trench followed by a single layer of animal carcasses. Excavated soils are subsequently placed back into the trench forming a mound on which the phytoremediation vegetative layer is established. Finally, a perimeter trench is placed around the mound to prevent the intrusion of surface water into the system.

Four variations of the MSPC system were evaluated. The designs are summarized in Table 1. (per [BioCycle Magazine](#))

The surfaces of the MSPC mounds were monitored frequently to look for discharges and to assess plant growth and other changes to the systems. On May 14, 2015 the following observations were made:

- Cracks had formed on the surfaces of Designs 1 and 2 partially exposing the carcasses at the cracks.
- Minimal odor was observed from the cracks.
- No flies were observed.
- Total height on all designs had decreased 6 to 8 inches.
- Cool season grasses were well established but warm season grasses had not germinated.
- No leachate or free liquids were observed.

One year later, on June 9, 2016, investigators excavated to the bottom of each design to assess the extent of carcass degradation and to conduct borings for subsequent analysis. In Designs 1 through 3, carcass degradation was approximately 95 percent with only the larger bones [from cattle] remaining. Carcass degradation in Design 4 was only around 60 percent with some flesh, hide and fatty tissue remaining. The most significant difference between Designs 1 through 3 and Design 4 was the depth of the trench. The depth of Designs 1 through 3 was 18 inches or shallower while Design 4 was 28 inches deep. The deeper design contributed to an anaerobic environment in the trench, which inhibited the biological activity found in the shallower designs. The anaerobic conditions of Design 4 were more comparable to traditional burial methods and resulted in only partial decomposition of the carcasses.

MSPC Benefits

MSPC appears to offer many benefits over traditional burial pits during catastrophic large animal mortality events such as disease outbreaks and natural disasters. Although the use of landfilling and thermophilic composting is increasing for large animals such as cattle and swine, MSPC may be an option where these methods are not available and traditional burial is being considered, but to ensure adequate environmental protection, siting considerations such as soil characteristics, volume of animal carcasses and the depth to the seasonal high groundwater table should be considered before selecting aboveground burial as the disposal method. Studies conducted to date suggest that MSPC is a simple, low technology methodology that offers greater environmental protection than traditional burial methods.

Gary Flory is the Agricultural Program Manager for the Virginia Department of Environmental Quality and an independent global consultant, trainer and speaker in the areas of foreign animal disease response, counter-agroterrorism, One-Health, and animal carcass disposal. Robert Peer is the Agricultural Program Coordinator for the Virginia Department of Environmental Quality and composting Subject Matter Expert and consultant on animal carcass disposal. □

Prepare breeder flocks for top performance

From PoultryWorld.Net by Dr. Cesar Coto, **Cobb-Vantress**

In the early 90s Cobb started collecting information on breeder flocks worldwide and a clear cut pattern for improvement in performance has been observed since then. Genetic selection has certainly been a great contributor to this progress. However, a better understanding of nutritional and management needs has also played a part.

By analyzing the survey results for a given year, a significant difference in performance between flocks ranked in the top 25% versus the average flock is observed (*Table 1*). This demonstrates how external factors like management and nutrition become critical in capturing the genetic potential of the bird. In this article we will review some characteristics that successful flocks share in common during pullet rearing. *Figure 1* denotes the different growth stages during pullet rearing. As different goals exist for each stage, specific management and nutritional approaches are necessary.

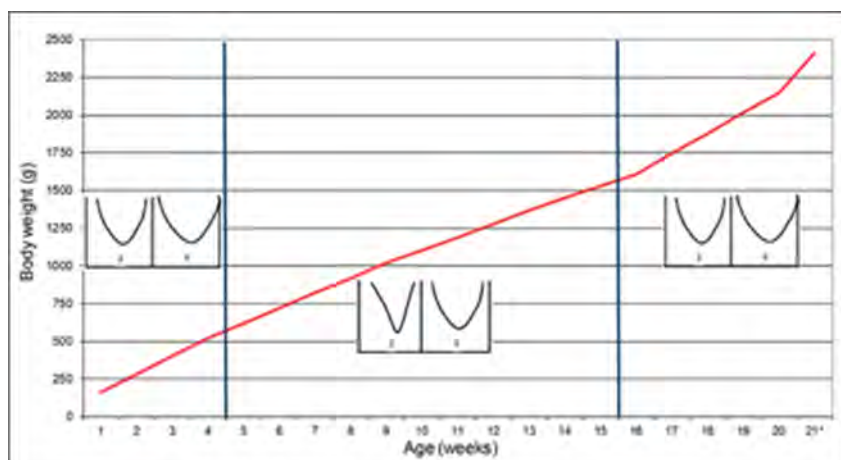
Ensure the best start

In the first 4 weeks the objective is to stimulate growth and promote frame and body weight uniformity for the small chicks. Transit from the hatchery to the farm represents a condition of stress to the chick. A well prepared house is necessary to make sure birds feel comfortable as soon as they arrive. A check list is a useful tool; consider temperature uniformity, water availability and quality (including temperature), ventilation and air quality conditions, light intensity, bird density, and abundant feed availability and quality.

