

TPA NEWSLETTER

"Serving Tennessee's commercial poultry industry"



Fall 2019

Preventing Generator Failure

David Corvin, Live Production Manager for Tyson Humboldt in Gibson Co., shares that all of the houses being built for their new complex will be set up with a generator alert system. The alarm box being used can read amp load and fuel levels and will alert you when there is not enough amperage to start the generator and when fuel levels are low.

Additionally, because transfers during a power failure can happen so rapidly that delays may not be long enough for a house alarm system to alert you that the main power source has failed, this alarm system will alert you of that transfer.

The alarm box being used by the Humboldt complex has been uniquely developed by Atlantic Power Generators at a cost of only about \$1500 each. □

How much are you paying for propane?

Sept. 3, 2019 by Dale Barnett, TPA Executive Director

As of Sept. 3rd propane could be purchased for under 85 cents per gallon. During the last half of August 2019, propane could even have been purchased for 80 cents or less. How much are you paying? [The current spot price at Mt. Belvieu, TX](#) (where your local propane supplies originate) is less than 41 cents/gal. Add to that the 41 cents/gal. that is typically charged by your local supplier for handling, taxes and delivery and that comes to only 82 cents/gal. Larger customers can usually negotiate 5 cents/gal. less than that, which would be only about 77 cents/gal.

I spoke with a grower recently who is paying ~\$1.40/gal. and I've talked to others paying \$1.10 or more right now. If this is you, isn't it worth a little bit of your time this week to look into this? Needless to say, there's a lot of money to be saved if your current price is not where it could be. *(continued on page 20)*

Leading Democratic Candidates Would Ban New CAFOs

Aug. 17, 2019 in the Ag Watchdog Newsletter

Bernie Sanders, Elizabeth Warren, and 3 minor Democratic presidential candidates said they would [support a national moratorium on Concentrated Animal Feeding Operations](#). The candidates were responding to a questionnaire from the anti-agriculture Iowa Citizens for Community Improvement, which has been pushing a statewide moratorium in Iowa. □

Ag Enhancement Money for Growers!!!

The TN Ag Enhancement Program (TAEP) has been announced for 2019-2020 and Application C for poultry equipment can be found at the very back of this newsletter. Growers in TN can apply this Oct. 1-15 to be eligible for 35% reimbursement on approved equipment purchases, for up to \$10,000 in total reimbursement! Eligible equipment includes feed bins, generators, propane tanks, biosecurity equipment, overhead trolley systems, concrete pads for the cleanout ends of houses and litter management implements; as well as LEDs, replacement fans, vent doors and motors for retrofit projects. *Purchases made prior to Oct. 1st are not eligible for reimbursement.* □

GROWER MEETINGS

November 5, 2019

UT Martin Student Life &
Leadership Center
Martin, TN

2:30 - 7:30 pm CST

November 12, 2019

Museum Center at Five Points
Cleveland, TN

2:30 - 7:30 pm EST

INSIDE THIS ISSUE

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Rabobank: ASF Impacts Becoming Clear

08.27.2019 By [Erica Shaffer](#) in [MeatPoultry.com](#)

Structural change is coming to the flow of animal proteins throughout the world as countries in Europe and Asia struggle to mitigate the impacts of African Swine Fever (ASF) on swine herds and pork production, a new report by Rabobank reveals. It will take at least five years for the worst-affected countries to rebuild swine herds and for pork production to recover in those countries, Justin Sherrard, global strategist – Animal Protein, RaboResearch Food & Agribusiness, said in “African Swine Fever: A Global Update.”

[Click here for full article](#) □

REAP Grants Available

Aug. 30, 2019

USDA is inviting applications for loan guarantees and grants for renewable energy systems to make energy efficiency improvements, conduct energy audits and provide development assistance.

The funding is being provided through USDA's Rural Energy for America Program (REAP). This notice seeks applications for Fiscal Year 2020 funding. The deadlines to apply for renewable energy system and energy efficiency improvement grants are Oct. 31, 2019, and March 31, 2020. Applications for loan guarantees are accepted year-round. The deadline to apply for energy audit and development assistance grants is January 31, 2020. □

Will 60% of Natural Meat Gone by 2040???

June 15, 2019 from the [Industry Update Newsletter](#) by Will Coggin

The consulting firm AT Kearney [released a report](#) predicting that 60% of meat would be replaced by lab-grown or plant-based alternatives by 2040. The report predicts plant-based “meat” will grow to 10% of the global meat market by 2025, while cell-cultured meat will be 10% of the global meat market by 2030—with both increasing their market share as time goes on. □

New VND case detected in California

By [Tom Johnston](#) on 9/3/2019 in [MeatingPlace.com](#)

A new case of virulent Newcastle disease (VND) was detected Friday [Aug. 30, 2019] in central San Diego County, the first in that county since this outbreak began in May 2018, the California Department of Food and Agriculture (CDFA) announced.

[Click here for full article](#) □

Update on HPAI Situation in Mexico and China

Iowa NPIP Summer 2019 Newsletter

Mexico continues to have an ongoing Highly Pathogenic Avian Influenza (HPAI) event, with the 22nd infected premises being detected on August 8, 2019. Please [click here](#) for more information at ProMED Mail.

A Chinese woman was diagnosed with a H5N6 Avian Influenza infection on August 19, 2020 and is now in critical condition. Please [click here](#) to see the full release from ProMED Mail. □

WELCOME NEW ALLIED MEMBER

BankPlus

Kenny Williamson 601-607-4389



Christine McCracken from Rabobank was the keynote speaker at the 2019 TPA Annual Meeting & Summer Getaway.

TPA BOARD of DIRECTORS

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(731) 796-1519
andrew.blair@tyson.com

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Tyson Foods - Union City, TN
(731) 796-1733
shane.joyner@tyson.com

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

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Tom McCue - Tyson Humboldt
Dale McLerran - Grower, Moss, TN
Brad Nance - Pilgrim's
Dan Nuckolls - Koch Foods Chattanooga
Bart Smith - Sunbelt Rentals
Richard Stewart - River Valley Ingredients
Don Stone - Marel Inc.
David Tallent - Grower, Spring City, TN



**CHICKEN
REAPER**
PlumCreekMFG.com

**Chicken Reaper trolley systems
are eligible for 2019 cost-share!**

**2019 TAEP application period
is Oct. 1st through Oct. 15th.**

If approved TAEP will cover up to 35% of the systems,
a maximum amount of \$10,000 paid out to any one
grower.

**Learn More
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NCC Reaches Out to President Trump Regarding Recent ICE Actions in Mississippi

On August 9, 2019

As a result of the U.S. Immigration and Customs Enforcement (ICE) officers arresting approximately 680 people in sweeping raids at seven sites in six different cities in Mississippi on Wednesday, August 7, the National Chicken Council sent the following letter on August 8 to President Trump.



Dear President Trump,

The National Chicken Council (NCC) writes to you regarding the recent Immigration and Customs Enforcement (ICE) actions in Mississippi on August 7, 2019. As these recent events have shown, the U.S. chicken industry is heavily affected by our nation's immigration policy. We are not in a position to comment on any specific incident and do not presume to do so, but we do wish to express serious concern about the ability of employers to ensure that they do not inadvertently hire an individual who is not eligible for employment. The U.S. chicken industry uses every tool available to verify the identity and legal immigration status of all prospective employees. Unfortunately, the government does not provide employers with a reliable verification method to prevent identity fraud and document falsification and confirm with confidence that new hires are legally authorized to work in the United States.

Currently, the Department of Homeland Security's (DHS) Citizenship and Immigration Service (USCIS) maintains three different categories of documents that prospective employees must submit before being verified eligible for employment in the U.S., delineated as List A, B and C.

- List A documents prove both identity and employment authorization.
- List B documents prove just identity, such as a driver's license or school ID card.
- List C documents prove just employment authorization.

Current law provides applicants the choice of submitting one document from List A or one document each from Lists B and C. Many prospective employees choose to provide List B and C documents, which are easily falsifiable and lack biometric identification. Currently, multiple people can earn wages on the same Social Security Number (SSN) or use the SSN of a deceased individual. E-Verify alone does not flag if the SSN presented is a duplicate or belongs to a deceased individual. The Social Security Administration (SSA) provides little cooperation or resources to employers trying to combat identity fraud.

In a situation when an applicant submits documents on List B and C, NCC believes employers should be allowed to require the use of E-Verify Self Check before hiring the individual. E-Verify Self Check is an online service that combines the use of E-Verify with an automated "Connect the Dots" program that pulls data from publicly available records and requires prospective employees to take a test on that data. Unfortunately, industry currently may not require the use of Self Check under any circumstance, before or after hiring an individual.

Of course, not all applicants will be able to successfully complete the Self Check, as they may have inadequate information in public databases. When this occurs, programs must be in place to ensure that eligible employees are able to appeal the results or address the issue with the appropriate government agency in a timely fashion. DHS should provide employers with an automatic and expeditious appeals process for these employees. Having this system in place will ensure that only applicants who are legally permitted to work in the country even apply.

The SSA must be required to verify that SSNs are not being used in duplicate locations or are not matched to deceased individuals. The Social Security Number Verification System (SSNVS) can verify via Internet that employee SSN information matches Social Security's records; however, they can currently only be used for tax and wage reporting (Form W-2) purposes. The system is also limited to matching information that is easily acquired by an individual committing identity fraud (Name, SSN, DOB, Gender). Providing employers with the additional information of duplicate SSNs or SSNs of deceased individuals can help stop identity fraud by unauthorized applicants while also alerting authorized employees that they may be the victim of identity theft. Employers who discover employees with duplicate SSNs or SSNs of deceased people should use the same DHS automatic referral process previously described.

A safe harbor should be provided for employers that voluntarily utilize the E-Verify Self Check and follow the automatic referral process. This safe harbor should insulate an employer from liability unless the government can show beyond a reasonable doubt that the employer knowingly failed to use these tools in good faith. This trade-off is only fair. An employer that does everything possible to avoid hiring unauthorized employees should not be exposed to further liability. It is the responsibility of employers to help ensure that the law is followed but it is the obligation of the government – not U.S. employers – to provide a secure worker verification system.