(go to PoultryWorld.net to see Table 1 – Performance difference between top 25% performers vs industry average.)

The first weeks are characterized by vigorous growth to support the development of vital organs, muscle mass and the skeletal tissue. The high body weight gain and frame development occurring at this point provides a great opportunity to promote flock uniformity. Bird grading, properly installed feeding equipment (design and space) and uniform feed particle size (mash or crumble) are necessary to develop uniform flocks, as well as uniform light distribution. A high energy amino acid and protein density diet is needed to support the high magnitude of the feed increases typically applied during this stage.

Figure 1 – Different growth stages and target conformation during pullet rearing.



Prepare for lay instead of growth

In weeks 5-15 of the pullets life, the goal shifts from growth to body weight control, finish determining frame size and preserving uniformity. Genetic selection has resulted in continuous improvement in broiler traits like body weight gain and feed conversion, and this progress in the utilization of nutrients represents the most challenging condition of this period, as the growth potential of the bird is limited in order to prepare a hen for lay instead of meat production. Small weekly feed increases are necessary to achieve the weight gains targeted.

The limited amount of feed that gets distributed during this period is a challenge for the feeding equipment. An even distribution and an adequate amount of feed offered each time is desired to allow uniform access to feed for all birds within the flock; overall a minimum of 30 minutes of feed consumption time is acceptable.

Feed restriction programs like 6-1 or 5-2 are commonly utilized during this period as an alternative to increase the amount of feed to be distributed and increase feed consumption time. If there are issues with intussusception on an alternative feeding program, every day feeding may be used. Progressive utilization of the feeding equipment is an alternative to maintain the right number of birds per pan or chain length as the flock grows older, with full access to feeding equipment provided at around 12 weeks. *Table 2* shows a guide of progressive access to feed.

(Go to PoultryWorld.net to see Table 2 – Example of progressive feeder space based on age.)

(continued on page 34)

Prepare breeder flocks for top performance *(continued from page 33)*

The use of diets with low levels of energy (example: 2750 kcal/kg) gives birds more access to feed while maintaining body weight close to standard; inclusion of a bulky feedstuff like wheat middlings will be necessary to achieve this lower level of energy. By reducing the energy level, the amount of feed to distribute will increase, reducing the pressure applied by the feed restriction program. This should result in less stress on the birds, reduction of intestinal challenges and an increased chance to maintain uniformity.

Despite the lower energy, a proper supply of nutrients is still required to support metabolic functions. As an example, feather development is active with the first natural molt starting at around 7 weeks of age. An adequate supply of nutrients involved in feather formation like the sulfur amino acids methionine and cysteine, vitamins and micro-minerals should not be taken for granted.

Feather pecking behavior could be seen during this time as a result of stress. Nutrient levels mentioned above, as well as sodium, should be assessed.

Most critical phase

Before the pullets go into lay, in weeks 16-20 there is a focus on growth acceleration to prepare bird reserves for light stimulation. This can be the most critical phase that differentiates the most successful flocks from others. If a flock is at this stage overweight, it should stay this way to the end of the cycle; any attempt to move the body weight close to the standard will be conducted at the expense of body reserves. A high body weight increase during this phase is expected to build up the bird's body reserves necessary to respond to light stimulation. The Cobb standard has built in a body weight increase of 34% from week 16 to 20 — high weekly feed increases will be necessary to satisfy this condition. Birds that reach 16 weeks close to standard will have a higher chance of reaching the desired body condition; birds behind in fleshing will require more work to recover and reach the target.

The adoption of a pre-lay diet with a higher energy level than in the previous phase — usually close to the level of energy utilized in production feed — together with the high feed increases typical at this stage will promote the generation of body reserves.

(Go to PoultryWorld.net to see Table 3 — Example of a nutritional profile during pullet rearing.)

Table 3 describes an example of a nutritional profile following the considerations described above. Conducting an evaluation of fleshing and presence of fat in pelvic bones before light stimulation works not only to predict breeder performance in the hen house, but most importantly allows one to identify the presence of gaps in the feeding program during this period and fine-tune for future flocks. The goal here is to have flocks with a least 90% of the birds with fleshing 3-4 and presence of fat around pelvic bones.

As genetic selection programs continue to progress, a better understanding of the bird and good co-ordination between the different processes involved in the field will become even more important to capture the genetic potential offered. ▢

Salmonella tied to live poultry sickens 372 in 47 states

Jun 01, 2017 by [Lisa Schnirring](#) | News Editor | CIDRAP News

Signaling what has become an ongoing yearly pattern, the US Centers for Disease Control and Prevention (CDC) today reported eight multistate *Salmonella* outbreaks linked to contact with live poultry in backyard flocks, including chicks and ducklings.

Since early January and through May 13 the outbreaks have sickened 372 people in 47 states. So far, 71 people have been hospitalized but no deaths have been reported. Just over a third (36%) of the sick patients are children.

The outbreaks involve several *Salmonella* subtypes: Braenderup, Enteritidis, Mbandaka, and Typhimurium. The hardest-hit states, which each have more than 20 cases, are California, Kentucky, Ohio, and Tennessee.

Backyard poultry trending

During the investigations, interviews revealed that 83% (190) of 228 sick people had contact with live poultry the week before they got sick. People bought live baby poultry from a variety of sources, including feed supply stores, Web sites, hatcheries, and relatives.

In background information e-mailed to journalists, the CDC said that as the trend of raising backyard poultry grows in the United States, it is seeing more *Salmonella* infections related to the practice.

From 1990 to 2016 the CDC logged 65 *Salmonella* outbreaks linked to live poultry, and the 895 illnesses recorded in 2016 was the most the CDC has ever seen.

The CDC in the e-mail said it expects outbreaks to continue for the next several months. "Many people continue to purchase live poultry and continue to be exposed to *Salmonella* germs as they tend to their backyard flocks. Some of these birds can have a long life expectancy."

Officials warned that any live poultry can harbor *Salmonella*, even if they look healthy and clean, and that *Salmonella* infections can be more severe for certain groups of people, including young children, older adults, and those with chronic health conditions. ▢

Head-only stunning offers alternative to gas

March 22, 2017 from PoultryWorld.net by Jake Davies, editor for Poultry World

Many consider water bath or controlled atmosphere stunning to be the two best choices when choosing ways to render poultry unconscious before a more welfare-friendly kill. But one Dutch company is marketing an alternative, stunning poultry by the head individually.

European poultry processors have trended towards using controlled atmosphere stunning and always using water baths for a number of years, and in some ways it's easy to see why. Birds are not handled before stunning in such systems, making their final moments less stressful – and the process is less stressful for employees as well, who only deal with unconscious livestock.

Conventional water bath stunning has been considered by some to be of lower welfare for some time – one piece of research has suggested that just a third of broilers passing through are effectively stunned. Whatever the exact figure, running a current through water to stun multiple birds is not an exact science. Doing so creates a 'parallel pathway of resistance', and understanding which birds have been effectively stunned before slaughter is in no way easy. All the more challenging was the European Union introducing new legislation, setting higher parameters for stunning poultry before slaughter.

Halal challenges

While this move was welcomed by some, for Halal producers it proved a potential challenge – the new parameters were too high for birds to recover effectively. Gas stunning is also out of the question, as it also delivers a stun animals will never recover from. In Western Europe it is common for poultry to be 'recoverably stunned' before slaughter – acceptable to many who follow Islam in this region; it is a far smaller percent that choose only totally un-stunned animals.

It was around 2009 that Michel Schmidt set up Dutch Vision Solutions, following a career in poultry processing. A contact concerned about the difficulties Halal producers faced got in touch, and asked him to develop a new machine that would allow poultry to be recoverably stunned using the new parameters. The answer, says Mr. Schmidt, was individually stunning birds. "A high production capacity was important," he explains. "And I wanted a machine that could process up to 3kg live weight and at least 12,000 birds an hour."

From that initial conversation, a machine capable of processing 13,500 birds an hour was produced. It is compatible with both six-and eight-inch lines, and the weight spread of a batch of broilers can be up to 700g before adjustment is needed. Furthermore, it has a footprint of 16 square meters – smaller than most controlled atmosphere stunning machines on the market. Testing has found it to be 96.5% accurate at full speed, but combined with a splitting device that diverts any un-stunned birds to a conventional water bath, also devised by Dutch Vision Solutions, this goes up more than 99% accuracy.

Cost

Another key consideration, says Mr. Schmidt, is cost (*see [table](#)*). He points to research undertaken by the European Commission as it was introducing its new stunning parameters that considered the cost of different stunning methods. Water bath stunning was least expensive, with gas stunning the most. In between was the head-only stun method, cheaper because of its lower maintenance and running costs, when compared with gas systems. While it was the difficulty that new legislation in Europe presented to halal processors that wanted a recoverable stun, Mr. Schmidt says the resulting equipment is an improvement on water bath stunning, and comparable to gas devices. "Given the greater amount of A-grade product, the benefits are more than sufficient to cope with the more expensive price when compared with a water bath." "Blood spots are almost non-existent," he says. "And it's the same with major hemorrhaging around wing points."