The U.S. chicken industry uses every tool available but as recent events have shown, these tools have significant flaws. As a businessman yourself you understand the difficulty in securing a legal workforce and the disruptions to commerce that arise when the tools provided are inadequate. We look forward to working with you immediately on this issue. ▣

The Poultry Industry Creates Jobs in Tennessee

Tennessee companies that produce and process poultry and eggs are an integral part of the state's economy. Poultry producers along with the companies that provide supplies and materials to the industry provide well-paying jobs in the state and pay significant amounts in taxes to state and federal governments.

Economic Impact of the Poultry Industry in Tennessee

	Direct	Supplier	Induced	Total
Jobs (FTE)	9,339	13,686	9,573	32,598
Wages	\$321,809,600	\$682,399,000	\$526,033,300	\$1,530,241,900
Economic Impact	\$2,391,819,200	\$3,208,095,200	\$1,700,105,700	\$7,300,020,100

The Poultry Industry is an Integral Part of the Economy in Tennessee

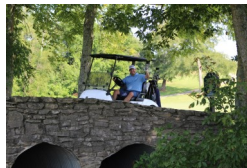
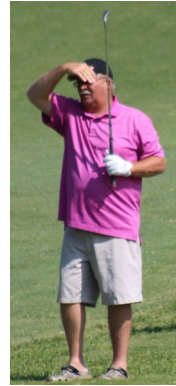
- ❖ The poultry and egg industry in Tennessee employs as many as 9,339 people across the state and generates an additional 23,259 jobs in supplier and ancillary industries. These include jobs in companies supplying goods and services to the industry.¹
- ❖ These are good jobs paying an average of \$46,943 in wages and benefits. And in today's economy, every job is important. In fact, in Tennessee the unemployment rate has reached 3.30 percent. This means that there are 109,400 people trying to find jobs across the state.²

The Economic Benefits of the Industry Spread Throughout the State

- ❖ Not only does the poultry and egg industry create good jobs in Tennessee but the industry also contributes to the economy as a whole. The broader economic impact flows throughout the economy, generating business for firms seemingly unrelated to the poultry and egg industry. Real people, with real jobs, working in industries as varied as banking, real estate, accounting, even printing all depend on the poultry and egg industry for their livelihood.
- ❖ In fact, in 2018, the industry was responsible for as much as \$7.30 billion in total economic activity throughout the state, creating or supporting as many as 32,598 total jobs.
- ❖ Not only does the poultry and egg industry create jobs, it also generates sizeable tax revenues. In Tennessee, the industry and its employees pay about \$320.68 million in federal taxes, and \$164.02 million in state and local taxes.

¹ John Dunham & Associates. *2018 Economic Impact Study of the Poultry Industry*. New York, October 2018.

² The Bureau of Labor Statistics. Available on-line at: <http://www.bls.gov/bls/unemployment.htm>. Data for May-19.



GOLF TOURNAMENT

Pine Creek Golf Course
Bart Smith, Event Coordinator

1st Place, Flight A

Mike Walls
Hannah Bratton
Carter Woodruff

2nd Place, Flight A

Barry Fuller
Jay Smith
Tony Delk
Dylan Jones

1st Place, Flight B

Dink Upchurch
Micah Abernathy
Russell Baker
Dan Nuckolls

2nd Place, Flight B

Russ Bratton
Lucas Willmore
Frankie Smith
Dennis Sigman

Closest to the Pins

Allen Ginn
Frankie Smith
Hannah Bratton
Micah Abernathy

Longest Drive

Hannah Bratton

SPORTING CLAYS

Nashville Gun Club
Chynette Todd, Event Coordinator



1st place – Clint Lauderdale (95)
2nd place – Keith Riley (94)
3rd place – Colt Carpenter (90)
High Scoring Lady – Mary French



Alec Hamby -
Winner of the 65" TV
door prize donated
by Pete Krstovic,
Quality Incentive Co.

ALLIED MEMBER NEWS

Elanco Animal Health has entered into an agreement with Bayer AG to acquire its animal health business in a transaction valued at \$7.6 billion, creating one of the largest stand-alone veterinary-medicine companies in the world. The planned transaction is subject to regulatory approval and other customary closing conditions. Read more [here](#).

Kevin Alger has been promoted to Sales Manager for **Chore-Time** for the United States and Canada. Alger will be responsible for leading Chore-Time's sales and technical service teams as well as supporting and directing the ongoing development of Chore-Time's independent distributor network in the region. Alger earned his bachelor's degree from Ferrum College in Ferrum, Virginia. Prior to entering the poultry industry, Alger was a professional baseball player in the Philadelphia Phillies organization.



NEWS FROM AROUND THE COMPLEXES

To meet a growing demand for quality broiler breeding stock around the world, **Aviagen** has built a new parent stock (PS) hatchery in Quitman, Georgia. The grand opening ceremony was held on August 22. Read more [here](#).

Tyson Foods announced on July 11th that its FarmCheck program for broiler chickens received PAACO certification from the Professional Animal Auditor Certification Organization. [Click here for full story](#)

Tyson Foods has announced an agreement to buy a 40 percent stake in the foods division of Grupo Vibra, a Brazilian poultry producer and exporter. The investment in the Brazilian poultry producer and exporter expands Tyson's reach in international markets. [Click here for full article](#)

DATES TO REMEMBER

USPOULTRY LIVE PRODUCTION SEMINAR

Sept. 17-18, 2019
Sheraton Nashville Downtown

SHOOTING HUNGER

Sept. 26, 2019
Nashville Gun Club

TAEF APPLICATION PERIOD FOR GROWERS \$\$\$\$

October 1-15, 2019
Application on page 53-61

REAP GRANT APPLICATION DEADLINE

October 31, 2019

TPA GROWER MEETINGS

November 5, 2019
Martin, TN

November 12, 2019
Cleveland, TN



It's great how farming
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Cobb-Vantress Receives NPIP U.S. Avian Influenza Clean Compartmentalization Certification

August 16, 2019

The U.S. Department of Agriculture's (USDA) National Poultry Improvement Plan (NPIP) recently certified Cobb-Vantress' U.S. operations as an Avian Influenza (AI) Clean Compartment, helping to continue Cobb's promise of making quality protein accessible worldwide.

The company's U.S.-based pure-line facilities, including pedigree and great-grandparent farms, feed mills, and hatcheries, were certified after extensive USDA/NPIP auditing that confirmed all biosecurity and flock management practices met program requirements. This was a complex process that took more than two years of planning, preparation, and auditing to complete. The designation makes Cobb the only poultry breeding company to have attained such certification, including the United Kingdom, the Netherlands, Brazil and now the United States.

"Our customers have come to depend on our security of supply, and this certification adds another level of assurance for AI-free products," said Kyle Traeger, world quality assurance manager at Cobb-Vantress. "Avian influenza is one of the biggest threats to international trade, and compartmentalization certification helps ensure any future supply chain disruption would be limited. "It's just another way for us to give our customers the reliability they have come to expect from Cobb."

Compartmentalization was introduced by the World Organization for Animal Health (OIE) in 2002 and was adopted by the NPIP in 2016. The NPIP developed management guidelines in 2014 to provide international trading partners confidence in the health status of imported breeding stock. Companies with this certification are recognized for operating at high levels and exceeding basic standards.

"Stringent biosecurity, skillful flock management and frequent health monitoring help facilities remain disease-free in the event of notifiable AI disease in the country, helping to alleviate trade barriers," said Melissa Phillips, Cobb quality assurance auditor and NPIP coordinator.

Prior to this concept, countries and companies used a regionalization approach, establishing geographic zones free of AI to meet importing countries' requirements. Now, with compartmentalization, the importing country may assess risk based on management practices and biosecurity programs of segregated production facilities rather than strictly geographical foundries. In the United States, this is managed by the USDA Animal and Plant Health Inspection Service's National Poultry Improvement Plan Program.

Cobb held a ceremony this week at the company's global headquarters in Siloam Springs, Arkansas. Dr. Gene Shepherd, managing director of quality assurances and vet services at Cobb, expressed gratitude and appreciation to all team members for the hard work and dedication required to achieve this certification. □



FUNDRAISER WINNERS

1st Place - \$2500

Holli Counts

Koch Foods

Ticket sold by Dan Nuckolls

2nd Place - \$1250

Donnie Moreland

Koch Foods

Ticket sold by Dan Nuckolls

Thanks to everyone who supported our fundraiser!!!



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Ed Harlan Inducted into the TPA Hall of Fame



The TN Poultry Association recently inducted Ed Harlan, Special Projects advisor for the TN Department of Agriculture, into the TPA Hall of Fame.

Ed has been with TDA since 2003. He supports major investments in the food, fiber, and agricultural infrastructure sectors and works to strengthen relations with local officials. Ed is a farmer, businessman and former Maury County executive.

Ed's roots are in agriculture and he was owner and operator of Harlan Farms in Columbia from 1975 to 1994. This large diversified agricultural production business included dairy, burley tobacco, row crops and niche products on farmland owned by the Harlan family for *five generations*.

During Ed's time with TDA, he has developed strategic plans to expand current business and grow new business within Tennessee's agriculture sector and established close working relationships with agencies and businesses statewide to ensure greatest cooperation and customer service.

These efforts have contributed to an increase in corporate and on-farm investments in Tennessee, many of which directly involved and impacted poultry.

When Ed started working for the Dept. of Agriculture in 2003 he began attending IPPE in Atlanta and establishing working relationships with the poultry companies. While at IPPE he met and obtained the business interests of Cobb-Vantress for TN. A meeting that took place in 2009 in Gallatin, TN with Dave Juenger eventually led to the Lafayette, TN GGP/GP hatchery in Macon Co. being built in 2010-2011. Ed was additionally most instrumental in the site selection for the Dry Creek Pedigree farm at Deer Lodge in Morgan Co. that started operations in March of 2012, with those meetings and discussions beginning approximately 3 years earlier.