Wageningen research: Testing head-only stunning

Dutch Vision Solutions asked Wageningen University to review its stunning technology under lab conditions. The first step was to evaluate the machine's efficacy. Thirty-eight broilers were stunned by an electrical constant current set at 275mA for 1 second, followed by a current of 30mA for three seconds. It was considered these parameters delivered an effective stun. A second experiment was geared at understanding the machine's efficacy at commercial slaughterhouse conditions, to ensure that stunning renders birds unconscious and they remain so until slaughter.

The experiment was conducted at 13,500 birds/hour to mimic normal operating conditions, and 200 birds over two days were assessed from seven different flocks. The stun was judged by reaction to stimuli. The study found more than 95% of birds were effectively stunned, with 4.5% showing some reaction 30 seconds post-stun. Based on these results, it was recommended that birds are killed no more than 30 seconds after stun. An in-line back-up system, such as the splitter device also developed by Dutch Vision Solutions, was also considered important

To see the complete article and photos go to [www.poultryworld.net/Health/Articles/2017/3/Head-only-stunning-offers-alternative-to-gas-109261E/?cupid=NLC|worldpoultry|2017-03-22|Head-only stunning offers alternative to gas](http://www.poultryworld.net/Health/Articles/2017/3/Head-only-stunning-offers-alternative-to-gas-109261E/?cupid=NLC|worldpoultry|2017-03-22|Head-only%20stunning%20offers%20alternative%20to%20gas) □

Investors worth trillions are putting pressure on food companies to serve more fake meat

May 9, 2017 in [Business Insider](#) by Melia Robinson

The world's population is expected to top nine billion people by 2050 — a figure that [has some worried](#) there won't be enough resources on the planet to support animal agriculture at that scale.

While Silicon Valley startups like Hampton Creek and Impossible Foods chip away at creating meat-free proteins that could someday feed the masses, an unlikely group of investors has joined forces to bring food industry giants on board.

Seventy-one investors worth a combined \$1.9 trillion are working together to put pressure on the world's largest food companies to "[future-proof](#)" their supply chains by bringing more meat alternatives to market. Founded in 2015, the [FAIRR](#) (Farm Animal Investment Risk and Return) initiative aims to make the food supply chain more sustainable by promoting plant-based foods, while also helping investors cash in on a lucrative new business.

The substitute meat market is expected to climb 8.4% annually over the next three years, reaching \$5.2 billion globally by 2020, [according to Allied Market Research](#).

Jeremy Collier, a titan of the private equity industry and founder of FAIRR, tells Business Insider that because members of the coalition make up a large percentage of investors in these grocery chains and food manufacturers, they essentially have the power to say, "We own you." The investors can then steer food companies towards more sustainable supply chains.

FAIRR has [produced extensive briefings](#) on the animal agriculture industry, in the hopes of educating shareholders at food giants like McDonald's, Domino's, and Yum! Brands on the environmental and financial gains of diversifying their supply chains.

Animal agriculture takes up about a third of the world's land, and is responsible for 15% of greenhouse gas emissions.

In 2016, the group fired off a letter to 16 multinational food companies, asking that they "explore and report back on" efforts to scale back their reliance on animal products.

In a copy of the letter provided to Business Insider, FAIRR writes that large retailers have an important role to play in making meat-free alternatives available and affordable for consumers.

"We warmly welcome the fact that Tesco [a European supermarket chain, named in the copy given to Business Insider] offers a wide range of plant-based and lower-meat options to consumers; however, we believe there is room for further progress to be made," the letter said.

It goes on to make recommendations on how the company can improve, including giving non-animal protein products preferential placement in grocery stores (like in the meat aisle, as opposed to the vegetarian foods section) and making the packaging more attractive.

The letter also encourages companies to invest in "product reformulation," a food and beverage manufacturing term that means swapping some ingredients for better ones, which in this case, means ingredients not sourced from animals. It also suggests spending on consumer education to "raise awareness of the environmental and health benefits of more sustainable diets."

Impossible Foods was founded on the idea that there's a better way to satisfy people who enjoy meat.

FAIRR targets food companies including Kraft Heinz, Nestle, Unilever, Walmart, and General Mills. As the coalition grows, so will the number of food companies the group goes after.

Collier, who has been a vegetarian since he was 12, is on a mission to wipe out factory farming. (These large industrial operations [raise over 99% of farm animals](#) in the US.) He's invested in several plant-based protein startups, including Impossible Foods, Hampton Creek, Clara Foods, and Beyond Meat, which sells burger patties made from pulverized beets in select Whole Foods.