Ed has been directly involved with virtually every expansion project for all of the poultry companies from an economic development aspect for the industry, and for TN. Ed brings people together, he makes things happen, and he continues to get things done. His prior tenure as mayor of Maury county has greatly enabled his incredible success in visiting with mayors, county commissioners and other elected officials across the state to promote our industry and to work through issues and concerns when needed. Ed has been in all the processing plants in TN and he helped Pilgrim's to obtain a state grant earlier in his career with TDA. He has organized and led economic development meetings for Hubbard and several of the integrators, and he has made certain that everything has been good for Aviagen to expand their operations in TN along the way.

Ed began discussions with Tyson over 2½ years ago for the new complex that is currently under construction in Gibson Co. The mere fact that Ed followed up as he did led to the Humboldt site being selected after plans fell through for Tyson in Kansas. This has been Ed's policy throughout his career, to always follow up and to leave the doors open for further communication and business. Ed coordinated and facilitated numerous listening sessions with local and county officials to ascertain that this complex would be welcome in the Humboldt community and that region of west TN.

Ed is constantly assisting and looking out for the poultry industry in TN and for that the industry is most thankful. It could be easily stated that Ed has been the poultry industry's unsung hero over the years and TPA is proud to have now inducted him into our Hall of Fame. □

FUNDRAISER TICKET HIGH SELLER

Dan Nuckolls (7th consecutive year)
Koch Foods - Chattanooga



Presented by TPA President Andrew Blair

Middle top pic:

Our fantastic student helpers
Daniel, Meagan, Jordan, Calli, Jacob



AUCTION FUNDRAISER TOP PRODUCER RECOGNITION

Tina Hurley
Koch Foods - Morristown



Presented by TPA President Andrew Blair
and Past President David Wilds

Middle bottom pic:

Keisha Hooper & Pat Wilmhoff
Thanks so much for all you do for us!!



CUSTOM SOLUTIONS FOR YOUR COMPLEX NEEDS.

Your production complex has unique needs. That's why we work closely with you to better understand these needs. We'll develop an optimum strategy and a custom vaccine solution that promotes your flock's health. And as new challenges emerge, we'll continue to work with you to look for new solutions. Partnering with you on this journey is our commitment to you.

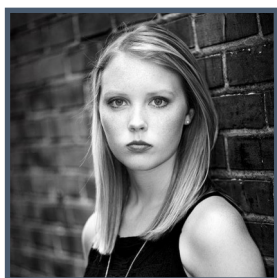
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PREVENTION WORKS
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Learn more at poultryhealthusa.com

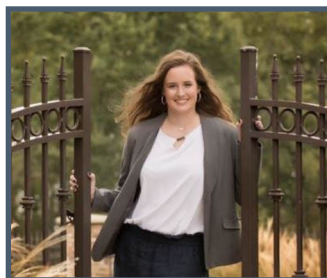
2019 TPA SCHOLARSHIP RECIPEINTS



Adrienne Joyner



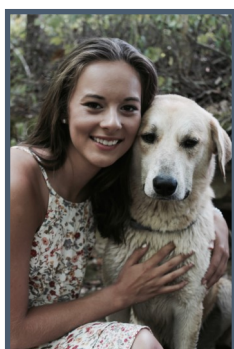
Abigail McConnell



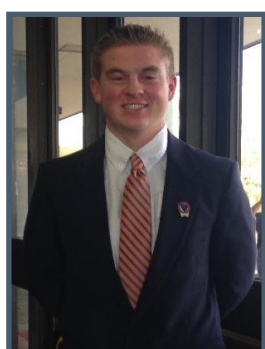
Kayla Walker



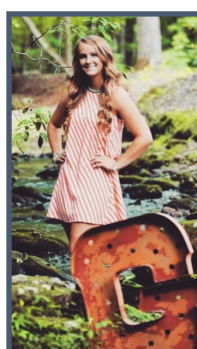
Kammie Yates



Madison Harlan



Hunter Crowson



Ashley Goines



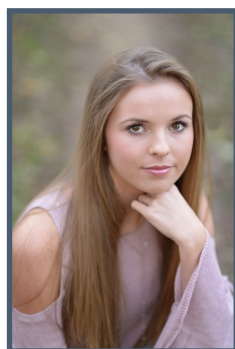
Joseph Gulizia



Kaitlyn McClary



Alec Hamby



Carson Eskew



Calli Gregory



Seth Curl

Grower Member Recipients

- * **Madison Harlan** - G&V Farms in Red Boiling Springs, TN; majoring in Nursing at Vol State Community College - \$2000
- * **Kaitlyn McClary** - Tim McClary Farm in Delano, TN; majoring in Elementary Ed at TN Wesleyan - \$1500

Career Track Recipients

- * **Hunter Crowson** - Gallatin, TN; majoring in Agriculture Business at TN Tech University - \$1000
 - * **Carson Eskew** - Morristown, TN; majoring in Biochemistry at MTSU - \$1000
 - * **Calli Gregory** - Shelbyville, TN; majoring in Animal Science at MTSU - \$1000
 - * **Joseph Gulizia** - Fairview, TN; majoring in Animal Science at MTSU - \$2500
- * **Abigail McConnell** - Munford, TN; majoring in Pre-Vet/Animal Science at MTSU - \$1000

Company Member Recipients

- * **Seth Curl** - Russellville, AR; majoring in Biomedical at Ouachita Baptist University - \$2500
- * **Ashley Goines** - Gainesville, GA; majoring in Vet Tech at Morehead State University - \$1000
- * **Alexander "Alec" Hamby** - Social Circle, GA; majoring in Criminal Justice at University of N Georgia - \$1000
 - * **Adrienne Joyner** - South Fulton, TN; majoring in Agribusiness at Murray State - \$1000
- * **Kayla Walker** - Horton, AL; majoring in Animal Sciences at Snead State Community College - \$1000
- * **Kammie Yates** - Lafayette, TN; majoring in Medical Laboratory Science at Western KY University - \$1000

Matthew & Colby Gray are TPA's 2019 Farm Family of the Year

This year's Farm Family of the Year winners are Matthew & Colby Gray from Obion, TN, who own and operate Gray Poultry Company.

Matthew is a 5th generation row crop farmer and a 2nd generation pullet grower for Tyson in Union City. Matthew grew up working in his parents' poultry barns and on the family farm where he began farming full-time in 2006 alongside his father and mentor, Guy Walker Gray. Guy and his wife Patty own and operate Patty's Pullets and were incidentally our Farm Family of the Year in 2012!



Matthew started out farming 90 acres and has grown his operation today to 2400 acres. Looking to further diversify his farming operation in 2016, he purchased 20 acres from his father and went on to build 4 pullet houses for Tyson. This has proven to be a perfect complement for his row crop operation.

Matthew and his wife Colby have been married for 11 years, and they are both natives of Union City. They have 4 children – Harrison (10), Carsen (7), Mattie Jane (4) and Ally Anne (2). They are very active in their church and community. Colby previously worked as a Physical Therapist Assistant prior to becoming the farm's bookkeeper and helping with the pullet houses.

With each house producing around 75 tons of litter per cleanout, their litter is used exclusively for their row cropping operation in following their comprehensive nutrient management plan. Mortalities are disposed of by incineration to enhance farm biosecurity. When the houses were constructed, energy efficient LED lighting and energy efficient infrared heaters were installed.

The Grays are very passionate about soil conservation and they have completed numerous conservation projects on the farm that include the installation of field tile to help with water drainage issues.

At Gray Poultry Company, the pullet houses are extremely well maintained and mowed regularly. Bait stations are used to control the rodent population, and the control of darkling beetles is taken very seriously. Several biosecurity practices are used including house-specific footwear and bleach footbaths at the entrance to each barn. They also follow what is referred to as the "Perimeter Buffer Area Program" to help reduce the chance of pathogens from entering the poultry houses. The Grays additionally have a state-of-the-art video surveillance system to monitor the traffic coming in and out of the property at the pullet houses.

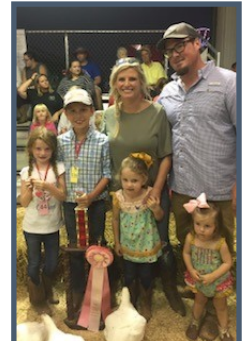


Even with all the responsibilities that come with being full-time farmers and parents to 4 young children, the Grays have worked hard to promote agriculture and give back to their community. Matthew was a 2013 graduate of the Ag Star Leadership Development Program. He has served on the boards for the Obion Farmers Co-op, Obion Co. Farm Bureau and NRCS. Matthew has also served as Vice President of the Young Farmers and Ranchers chapter in Obion County and has served on the Poultry Legislative Advisory Board for the TN Farm Bureau Federation.

In 2016, Matthew and his son Harrison traveled to San Antonio, Texas to accept the award for 1st Place in the Asgrow State Soybean yield contest for Tennessee. Asgrow in turn donated \$10,000 to the school system where the Grays children attend to help promote excellence and further education in agriculture.

Gray Poultry Company has also sponsored various local softball and baseball teams throughout the years and their children have been participating in the Obion Co. Poultry Show sponsored by Tyson.

TPA is proud to recognize Matthew & Colby Gray and their family for a job well done! Congratulations also goes out to their Live Production Manager Shane Joyner, Breeder Manager Rob Brown and Service Tech Jordan Bradford for nominating and supporting this outstanding farm family as they do. □



2019 TPA Workhorse of the Year



Dale Barnett, Executive Director of the TN Poultry Association, was recognized as the TPA Workhorse of the Year during the 2019 Annual Meeting awards banquet on Aug. 3rd in Nashville.

2018-2019 TPA President David Wilds made the presentation at which time Dale was recognized for his ongoing work and accomplishments for TPA. Notably, Dale has been very instrumental in right-sizing several permitting regulations in TN that had previously exceeded federal regulations and requirements. Additional efforts have included his work toward obtaining sales & use tax exemption on metered water, addressing overlooked exemptions and refunds when due to growers with electric utility companies, and increased cost-share assistance for growers through various programs. He has also been instrumental in ascertaining that the business climate for the poultry companies stays favorable in TN as he is vigilantly our industry's watchdog and advocate in Nashville.