However, Collier avoids talking about animal welfare when he's around investors involved in FAIRR, because he says most are more concerned with the bottom line. With FAIRR, he appeals to investors who look at the meat alternatives market and see an opportunity to pioneer a new multibillion-dollar industry.

"FAIRR is totally about materiality, not morality," Collier says. □

How early feeding can program poultry performance

May 17, 2017 from PoultryWorld.net by Jake Davies, editor Poultry World

The next major advance in poultry nutrition will come from feeding chicks in-ovo, and ‘imprinting’ behavior through tailored diets in the first days of life.

Making the most of broiler’s genetic potential will mean rethinking the role of the hatchery, according to a leading poultry nutritionist.

Peter Ferket, a professor at North Carolina State University, says that in-ovo feeding, as well as offering birds feed as soon as they hatch will become necessary if farmers wish to keep progressing growth rates sustainably.

Speaking at the recent ESPN (European Symposium on Poultry Nutrition) conference, Prof Ferket said that management struggled to keep up with genetic progress. “Genetics is changing the playing field, we cannot deny that. **But it’s the expression of genetic potential that’s really driving performance and profits.**

“We have to consider that birds have unique properties that we haven’t mastered – by the time a new model is out, we are still behind. Nutrition and management have barely kept pace with genetics – it’s time to close that gap.”

He explained that, at the rate birds’ genetics were improving, a 4kg (8.82 lb.) bird at the age of 42 days would be possible, with a feed conversion rate approaching 1:1.

Prof Ferket said the early life of broilers was the period when performance could best be influenced, both in providing targeted nutrition and “programming” the digestion for later life.

In-ovo feeding, with the nutritional profile of premixes genetically matched to chicks’ needs was one technology showing great potential.

His research team used nutri-genomic techniques to map metabolism at the time amniotic fluid is taken in and designed a pre-mix with energy, vitamins and trace minerals of benefit to the developing birds.

The in-ovo feeding had been found to deliver better villi growth in early stages, and improve glycogen deposition in the liver, giving chicks more energy when hatching and in the first hours of life.

Subsequently, average bodyweight is improved and skeletal development gets a head start.

“It changes behavior, right after hatch in-ovo-fed birds are more active, inquisitive and eat more feed.” As a result, breast meat yield, growth rates and feed conversion can all be improved.

Programming

Another area of research Prof Ferket had worked on was “programming” birds’ digestion by conditioning the diet in the few days before and after hatch.

Nutritional imprinting is the practice of conferring production traits on chicks through influencing the expression of genes.

Chicks’ ability to utilize minerals or nutritional energy, or tolerance to immunological, environmental or oxidative stress can all be influenced by early diet.

One example is a study in which broilers were fed a low calcium and phosphorus diet in the first 90 hours post-hatch. At 32 days, the birds are more readily able to absorb the nutrients, and subsequent work has found birds are conditioned in such a way that they are more tolerant to diets deficient in the minerals.

“Chicks that have been fed the appropriate conditioning diet, followed by a complementary growing and finishing diet, have improved growth performance and feed efficiency through to market age.”

But feeding such a diet can be a challenge with current hatchery setups. Prof Ferket said one such system, Hatch Brood from Dutch company HatchTech was one example.

“The hatchery of the future will be a place that will do much more than simply hatch and vaccinate chicks: it will also be the place where the chicks will be conditioned to better tolerate the challenges of life, and be programmed for optimum nutrient efficiency.” □



Youth Art Contest Entry Rules

TPA welcomes participation in their second annual art contest for youth. All entries will be displayed & judged during the TPA Annual Meeting & Convention this August 4-5 in Nashville at the Sheraton hotel.

Subject: All art must be poultry-related, i.e. of a chicken or chickens, and/or of a poultry live operation.

Who is eligible: Family members (children, grandchildren, nieces/nephews, step-children, etc.) of TPA grower members, TPA poultry complex employees, or affiliated TPA allied company members are eligible to submit entries. There will be three age categories: 9 and under, 10-14, 15-18 (age as of August 1, 2017).

Awards: Each group will have 1st, 2nd, and 3rd place winners that will be awarded ribbons and will be eligible to receive cash prizes of \$50, \$20 & \$10, respectively for each age division. There will also be an overall Best of Show entry awarded, which will subsequently be auctioned off during the TPA fundraiser on Aug. 5 in lieu of the cash prize. All proceeds from the sale of the winning art piece will be awarded to the artist as a scholarship.

Media: Will need to be submitted on 8½ by 11 inch rigid canvas, sketch or cardstock paper

- * Framed entries **will not** be accepted, but all entries must be suitable for framing
- * Drawings and paintings are the only types of media that can be entered; there will not be separate categories
 - Drawings include: pencil, charcoal, colored pencil, ink, markers, etc.
 - Paintings include: acrylic, oils, tempera, watercolors, etc.

Entry: All entries must be received at the TPA Office **by August 1, 2017.**

Mailing Address: TN Poultry Association, 1404 N Main Street, Shelbyville, TN 37160

Include: Please complete and submit the attached form to provide the artist's name, age, address, phone number, name of relative and their poultry company or farm affiliation. Artwork will not be returned unless the attached form and requested information is submitted.

Judging: All entries will be judged by a panel of industry representatives during the TPA Annual Meeting on August 4th.

Information:

- The art will stay on display through the evening TPA banquet on August 5th.
- Photo rights of all artwork become property of TPA for use on social media and for promotional efforts.
- TPA is not responsible for lost or damaged entries.
- TPA will auction off the Best of Show winner; it will not be returned to the artist; please allow two weeks for remaining entries and ribbons to be mailed.
- Contact dbarnett@tnpoultry.org or 931-225-1123 for more information.



Entry # _____
[9&U] | [10-14] | [15-18]
(for office use only)

TPA Art Contest Entry Form

Name: _____

Age: _____ Contact Phone Number: _____
(As of August 1, 2017)

Family member's name: _____

Relationship: _____ Hometown & State: _____

Employer: _____

Or grows for: _____

TPA will contact and award the 1st through 3rd place and the Best of Show winners. The Best of Show winner will receive a scholarship check for the sale of their art piece.

Contestants who would like to have their art work returned and have ribbons and checks sent to them after the entries are judged should provide a complete physical mailing address:

City _____ State _____ Zip Code _____

TPA is not responsible for the condition of artwork or for any losses or damages.

Please include this entry form along with your entry to be received by TPA no later than August 1, 2017.

Please send all entries to:

**TN Poultry Association
1404 N. Main St.
Shelbyville, TN 37160**

For more information contact dbarnett@tnpoultry.org or 931-225-1123

TPA ANNUAL MEETING & SUMMER GETAWAY REGISTRATION FORM

Register online at <http://www.tnpoultry.org/meeting/registrationForm.cfm>



"How Bout It" August 4-5, 2017 Sheraton Nashville Downtown



Name _____

Company _____

Address _____ City _____ State _____ Zip _____

Cell Phone _____ Email _____

Guest Names 1) _____ 2) _____

3) _____ 4) _____

SPONSORSHIP, AUCTION, MEMBERSHIP

- | | |
|--|------------|
| <input type="checkbox"/> Diamond Sponsorship | \$ 5000.00 |
| <input type="checkbox"/> Platinum Sponsorship | \$ 2500.00 |
| <input type="checkbox"/> Gold Sponsorship | \$ 1000.00 |
| <input type="checkbox"/> Silver Sponsorship | \$ 750.00 |
| <input type="checkbox"/> Bronze Sponsorship | \$ 500.00 |
| <input type="checkbox"/> Auction Cash Donation | \$ _____ |
| <input type="checkbox"/> TPA Allied Membership Renewal | \$ 500.00 |

TOTAL COMMITMENT

____ Number planning to attend the **Annual Meeting and speaker program at 1:00 PM on Friday, August 4th** (No registration fee)

____ Number planning to attend the **Friday evening reception @ 5:30** (No registration fee)

____ I would like to contribute the following auction items:

____ I will bring the items with me. ____ I will ship the items to TPA.

____ I am donating \$ _____ to purchase auction items.

GOLF TOURNAMENT

Sat., August 5th, 8 a.m. @ Pine Creek Golf Course, Mt. Juliet, TN

(Please complete a separate registration form for each golfer)

Golfer Entry @ \$ 135.00 \$ _____
(Includes green fee, cart, breakfast, 1 mulligan, 1 red tee)

Golfer's T-shirt Size _____

Golfer's Handicap or Average Score (required)

Sponsor a Golf Hole x _____ @ \$ 100.00 \$ _____

SPORTING CLAY SHOOT

Sat., August 5th, 9 a.m. @ Nashville Gun Club

(Please complete a separate form for each shooter)

Shooter Entry @ \$ 130.00 \$ _____
(Includes fees, shells, 5 extra shots, snacks, lunch)

Shooter's T-shirt Size _____

Gauge of shotgun you will be using (required)

Sponsor a Shooting Station x _____ @ \$ 100.00 \$ _____

MUSICAL JOURNEY THROUGH NASHVILLE TOUR

Sat., August 5th, 9 a.m. - 3 p.m.