Dale was further recognized for his dedicated efforts in working closely with the agriculture departments at MTSU, TTU, UTK and UTM that have resulted in an increased interest in the establishment of poultry programs as well as the increased placement of students in poultry careers. All four of these ag programs are now annual recipients of USPOULTRY recruiting grants as a result of Dale's encouragement and support. These funds are used primarily by the respective universities to take students to IPPE in Atlanta each year. Dale is always ready to assist any student interested in a poultry career, as well as help to scout the local talent when asked by a poultry company when there is an opening to fill.

In receiving this recognition, Dale humbly stated that he has "just been doing my job" and was quick to point out the invaluable assistance of Tracy (Rafferty, Director Member Services) which enables them to accomplish together what they do for your association. Dale began working for TPA as your Executive Director in October of 2011, under the leadership of then-President Dan Nuckolls. His heart is with the growers, he takes great pride in helping students, and he is serious about helping the companies stay successful in TN as well. □

A family of four is sitting around a large wooden kitchen table. On the left, a young boy in a red and blue plaid shirt is looking towards the center. Next to him, a man in a blue plaid shirt is holding a white mug. In the center, a young girl in a red shirt is looking down at a document on the table. To her right, another man in a grey sweater is also looking at the document. On the far right, a man in a green jacket is looking towards the center. There are white mugs on the table. The background shows a kitchen with a window and some decorations.

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Young Leaders Honored at TPA Banquet

TPA's "NextGen - Young Leaders Under 30" recognition program was started in 2018 to engage and invest in young professionals who work for TPA-member poultry companies that are directly involved in poultry production or processing. The following young leaders were recognized at the August 3, 2019 TPA awards banquet in Nashville.



Pictured L to R: Colt Carpenter - Koch Foods, Morristown; David Kraft - Cobb-Vantress, Dry Creek; Caitlin Coriasso - Aviagen, Elkmont AL; Dylan Crain - Tyson OBC; Mary French - Keystone Foods, Franklin KY

David Kraft is the Pedigree Production Manager for Cobb's Dry Creek Pedigree Complex in Deer Lodge, TN. David is originally from Franklin, TN and is a December 2016 graduate of MTSU with a degree in Animal Science. He is also a former TPA scholarship recipient! David has been with Cobb for a total of 3 years, with the last 2 being at Dry Creek. Nominated by Dry Creek's Complex Manager Joshua Morris, David is recognized for being a "go-getter" and for being quick to address issues that arise, not hesitating to go above and beyond. Joshua goes on to say that David is very dependable and is a go-to person to get things done when special circumstances arise.

From the Tyson Obion Complex in Union City, **Dylan Crain** was nominated by Live Production Manager Shane Joyner. Dylan is originally from Dover, TN, is an Animal Science graduate from Murray State and now lives in South Fulton. Dylan joined Tyson in January 2017 as a Live Operations Trainee, then worked as Hatchery Supervisor for a year before being promoted to Hatchery Manager in Jan 2019. Shane is quick to point out that Dylan has been a team player since day one, noting that he does not back up from any challenge. Shane is especially proud of Dylan's daily drive and fearless mentality to manage, having the true characteristics of a leader.

Mary K. French is the Hatchery Manager for Tyson's Keystone Foods Division in Franklin, KY. Mary graduated from Western KY in 2013 where she majored in Ag Sciences, and now lives in Scottsville, KY. Mary has been with Keystone for 5½ years and was nominated by the complex's Breeder Manager Tim Cook. She started out as Hatchery Supervisor and became Hatchery Manager in Franklin in February of this year. Tim informs us that Mary is highly dependable and hardworking, and she works extremely well as a team member with other employees and departments. Furthermore, being very dedicated and detailed at her job led to her recent promotion.

Nominated by David Wilds, Complex Manager for Koch Foods in Morristown, TN, **Colt Carpenter** has been with Koch for 3 years. He first started out as a supervisor in the Morristown deboning plant and now serves as their Assistant Live Haul Manager. He is a 2016 graduate of TN Tech University where he majored in Animal Science and Ag Engineering. Originally from Mohawk, TN in Greene County, Colt interestingly had already gained invaluable experience with trucking and logistics from working with his family's business. David is very complimentary of Colt's maturity and skill as a supervisor, and further states that Colt's demonstrated leadership and the respect of his peers and hourly team members is certainly to be commended.

Aviagen's GP Pullet Manager in Elkmont, AL, **Caitlin Coriasso** was nominated by Elkmont's GP Operations Manager Michelle Rowlett. Caitlin has been with their complex for 5 years. She graduated from Alabama A&M in 2013 where she majored in Animal Science. Caitlin began her career in the poultry industry as a GP Pullet Specialist, then later in 2017 changed her focus and stepped into the role of Vaccination Supervisor for the GP vaccination team. Caitlin was welcomed back into the Elkmont production group in March of this year as their Pullet Manager. Michelle readily acknowledges that they are extremely proud of Caitlin for her hard work and dedication to ensure that Aviagen is providing their customers with the quality product that they deserve. ▣

KENNETH KIM, D.V.M. named Kord Animal Lab Director

NASHVILLE – The Tennessee Department of Agriculture is announcing the appointment of Kenneth Kim, D.V.M., D.A.C.V.P. as director of the C.E. Kord Animal Health Diagnostic Laboratory (KAHDL).

Dr. Kim will lead the KAHDL in providing accurate and timely diagnostic services to Tennessee veterinarians, animal owners, and commercial animal operations.

“We are very fortunate to have Dr. Kim join our team as the Kord Lab Director,” Agriculture Commissioner Charlie Hatcher, D.V.M. said. “Should any livestock and herd health issues arise, I am confident that Dr. Kim will successfully lead our team to provide a diagnosis and work with Tennessee veterinarians to quickly stop the spread of any disease.”

Kim was the principal of SDx Histopathology and a scientist at the La Jolla Institute for Allergy and Immunology’s Shresta Lab. In addition to his small animal biopsy experience, Dr. Kim leaves the Shresta Lab as one of the world’s leading Zika virus research pathologists.

The KAHDL provides diagnostic services for a wide range of animal diseases in many species of animals to serve the needs of the livestock industry and promote animal health within the state. The KAHDL was instrumental in protecting animal health during the 2017 High Pathogenic Avian Influenza outbreak by providing testing, surveillance, necropsies, and early detection of the disease.

Kim received his veterinary degree at the UC Davis School of Veterinary Medicine, and he completed a residency in anatomic pathology at the Louisiana Animal Disease Diagnostic Laboratory in Baton Rouge. Dr. Kim practiced medicine and surgery for 10 years prior to becoming a pathologist and founding SDx Histopathology Inc.

“I am thrilled to be joining the high performing group of laboratory professionals at the Kord lab and to have the support of a business-minded Commissioner,” Dr. Kim said. “My goal at Kord will be to continue building excellent service for Tennessee agricultural producers and veterinarians, and I aim to give Middle Tennessee companion animal veterinarians every reason to keep their valued submissions within the state and contributing to the local economy.”

Kim assumed his duties on Aug. 22. Dr. Samantha Beaty served as interim lab director for the KAHDL.

Dr. Kim and his wife enjoy the great outdoors and have one child. For more information about the Kord Animal Health Diagnostic Laboratory, visit www.tn.gov/agriculture/consumers/pets/animal-health-diagnostic-lab0.html. □



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New Farmers.gov Feature Helps Producers Find Farm Loans that Fit Their Operation

A new online tool can help farmers and ranchers find information on U.S. Department of Agriculture (USDA) farm loans that may best fit their operations. USDA has launched the new *Farm Loan Discovery Tool* as the newest feature on farmers.gov, the Department's self-service website for farmers.

USDA's Farm Service Agency (FSA) offers a variety of loan options to help farmers finance their operations. From buying land to financing the purchase of equipment, FSA loans can help. Compared to this time last year, FSA has seen an 18 percent increase in the amount it has obligated for direct farm ownership loans, and through the 2018 Farm Bill, has [increased the limits](#) for several loan products.

USDA conducted field research in eight states, gathering input from farmers and FSA farm loan staff to better understand their needs and challenges.

How the Tool Works

Farmers who are looking for financing options to operate a farm or buy land can answer a few simple questions about what they are looking to fund and how much money they need to borrow. After submitting their answers, farmers will be provided information on farm loans that best fit their specific needs. The loan application and additional resources also will be provided.

Farmers can download application quick guides that outline what to expect from preparing an application to receiving a loan decision. There are four guides that cover loans to individuals, entities, and youth, as well as information on microloans. The guides include general eligibility requirements and a list of required forms and documentation for each type of loan. These guides can help farmers prepare before their first USDA service center visit with a loan officer.

Farmers can access the *Farm Loan Discovery Tool* by visiting farmers.gov/fund and clicking the "Start" button. Follow the prompts and answer five simple questions to receive loan information that is applicable to your agricultural operation. The tool is built to run on any modern browser like Chrome, Edge, Firefox, or the Safari browser, and is fully functional on mobile devices. It does not work in Internet Explorer.

About Farmers.gov

In 2018, USDA unveiled farmers.gov, a dynamic, mobile-friendly public website combined with an authenticated portal where farmers will be able to apply for programs, process transactions, and manage accounts.

The *Farm Loan Discovery Tool* is one of many resources on farmers.gov to help connect farmers to information that can help their operations. Earlier this year, USDA launched the *My Financial Information* feature, which enables farmers to view their loan information, history, payments, and alerts by logging into the website.

USDA is building farmers.gov for farmers, by farmers. In addition to the interactive farm loan features, the site also offers a Disaster Assistance Discovery Tool. Farmers can visit farmers.gov/recover/disaster-assistance-tool#step-1 to find disaster assistance programs that can help their operation recover from natural disasters.