Ryman Auditorium, County Music HOF, Lunch @ Wildhorse Saloon

(Please complete a separate form for each attendee. Limited to 1st 50)

Attendee Registration @ \$ 175.00 \$ _____
(Includes tour, transportation, lunch)

Attendee's T-shirt Size _____

SATURDAY NIGHT DINNER & ENTERTAINMENT

August 5th, reception begins at 5:00 p.m.

Dinner Tickets *Reservations required
(Includes entertainment) x _____ @ \$ 200.00 \$ _____

CONFERENCE REGISTRATION FEE

Individual @ \$ 35.00 \$ _____

Couple @ \$ 50.00 \$ _____

GRAND TOTAL from both columns \$ _____
NO REFUNDS

DEADLINE FOR REGISTRATION: June 30, 2017

Register online at www.tnpoultry.org or

SEND ALL REGISTRATION FORMS & PAYMENT TO:
TPA, PO Box 1525, Shelbyville, TN 37162-1525
or tracy@tnpoultry.org

Please make checks payable to TPA or call Tracy at
931-225-1123 to pay by credit card.

Hotel reservations may be made online at
<https://www.starwoodmeeting.com/Book/TPAAnnualConference2017>

or by calling 800-447-9825.

TPA special room rate available until July 3, 2017.

TPA GREATLY APPRECIATES OUR ALLIED MEMBERS



Advanced Feeding Systems
Chad Atherton
(270) 733-4900

CT Consulting
Chynette Todd
931-704-2336



Ag Lighting Innovations
Tom Ellsworth
615-378-0108

Cumberland Poultry/GSI Ag
Brian Johnson (217) 820-3530
Gary Sadler (225) 531-2461