With feedback from customers and field employees who serve those customers, farmers.gov delivers farmer-focused features through an agile, iterative process to deliver the greatest immediate value to America's agricultural producers – helping farmers and ranchers do right, and feed everyone.

For more information or to locate your USDA Service Center, visit farmers.gov. □

Higher Limits Now Available on USDA Farm Loans

Higher limits are now available for borrowers interested in USDA's farm loans, which help agricultural producers purchase farms or cover operating expenses. The 2018 Farm Bill increased the amount that producers can borrow through direct and guaranteed loans available through USDA's Farm Service Agency (FSA) and made changes to other loans, such as microloans and emergency loans.

Key changes include:

- ◆ The Direct Operating Loan limit increased from \$300,000 to \$400,000, and the Guaranteed Operating Loan limit increased from \$1.429 million to \$1.75 million. Operating loans help producers pay for normal operating expenses, including machinery and equipment, seed, livestock feed, and more.
- ◆ The Direct Farm Ownership Loan limit increased from \$300,000 to \$600,000, and the Guaranteed Farm Ownership Loan limit increased from \$1.429 million to \$1.75 million. Farm ownership loans help producers become owner-operators of family farms as well as improve and expand current operations.
- ◆ Producers can now receive both a \$50,000 Farm Ownership Microloan and a \$50,000 Operating Microloan. Previously, microloans were limited to a combined \$50,000. Microloans provide flexible access to credit for small, beginning, niche, and non-traditional farm operations.
- ◆ Producers who previously received debt forgiveness as part of an approved FSA restructuring plan are now eligible to apply for emergency loans. Previously, these producers were ineligible.

Beginning and socially disadvantaged producers can now receive up to a 95 percent guarantee against the loss of principal and interest on a loan, up from 90 percent.

(continued on next page)

Aviagen Veterinary Services and Export Team Hosts Sri Lankan Official

Biosecurity and safe and secure international trade were topics of discussion

July 23, 2019 – HUNTSVILLE, Ala. – On July 2, the Aviagen® Veterinary Services and Export team welcomed an important guest from the government of Sri Lanka: Dr. K.D. Ariyapala, Sri Lanka's Director General of the Department of Animal Production & Health. Dr. Ariyapala was accompanied by Jean Murphy, the Vice President of Trade Policy for the USA Poultry and Egg Export Council (USAPEEC). The meeting was joined by delegates from the US Department of Agriculture (USDA) and Tennessee government and poultry industry.



Back row from left: Ahmed Elshaikh, Dr. Douglas Balthaser, Dale Barnett, Dr. Charles Hatcher, Dr. Eric Jensen. Front row from left: Dr. Kate Hayes, Jean Murphy, Dr. Lola Crespo, Angela Guerra, Dr. Phillip Eidson, Dr. K.D. Ariyapala, Dr. Murali Bandla & Kelly Wheeler □

Growing trucker shortage casts shadow over entire supply chain

By [Tom Johnston](#) on 8/7/2019 in [MeatingPlace.com](#)

Slower economic growth and a slight increase in supply will cause a shortage in truck drivers to ease slightly by the end of this year, but the combination of a tight labor market and an aging driver population will keep the shortage near its peak of 60,800 drivers in 2018, according to the American Trucking Associations (ATA).

The driver shortage poses a problem for the entire supply chain because 71.4% of all freight tonnage is moved on the nation's highways, ATA notes in its latest examination of the issue that it began documenting in 2005.

"The increase in the driver shortage should be a warning to carriers, shippers and policymakers because if conditions don't change substantively, our industry could be short just over 100,000 drivers in five years and 160,000 drivers in 2028," ATA Chief Economist Bob Costello said in a news release announcing the report's release.

[The report](#) details the factors that contribute to the shortage. Among them are an aging driver population, increases in freight volumes and competition from other blue-collar careers. It also outlines potential market and policy solutions. Though the report covers the entire industry, the bulk of the shortage is in the over-the-road for-hire truckload market.

"The trucking industry needs to find ways to attract more and younger drivers," Costello said. "Right now, the average age of an over-the-road driver is 46 years old, and almost as alarming is that the average age of a new driver being trained is 35 years old.

"Whether by removing barriers for younger drivers to begin careers as drivers, attracting more demographic diversity into the industry, or easing the transition for veterans, we need to do more to recruit and retain drivers," he said. "That includes increasing pay, which happened at a brisk pace last year, to keep pace with demand, addressing lifestyle factors like getting drivers more time at home, and improving conditions on the job like reducing wait times at shipper facilities."

To meet the nation's freight demand, the trucking industry will need to hire 1.1 million new drivers over the next decade — an average of 110,000 per year — to replace retiring drivers and keep up with growth in the economy, the report states. □

Higher Limits Now Available on USDA Farm Loans *(continued from previous page)*

Farm Loans

Direct farm loans, which include microloans and emergency loans, are financed and serviced by FSA, while guaranteed farm loans are financed and serviced by commercial lenders. For guaranteed loans, FSA provides a guarantee against possible financial loss of principal and interest.

For more information on FSA farm loans, visit www.fsa.usda.gov or contact your [local USDA service center](#). □

TPA ART CONTEST WINNERS ANNOUNCED

We had some pretty amazing pieces in this year's art contest at the TPA Annual Meeting & Summer Getaway. Special thanks to Boehringer Ingelheim for sponsoring the event. Congratulations to our winners!!

1st place 15-18 & Best of Show: **Summer Ratledge**

1st place 10-14: **Lillian Krstovic**

1st place 9 and Under & Best of Show Runner-up: **Molly Corvin**

1st place Egg-ceptional category: **Carson Crider**



David Hammond from Jamesway Incubator Co. kept the crowd's attention speaking on the topic of Generational Workforces at the 2019 TPA Annual Meeting & Summer Getaway.



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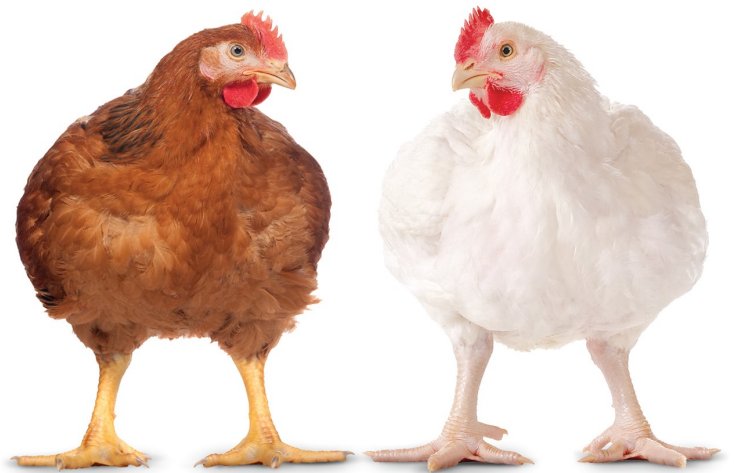
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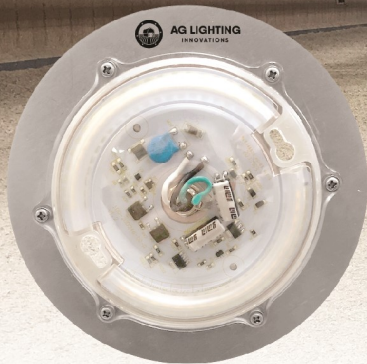
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AG LIGHTING INNOVATIONS

AG Lighting Innovations, LLC is proud to announce that our AG25 Luminaire has been approved for the 2019 TAEP Cost Share Program.

The Tennessee Agricultural Enhancement Program (TAEP) is offering new options to better assist **Tennessee Poultry Growers** in diversifying, expanding, and improving their farming operations. The maximum reimbursement for Application C for Poultry Growers has increased to \$10,000 (based upon 35% of the total cost). New items include feed bins, litter management equipment, overhead trolley system for new builds and retrofits, and **LED lights** and ventilation fans for **retrofits only**.

Application Period

The 2019 application is open for two weeks: **October 1-15, 2019.**

Eligible Purchase Date

Program purchases can be made between **October 1, 2019 - August 1, 2020.**

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2019/2020 SEASON WITH REASONABLE CREDIT TERMS AVAILABLE**

How much are you paying for propane? *(continued from front page)*

Propane suppliers can lock-in a price for a year and many growers have “contracts” in place, which are merely purchase *agreements* - they are not binding contracts. Does your supplier guarantee *both price and delivery*? Remember the rough winter we had in 2013-2014 that left a number of growers without propane during the first part of 2014? To best prevent this from happening two things are recommended:

Firstly, consider doing business with a supplier who will guarantee both price and delivery. Price doesn’t matter if the supplier can’t or won’t deliver. And secondly, own your own tanks. A competitor cannot fill a tank leased to you by another propane company for the propane company’s insurance carrier will not allow it. This is why the current TAEP Ag Enhancement program includes propane tanks for eligible cost-share reimbursement and is why TPA asked to have them included. Own your own tanks and control your supplies. If we ever find ourselves in another short supply situation and your current supplier cannot supply you, you can hopefully buy from someone else that still has local supplies.

To find a propane supplier that guarantees both price and delivery, we encourage you to visit with our TPA allied member propane companies (see the listings on pages 50-51 in this newsletter).

Some propane suppliers require 2-3 days advance notice and may not have a local office for you to call or visit. While this may not always be most convenient, isn’t this worth best price and guaranteed delivery? Realize too that if you abruptly change suppliers your former supplier may not take you back or service you during a shortage situation, so be smart of course in making your next move if you do.