American Proteins, Inc.
Richard Stewart
(770) 886-2250

D & F Equipment
Greg Cagle
256-528-7842



AmeriGas
Billy Hale 270-207-0784
Kevin Broyles 931-484-3617

Diversified
Stan Joyner
573-624-5574



Animal Health International
Jeff Sims
(256) 504-2588

East Kentucky Metal Sales, Inc.
Doug Bargo
606-877-1848



Anpario Inc.
Debbie Le Gette
864-617-5495

EnSave
Amelia Gulkis
(802) 434-1826



Best Veterinary Solutions, Inc.
Van Harper
812-259-9146

Everett Cash Mutual Insurance Group
Kyle Musice
814-515-7581



Big Dutchman
Jeff Ratledge
(616) 283-4527

Farm Credit Mid-America
Matt Neal
(615) 332-4775



BioSafe Systems
Michael Applewhite (256) 677-2802
Russell Owings (540) 256-8426

Farmer Automatic of America
David Leavell
912-681-2763



BioWALL
Katie Baumgart
515-574-9703

Farmers Poultry Supply
Andy Ratliff
256-734-5485



Boehringer Ingelheim
Mike Johnson (678) 644-8463
Brandon Bess (336) 214-9258

GES Solar
Trevor Casey
(865) 660-5400



CAM Electric
Craig McManus
(731) 504-8058

Goggin Warehousing
Keith Bellenfant
(931) 225-1206



Campbell Lighting
Dan Campbell
(501) 767-0840

Green Form Construction, Inc.
Camp Holder
(423) 531-0222



Ceva Animal Health
Chris Coles
706-217-5732

Griffin Industries, LLC
Terry Paschall
(731) 599-4816



ChemStation Mid-South
Roy Brown
(901) 345-5333

H & H Metal Products
Michael Primavera
(888) 773-8325



Chick Master
Lou Sharp
(678) 341-9047

Innovative Additives, Inc.
Randy Holliman
615-218-1420



Chore-Time Poultry
Brent Escoe
(706) 338-8570

InsulMasters Corp
Bobby Hill
(865) 591-5313



Clear View Enterprises
Steve Key
(270) 302-8082

International Paper
Russ Bratton
(731) 501-9164



Cox Shavings, Inc.
Barry Cox
(270) 789-9611 ext 1471

Interstate Container
Jeff Cormier (443) 523-4925
Russ Williams (678) 283-4928



TPA GREATLY APPRECIATES OUR ALLIED MEMBERS



Jones-Hamilton Co. Ed Jemison (423) 400-3755 Clint Lauderdale (256) 620-1175	Randy Jones & Associates Randy Jones 256-878-3271
K Supply Co., Inc. David Walker (256) 894-0034	River Valley AgCredit Eric Smith (423) 745-0323
Kemin Animal Nutrition and Health Shane Guy (270) 201-4277	Rodriguez Builders, Inc. Roy Rodriguez (270) 468-5911
Klarion Peter Bramsen (630) 517-1379	Silver Bullet Water Treatment Ashley Crider (479) 715-9864
Leipers Fork Land & Home Mike Foy (931) 981-5035	Silvercote Jordan Helms (864) 315-7225
Lhoist NA Barry Collins (931) 368-9057	Smith Creek, Inc. Jeff Roll (812) 431-1579
LiphaTech Ryan Haley (501) 691-3182	Smith Poultry Supply Doug Dountz (205) 429-4411
Live Oak Bank Michael Imming (910) 499-4687	Smithway Inc. Rocky Smith (828) 628-1756
Lubing John Hawk 423-709-1104	Southwestern Sales Co. Keith Whaley 205-522-8047
Marel, Inc. Don Stone (479) 857-8180	Sunbelt Rentals, Inc. Bart Smith (205) 602-2485
Marvel Technologies, USA Jack Wheeler (615) 642-3729	Suncoast Pine Shavings Chris Molton 863-899-0684
Merck Animal Health Paul Burke (615) 804-3564	Swallows Insurance Agency Gabe Colwell or Greg McDonald (931) 526-4025
Meyn America, LLC Eric Noltan (770) 316-0056	TN Farm Bureau Federation www.tnfarmbureau.com 931-388-7872
Nordic Logistics & Warehousing Don Schoenl (770) 871-2821	Tennessee Farmers Co-op Paul Davis (615) 793-8412
Porter Insulation Products Brantley Porter (800) 999-0430	Thompson Gas Robby McKim (706) 455-8426 James Watson (706) 851-4378
POSS Design Unlimited Mark Ridge (614) 738-8042	Tri-Form Poly (Ecodrum) Byron Irwin (701) 446-6139
Premier Georgia Printing & Labels Steve Free 770-287-1337	UT - Extension Robert Burns (865) 974-7112
Prime Equipment Group Alexander Libin (614) 633-9981	Vincit Group, The Eric Killen (423) 504-1974
Quality Incentive Company Peter Krstovic 404-431-0792	Weeden Environments Reggie Saucier (479) 841-8140



TN Poultry Association
P.O. Box 1525
Shelbyville, TN 37162
www.tnpoultry.org

Executive Director
Dale Barnett
(931) 225-1123
(931) 434-8045 mobile
dbarnett@tnpoultry.org

Member Services
Tracy Rafferty
(931) 225-1123
tracy@tnpoultry.org

Follow us @tnpoultry on
Facebook and Twitter

NEWS FROM AROUND THE COMPLEXES

Aviagen – Global broiler breeding company Aviagen has selected **Billy Hufford** as its business manager for the Rowan Range brand in North America, focusing on the slower-growing poultry market segment. Reporting directly to Aviagen Vice President of Sales and Technical Service for North America **Frank Dougherty**, Hufford will develop sales, marketing, and production strategies for Aviagen's Rowan Range brand of broiler breeders, as well as other breeding stock targeted to this market. **Aviagen®** also invites customers to navigate its newly designed web site, which is now live at www.aviagen.com.

Cobb-Vantress - **Randy Kivett** has accepted the position of Advisor, Tech Service – Broiler Specialist. Randy joins Cobb from Pilgrims where he has most recently been serving as Broiler Manager at the Sanford, NC Complex. Prior to joining Pilgrims in 2012, Randy spent 15 years with Townsends in Siler City, NC where he served as Live Haul Manager and Broiler Manager before being promoted to Assistant Live Production Manager in 2010. Randy has more than 32 years of poultry industry experience, and will be responsible for providing broiler technical support to customers in the eastern half of the US, Canada, Mexico, Central America & the Caribbean.

Tim Esslinger has been promoted to Complex General Manager for **Keystone Foods** - Kentucky Division, effective April 17, 2017. Tim had been most recently part of the Key Accounts Sales Team for Keystone Foods out of Huntsville since May 2015, and before that was the Complex General Manager for Keystone Foods - Alabama Division in Eufaula, from 2007-2015. Tim has a B.S. degree in Industrial Management from the Univ. of Alabama and is also the immediate past-president of the Alabama Poultry & Egg Association. **Will Jeffries** has been named the new Live Production Manager for the complex after serving in multiple locations/roles within Keystone since 2000. **Brandon Gibson** has been promoted from service tech to Broiler Manager and **Brad Brumfield** joins Keystone as the new Feed Mill Manager in Franklin, KY, replacing retiree **Mike Ford**.



AG LIGHTING INNOVATIONS

AG Lighting Innovations is proud to support the
Tennessee Poultry Association
and applauds the great work they perform by providing
scholarships for our next generation of poultry industry leaders!

www.poultrylights.com • sales@poultrylights.com • 615.378.0108

113 East Old Hickory Blvd • Madison, TN 37115