TPA disclaimer: *Always seek professional advice regarding propane supplier agreements and business dealings where applicable.* □

CoBank: Corn Crop Uncertainty Raises Volatility for Grain Elevators

August 2019 - [Tanner Ehmke](#) in [CoBank.com](#)

Grain elevators and end users are navigating heightened market volatility as the size of this fall’s corn harvest remains uncertain. After historic planting delays from nonstop rains this spring, the crop is late in maturing, especially in the eastern Corn Belt (ECB) states of Illinois, Indiana, Michigan, Ohio and Wisconsin, as well as North Dakota and South Dakota in the western Corn Belt (WCB). The delays could signal major losses in crop production this fall, raising the stakes for grain merchandisers and end users like ethanol producers and livestock and poultry feeders. The historic lateness of this year’s crop means that a normal or early frost in October could severely crimp farmers’ yields and reduce harvested acreage. Volatility has plagued corn basis and carry in the futures market since spring, jeopardizing grain elevators’ ability to acquire bushels and profit on this fall’s corn harvest. [Click here for full article](#) □

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lit-ter / man-age-ment

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World Animal Protection Explores Higher Welfare Costs in Chickens

In [The Western Producer](#)

An international study finds adopting higher welfare indoor systems doesn't increase costs as much as once thought. Improving the lives of chickens only costs 13 percent more. That's the finding of a 32-page report from World Animal Protection, an animal welfare organization with offices in Toronto and around the globe.

"Shifting from 'conventional' systems to higher welfare indoor systems increases production by no more than 13.4 percent above conventional production costs, which is much lower than increases of up to 49 percent, previously projected by a (U.S.) industry-funded study," World Animal Protection said in a news release July 22.

[Click here for full article](#) □

Sprinkler systems benefit animal welfare, reduce water use

Aug. 16, 2019 from [PoultryHealthToday.com](#)

Sprinkler systems used in conjunction with cool cells during hot summer weather can not only benefit animal welfare, they can dramatically reduce water use, Tom Tabler, PhD, professor, Mississippi State Extension, told *Poultry Health Today*.

"It's not necessarily heat alone that kills chickens. It's a combination of heat and humidity," Tabler explained.

[Click here for full article](#) □

USPOULTRY Announces the Release of a First-Ever Report of Antimicrobial Use across U.S. Broiler Chickens and Turkeys

USPOULTRY announces the release of the U.S. poultry industry's first-ever report quantifying antimicrobial use on broiler chicken and turkey farms. The new report shows dramatic reductions of turkey and broiler chicken antimicrobial use over a five-year timeframe. As part of its commitment to the transparency and sustainability of a safe food supply, the poultry industry aims to strike a balance between keeping poultry flocks healthy and the responsible use of antimicrobials, especially those medically important to human health.

[Click here for full article](#) □

Immunological and Molecular Characterization of Diseases

July 12, 2019 by Tony McDougal in [PoultryWorld.net](#)

The objectives of the study were to use a microarray-based platform, deep sequencing and qRT-PCR and cellular analysis to monitor changes in host gene expression in poultry associated with production disease; determine association between genotypes in chicken and disease/production phenotypes and also determine the association between microbiota composition and disease/production phenotypes. Information received could then be used to suggest dietary changes and management.

[Click here for full article](#) □

Disease Issues: AI Mixed with ND in Vaccinated Layers

July 15, 2019 by Tony McDougal in [PoultryWorld.net](#)

Joint Indian/UK research has found that co-infection of Newcastle Disease (ND) virus genotype X111 with low pathogenic avian influenza (AI) exacerbates clinical outcome of Newcastle Disease in vaccinated flocks. Both diseases are economically important infectious diseases in poultry. Sometime, concomitant secondary viral/or bacterial infections significantly alters the pathobiology of both ND and AI in poultry.

[Click here for full article](#) □

When Vaccinating Broilers Against Salmonella May Be Worthwhile

July 9, 2019 in [PoultryHealthToday.com](#)

Vaccinating broilers is a big investment and may not be needed on all farms, but it can be a worthwhile move if there are high loads of Salmonella coming into the processing plant or an increase in the types of Salmonella that threaten human health, according to Manuel Da Costa, DVM, PhD, associate director for outcomes research, Zoetis.

[Click here for full article](#) □

Dioxin issues strike Belgium's poultry producers

Aug 19, 2019 in [PoultryWorld.net](#)

Poultry producers in Belgium have once again been caught up in a food safety threat after higher levels of dioxins were found in eggs sold in several of the nation's supermarkets. [Read more](#) □

Egg Incubation Influences Leg Health in Broilers

July 13, 2019 by W.I. Muir and P.J. Groves (Faculty of Veterinary Science, The University of Sydney) in [Zootechnicainternational.com](http://zootechnicainternational.com)

Egg incubation, which represents up to 30% of the existence of a meat chicken, and in particular, egg shell temperature (EST), has been shown to have an effect on leg health of fast-growing broilers. We have previously reported that, in a meat chicken parent line, early incubation at EST below 37.8 °C (the recommended incubation temperature) improved bone parameters, including a higher femoral bone ash (FBA) at hatch, and, a longer latency to lie (LTL) time at 6 weeks of age, when compared to chicks incubated at 37.8 °C EST. The current experiment evaluated the effect of a lower EST during early incubation, on chick hatch window, percent hatch, chick quality, bone ash and 5-week latency to lie, in two commercial strains of meat chicken (strain A and B).

[Click here for full article](#) □

Wooden Breast Disease

July 31, 2019 by Michael P. Babak, Erin M. Brannick, Carl J. Schmidt, Behnam Abasht (Univ of Delaware) in [Zootechnicainternational.com](http://zootechnicainternational.com)

The emergence of Wooden Breast Disease in commercial broiler chickens has been associated with significant economic loss in the poultry industry resulting from severe reduction in meat quality traits. To unravel the morphological changes and molecular events characterizing the pathogenesis of Wooden Breast Disease in chickens, a time-series evaluation of 350 male broiler chickens were conducted under commercial conditions for 7 weeks. From the Pectoralis major muscles, necropsy samples were taken weekly for histologic and ultrastructural analysis, and biopsy samples were taken from weeks 2 to 4 for gene expression analysis using RNA-sequencing.

[Click here for full article](#) □

MSA Exclusive: The effects of genetics and nutrition on the incidence of woody breast meat and proteomic methods to characterize poultry meat quality defects

6/17/2019 excerpts from MeatingPlace.com by [Guest Contributor](#)

This paper briefly describes the effect of genetics and nutrition on the incidence of WB [woody breast] meat, the use of proteomic tools to determine biochemical pathways associated with WB meat development, and provides a synopsis of the relationships between the gut microbiome, proteomics, and meat quality to assist the poultry industry in minimizing the incidence of quality defects.

Conclusions

The differences in proteomes of (normal and woody) broiler breast meat are being elucidated. Characterizing the differential abundance of proteome components and the biochemical pathways (in the muscles from harvest to rigor mortis) associated with those components will identify potential biomarkers for woody broiler breast and can help develop strategies to minimize the incidence of these quality defects in the poultry industry. In addition, we will be able to determine how proteome abundance correlates to the transcriptome, gut microbiota and instrumental analysis, sensory properties, and consumer acceptability of the broiler breast meat.

This information is taken from the AMSA 71st Reciprocal Meat Conference Proceedings by Xue Zhang, Jasmine Hendrix, Wei Zhai and M. Wes Schilling, Mississippi State University, and Surendranath Suman, University of Kentucky. □

Impact of refrigerated storage time on instrumental quality traits of woody broiler breast meat

6/17/2019 information from MeatingPlace.com by [Guest Contributor](#)

MeatingPlace.com has reported on some exciting woody breast (WB) research that was conducted by Michael D. Byron, Morgan E. Von Staden, Xue Zhang, Dhowlaghar Nitin and M. Wes Schilling, Department of Food Science, Nutrition and Health Promotion, Mississippi State University as follows.

“According to personal communication with poultry processors, WB may dissipate after storing the meat at 0-7°C for over 72 hours. No previous research has been conducted on the exact time of dissipation or how this dissipation impacts instrumental quality. The objective of this research was to evaluate and compare the instrumental quality traits (pH, color, cook loss, and shear force) of normal and woody breast fillets over storage time and determine if the WB condition dissipates over storage time.”

It was concluded from their research that “results indicated that refrigerated storage does lead to dissipation of the WB breast condition. The majority of severe WB treatments dissipate to a visual classification of moderate WB after 5 days of refrigerated storage, and approximately 50% of moderate WB meat dissipate to slight WB or normal breast meat after 3 to 5 days of storage at 2-4°C [see Table 3, Figure 1 at MeatingPlace.com]. Even though visual dissipation occurred, this did not impact the shear force of the meat from the upper portion of the chicken breast, indicating that there are some tough or crunchy tissue parts within this portion of the breast.” □

News from Poultry Health Today

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Trial shows glutamine aids gut health in broilers raised without antibiotics

July 5, 2019 from [PoultryHealthToday.com](https://poultryhealthtoday.com)

Glutamine has traditionally been considered a non-essential amino acid in broiler diets, but it may be more essential than first realized, Jared Oxford, a graduate research assistant at the University of Georgia, told Poultry Health Today.

In humans and other species, research has shown that glutamine is “conditionally essential” in times of stress and challenge.

“[Glutamine] is very important for highly proliferative cells such as intestinal epithelial cells, T cells, B cells and macrophages,” Oxford explained. “About 30% of the glutamine in the diet is actually used in the gut itself. It’s used as a precursor in the [citric acid] cycle as well as a precursor to glutathione, which is a very important antioxidant.”

Why focus on glutamine?

With the increase in no-antibiotic-ever production, glutamine may serve as a helpful nutrient asset, particularly when birds are under stress. Oxford and his colleagues are researching glutamine and its impact on coccidiosis and necrotic enteritis.

During a coccidiosis infection, birds have to build more intestinal epithelial cells, and glutamine helps with reproduction of those cells, Oxford said, and research has confirmed the theory.

[Click here for full article](#) □

Coccidiosis vaccination impedes nutrient digestibility

Posted on August 30, 2019 in [PoultryHealthToday.com](https://poultryhealthtoday.com)

Alyson Gautier, a senior graduate assistant at the University of Arkansas recently studied the impact of coccidiosis vaccination, and found the vaccine impacts early bird-growth performance as well as nutrient digestibility.

“Recovery generally occurs around day 20,” she told *Poultry Health Today*. “But when birds are marketed at 42 to 56 days, that early setback can be significant.”

[Click here for full article](#) □

Plant-based vaccines to prevent Newcastle Disease

Jun 26, 2019 info from [PoultryWorld.net](https://poultryworld.net) by Tony McDougal

Plans to develop novel plant-based vaccines to prevent Newcastle Disease are underway as part of a joint UK academic/research institute project.

For more information go to <https://www.poultryworld.net/Health/Articles/2019/6/Plant-based-vaccines-to-prevent-Newcastle-Disease-442814E/> □

Field Vaccination Against ILT in Broiler Chickens: Lack of Consistency

August 18, 2019 in [Zootechnicainternational.com](https://zootechnicainternational.com)

When vaccination against infectious laryngotracheitis (ILT) is necessary in broiler flocks, mass administration techniques are required due to the sheer numbers of birds involved. This is usually done by drinking water administration even though ILT vaccines are generally registered for individual eye drop application. Often the results are variable, with occasional outbreaks occurring in vaccinated flocks or rolling vaccine “reactions” occurring, sometimes involving clinical signs and even mortality. A field evaluation study was performed during a field outbreak using collection of tracheal swabs from birds in vaccinated sheds. DNA extracted from swab samples was submitted for quantitative real time PCR (qPCR) to detect and quantify ILT virus (ILTV) at the University of New England (UNE).

[Click here for full article](#) □

Effect of Ammonia on the Immune Response to Infectious Bronchitis Virus Vaccination

July 3, 2019 in [Zootechnicainternational.com](https://zootechnicainternational.com)

Commercial broilers in the grow-out stage are commonly exposed to ammonia. Ammonia concentrations are higher in poorly ventilated houses and coincide with the elevated incidence of respiratory disease occurring during the winter months. Our study aims to determine the effect of ammonia on the immune response to infectious bronchitis virus (IBV) vaccination and protection against homologous challenge in commercial broiler chickens.

[Click here for full article](#) □

Animal antibiotics sales drop as development stalls: USDA

6/26/2019 in MeatingPlace.com by [Chris Scott](#)

Incentives for companies that develop antibiotics for food animals are being pressured by such factors as high development costs, changing markets and shifting consumer trends, according to a USDA research economist.

With sales of antibiotics in both US and European markets slipping, incentives for companies that manufacture new branded and generic products also are diminishing, according to Stacy Sneeringer of USDA's Economic Research Service.

Pharma companies must consider research-and-development costs that could run for 10 years from idea to market while contending with regulations barring use of medically important antibiotics (those used to treat humans). They also must respond appropriately to growing consumer demand for food from animals that have never been treated with antibiotics, Sneeringer outlined in a webinar.

Annual sales of antibiotics for humans (\$1 trillion) dwarf those for animal antibiotics (\$24 billion), but it is becoming more expensive to develop alternatives, even in cases where earlier antibiotics are reformulated, she added.

Not using antibiotics at all could result in slower animal growth rates, a higher cull rate and could be affected by potential ineffectiveness, although FDA regulations in place barring growth hormone drugs since 2017 also have had an impact on sales. Medically important antibiotics sales fell by 43% between 2015 and 2017, Sneeringer noted.

She added that government regulators eventually want to see non-medically important antibiotics developed for animals to treat bacterial infections once they appear. □

Global Team to Develop Antibiotic Alternatives for Livestock

July 10, 2019 by [Tony McDougal](#) in PoultryWorld.net

Researchers from Perdue University have partnered with the University of Veterinary and Animal Sciences (UVAS) and University of Punjab, Lahore, Pakistan in a bid to slow down the worldwide development of antibiotic resistant bacteria. They want to find novel, effective and affordable alternatives to using traditional antibiotics in Pakistan's growing poultry industry. Professor Paul Ebner, professor of animal science at Perdue, said the more antibiotics were used in the poultry industry, the more bacteria are exposed to and acquire antibiotic resistant genes.

[Click here for full article](#) □

How Necrotic Enteritis Affects Animal' Welfare and Performance

August 22, 2019 in Zootechnicainternational.com

Necrotic Enteritis (NE) affected flocks have poor enteric health and nutrient digestibility leading to decreased performance and increased excretion of nutrients. Evidence suggests that there is an association between diarrhea, wet litter and Necrotic Enteritis but it is unclear whether the occurrence of Necrotic Enteritis leads to wet litter or vice-versa. If Necrotic Enteritis affected birds produce sticky droppings, diarrhea or wet litter, then NE may exacerbate odor emissions. This study was conducted to investigate the effect of sub-clinical Necrotic enteritis and wet litter on litter headspace concentration of odorants in a broiler house. A total of 160 day-old Ross 308 male broiler chicks were assigned to four dietary treatments each with 4 replicates of 10 birds/pen (pen size: 1.2 m × 0.65 m up to d 10 and 0.84 m × 0.60 m thereafter) with fresh pine shavings as bedding material.

[Click here for full article](#) □

Netherlands Antibiotic Policy Had No Negative Economic Effect

June 19, 2019 in FeedStuffs.com

The 63% reduction in veterinary antibiotic sales in the Netherlands from 2009 to 2017 showed no evidence of having a negative effect on average production and economic results on broiler and pig farms, according to a study by Wageningen Economic Research.

[Click here for full article](#) □



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Flexitarian not an ‘f’ word for chicken producers

BY [GARY THORNTON](#) ON AUGUST 1, 2019 IN [WATTAGNET.COM](#)

Flexitarian eating and plant-based proteins are here to stay, so poultry marketers need to take advantage of their product’s high protein level and affordability.

The growing flexitarian style of eating would seem to be a curse to the meat and poultry industry. It encourages eating plant-based foods while allowing meat and other animal products in moderation. So, is flexitarian a dirty word for meat marketers?

Not necessarily, said a speaker at Chicken Marketing Summit 2019. Meagan Nelson, associate director of the fresh growth and strategy team, [Nielsen](#), said meat (especially chicken) is formidable and resilient – due in part to its relative affordability.

Chicken is especially well positioned to successfully compete in today’s protein-hungry market. “Chicken, pork and turkey cost the least per gram, at 2 cents, well below the 10 cents for meat alternatives, 13 cents for nuts and 20 cents for nutrition bars,” she said.

“Plant-based protein alternatives,” she said, “will not be the demise of traditional meat. Meat and [meat alternatives](#) can co-exist.”

Still, [flexitarian](#) eating and plant-based proteins are a lasting trend. Plant-based options abound with 15 percent of food and beverage dollars come from products that meet a plant-based diet, up 1.6 percent from last year.

A protein perception problem

Meat and poultry marketers, however, have work to do in positioning their products. Consumers, for the most part, don’t understand meat and poultry’s very high protein content or its affordability, Nelson said.

Consumers, for example, tend to underappreciate chicken’s high protein level. Only 42 percent of consumers surveyed identified chicken breasts as among the high protein foods with greater than 20 grams per ounce. That’s up 4 points from the prior year for chicken breasts, while consumers’ identification of pork loins as a high protein content food fell to 36 percent.

Nelson concluded that there’s a protein perception problem for all meat proteins including for chicken. And in the current protein-centric market that represents either a problem or an opportunity in the battle for the flexitarian food dollar.

Also underappreciated is meat and poultry’s protein value. “Chicken, on average, is the lowest priced per gram of the proteins on the market,” she said. “That’s important in this space where even the Baby Ruth candy bar carries a grams-of-protein claim on the label.”

[Click here for full article](#) ▢

KFC tests plant-based items

08.27.2019 By [Sam Danley](#) in [MeatPoultry.com](#)

LOUISVILLE, Ky. – Kentucky Fried Chicken is partnering with Beyond Meat to test plant-based chicken, making it the first major US fast food chain to introduce a Beyond Chicken item.

The Yum! Brands subsidiary is debuting 6- and 12-piece nuggets as well as 6- and 12-piece boneless wings at an Atlanta restaurant on Aug. 27. KFC said it will consider feedback from the test to evaluate a broader test or potential national roll-out.

With the announcement, KFC joins a growing list of food service chains entering the plant-based protein space. Carl’s Jr., Dunkin’, A&W, Del Taco, Tim Horton’s, Hardee’s and Subway are just some of the restaurants that have partnered with Beyond Meat, while Burger King, White Castle, Red Robin and others offer vegan options from rival Impossible Foods.



Source: Yum Brands Inc.

The alternative meat strategy so far has proven successful for other restaurant chains. Burger King and Del Taco, for example, both reported same-store sales growth after launching the Impossible Whopper and Beyond Taco. This is because plant-based options appeal to more than just vegans and vegetarians. Meat eaters also are looking to increase the amount of plant-based foods in their diet. Last year, they accounted for 95 percent of plant-based burger orders.

Beyond Meat began developing plant-based meat 10 years ago and has since introduced several products across its beef, pork and poultry platforms. Beyond Chicken Strips, its first product, launched in 2013. The company quietly pulled the product from grocery shelves earlier this year after deciding its vegan chicken didn’t meet the same standards as other popular products like the Beyond Burger or Beyond Sausage.

KFC has been considering meatless chicken for several months. Kevin Hochman, president and chief concept officer at KFC US, told CNBC in May the company was interested in exploring plant-based options but did not have any plans to test a meat alternative.

If the plant-based chicken catches on with consumers, KFC could use its Beyond Meat menu offering to drive traffic in the United States, which has suffered in recent quarters.

“KFC Beyond Fried Chicken is so delicious, our customers will find it difficult to tell that it’s plant-based,” Hochman said. “I think we’ve all heard ‘it tastes like chicken’ — well our customers are going to be amazed and say, ‘it tastes like Kentucky Fried Chicken.’” ▢

Fewer See Meat as Healthy In Annual Survey

July 27, 2019 By Breanne Kincaid from *The Industry Update Newsletter*

The International Food Information Council (IFIC) Foundation's [2019 Food and Health Survey](#) may indicate troubled times for the meat industry. More people believe animal protein is unhealthy than in years past. The bulk of the shift is coming from consumers who were previously unaware of meat's health status. Overall, just 40% of men and 30% of women believe animal protein is healthy. Comparatively, 70% of men and 75% of women believe plant protein is healthy. □

Food Forward – is Animal Protein here to stay?

July 22, 2019 by [Tony McDougal](#) in [PoultryWorld.net](#)

Consumers will be eating far more poultry and fish by 2050 as the world battles to cope with nearly 10 billion mouths to feed. This will lead to a far larger poultry sector that is efficient and sustainable, which in turn will be reflected in prices that consumers will be able to afford.

[Click here for full article](#) □

Marfrig, ADM Sign Deal to Produce Plant-Based Burgers in Brazil

August 6, 2019 in [FeedStuffs.com](#)

Brazil's Marfrig Global Foods, one of the world's largest beef producers and the world's largest beef patty producer, announced that it has reached an agreement with U.S.-based Archer Daniels Midland Co. (ADM), one of the world's largest agricultural processors and food ingredient suppliers, for the production and sale of vegetable protein-based products in Brazil.

[Click here for full article](#) □

Arby's Promotes "Meat-Based Plants"

The unapologetic Arby's, which once had a vegetarian help line, has announced meat products that are shaped to look like vegetables. [The New York Times report](#) on the latest stunt from Arby's also notes a number of restaurant companies are not currently interested in the new fake meat products. □

Plant-Based Foods Development Continues to Grow

06.28.2019 By Monica Watrous in [MeatPoultry.com](#)

Plant-based food sales in retail grew 20% year over year to \$3.3 billion in 2018, while retail sales of all food grew 2%, according to Nielsen data. "You just can't get that kind of growth from any other category in the supermarket," said Michele Simon, founder and executive director of the Plant Based Foods Association. "Plant-based foods aren't new, but what's happening now is it's gone from being a niche industry targeting mostly vegetarians and vegans, who are still an important part of the market segment, but now it's grown into a mainstream industry that is targeting everyone, and that's really what's causing it to explode, combined with the innovation that's happening."

[Click here for full article](#) □

Taco Bell Says 'No' To Fake Meat

By [Greg Henderson](#) June 19, 2019 05:01 PM in [Drovers.com](#)

Taco Bell says it will not add plant-based meat substitutes to its menu. That announcement comes after the taco chain with 7,072 locations met with representatives of both Beyond Meat and Impossible Foods.

[Click here for full article](#) □

Beyond Meat grows revenue in Q2

07.30.2019 By [Ryan McCarthy](#) in [MeatPoultry.com](#)

Beyond Meat Inc. announced its second quarterly earnings report along with a proposed secondary public offering.

The company said existing shareholders will be selling 3 million common stock shares, plus it will sell 250,000 more shares to invest in building out production capabilities and pay for marketing. The company's [first IPO was released](#) earlier this year.

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Tyson unveils Raised & Rooted alternative protein products

ON JUNE 13, 2019 in WATTAG.NET

Company uniquely positioned; offers plant-based and blended protein products

As part of efforts to expand its protein offerings, Tyson Foods on June 13 introduced the company's first plant-based and blended products, along with its new Raised & Rooted brand. **The initiative makes Tyson Foods the largest U.S. meat producer to enter the growing alternative protein segment with its own products.**

The Raised & Rooted brand was created to provide great-tasting plant-based and blended foods that are rooted in how people eat today. The initial products under this new brand, which will launch with several major retail customers this year, include plant-based nuggets as well as blended burgers made with a combination of beef and plants. In addition, the company's existing Aidells brand has launched Aidells Whole Blends sausage and meatballs, made with chicken and plant-based ingredients.

Tyson Foods expects to introduce additional alternative protein products through multiple customers and sales channels. This includes products under the Raised & Rooted brand and across the company's portfolio of iconic brands, as well as to foodservice operators.

Major retail and foodservice customers have expressed interest in what Tyson Foods can bring to the alternative protein segment, which is estimated to be a multi-billion-dollar category and continues to grow. The company's depth and breadth of experience in protein product development, manufacturing, distribution and marketing, makes it uniquely positioned to introduce new plant-based and blended proteins, and drive growth.

"Today's consumers are seeking more protein options so we're creating new products for the growing number of people open to flexible diets that include both meat and plant-based protein," said Noel White, president and CEO of Tyson Foods. "For us, this is about 'and' – not 'or.' We remain firmly committed to our growing traditional meat business and expect to be a market leader in alternative protein, which is experiencing double-digit growth and could someday be a billion-dollar business for our company."

Earlier this year, White selected Justin Whitmore to lead all aspects of Tyson Foods' alternative proteins business, channeling Tyson Foods' capabilities to provide consumers with exciting new protein options.

"The creation of the Raised & Rooted brand is an excellent example of Tyson's ability to think big and move fast, capitalizing on our existing infrastructure," said Whitmore. "We began development of our alternative protein products last year and have succeeded in creating a new brand and bringing those products to market in well under a year. Customers tell us they love the taste and nutritional attributes and are excited to partner with us."

"While most Americans still choose meat as their primary source of protein, interest in plant and blended proteins is growing significantly," added Noelle O'Mara, Tyson Foods' chief marketing officer. "These products appeal to a broad cross section of consumers who enjoy food from a variety of protein sources and we expect interest to continue to grow across protein types. The Raised and Rooted launch and our pipeline of innovation will reflect our consumers expectations for 100% plant based, blended, and traditional protein offerings."

The Raised & Rooted nuggets will launch through national retailers in late summer and the blended burgers this fall. The products have been developed by Tyson Foods' innovation, culinary and consumer insights teams in Chicago and Northwest Arkansas.

The Raised & Rooted nuggets are made from a blend of pea protein isolate and other plant ingredients and contain five grams of fiber and omega-3s, and less saturated fat than traditional nuggets. The blended burger is made with Angus beef and pea protein isolate and has fewer calories and less saturated fat than the plant-based burgers sold by several competing companies.

Aidells Whole Blends products include a portfolio of fully-cooked sausage links and meatballs made with a blend of high quality, no antibiotics ever chicken and plant-based ingredients such as chickpeas, black beans, quinoa, lentils and barley.

Through Tyson Ventures, the company's venture capital fund, Tyson Foods also continues its investment in start-up companies involved in alternative proteins. Current investments include mushroom-based protein producer MycoTechnology and cell-based meat producers Memphis Meats and Future Meat Technologies. □

Perdue has new chicken products blended with vegetables

June 14, 2019 information from the National Chicken Council

Plant-based food may be one of the hottest trends in grocery today, but for parents trying to get their kids to eat their vegetables, the struggle is still real. To help flexitarian families who are hungry for new ways to fill the vegetable void without sacrificing flavor or nutrition, Perdue is introducing first-of-its-kind nationally distributed new PERDUE® CHICKEN PLUS™ Nuggets, Tenders and Patties **blended with vegetables**. □

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Beyond Meat adds ‘marbling’ to Beyond Burger

6.11.2019 By [Erica Shaffer](#) in [MeatPoultry.com](#)

EL SEGUNDO, Calif. – Beyond Meat Inc. recently took another step in its quest to create a [plant-based version of a beef burger](#) by adding what the company calls “marbling.”

The Beyond Meat version of marbling is made with a blend of pea, mung bean and rice proteins and is designed to melt and tenderize like beef fat. The company said the protein blend provides a meatier taste and texture that is similar to the chew and juiciness of beef.

The company plans to ship the new iteration of the Beyond Burger to customers this week. Beyond Meat’s product line of fresh and frozen plant-based proteins are sold at more than 30,000 retail and foodservice outlets worldwide.

“The new Beyond Burger is the next step in our journey toward building meat directly from plants that delivers a consumer experience indistinguishable from its animal protein equivalent,” said Ethan Brown, Beyond Meat founder and CEO.

Impossible Foods debuted upgrades to its signature product in January this year. Impossible Foods developed the [Impossible Burger 2.0](#) using soy protein in response to consumer demand for wheat- and gluten-free options.

And while the previous version of the Impossible Burger was developed for flat-top cooking ranges in foodservice kitchens, the upgraded plant-based burger may be steamed or seared over an open flame (like a beef burger) and can be incorporated into ground meat dishes such as meatballs and chili, according to the company. □

5 Chemicals Lurking in Plant-Based Meats

May 17, 2019 from [The Center For Consumer Freedom](#)

When something sounds too good to be true, it probably isn’t [good]. In recent years, more consumers are trying meat substitutes made with plants. But they’re not made *only* with plants. Fake meat can have over 50 chemical ingredients—something you wouldn’t realize if you’re ordering at a restaurant.

Consumer interest in fake meat has been piqued thanks to new manufacturing techniques that give plant-based “burgers” a taste more closely resembling real meat.

But how do corporations make plants taste and have mouthfeel resembling real beef? Chemical additives. After all, veggie burgers don’t grow in the ground. They’re made in factories.

Here are some things you might not know are in that veggie burger:

1. **Tertiary butylhydroquinone.** TBHQ is a synthetic preservative that prevents discoloration in processed foods. The FDA limits the amount of TBHQ allowed in foods because studies of laboratory animals have found an association with TBHQ and cancer.
2. **Magnesium carbonate.** Remember when some bread was accused of having a yoga mat chemical? Well, magnesium carbonate, used in foods to retain color, is also used in flooring, fireproofing, and fire-extinguishing compounds.
3. **Erythosine (Red #3).** Red #3 is an artificial food coloring. The FDA [banned the use of Red #3](#) in products such as cosmetics in 1990 after high doses of the substance were linked to cancer. But it can still be used in foods like fake meat.
4. **Propylene glycol.** Propylene glycol is an odorless, colorless liquid used as a moisturizer. It’s also used as a liquid in e-cigarettes and is the primary ingredient in antifreeze.
5. **Ferric orthophosphate.** Also called iron phosphate, this chemical is used to fortify foods. It can also be [used as a pesticide](#) to kill slugs and snails. While generally considered safe (for people) in food in small quantities, it can be a skin and eye irritant and may cause an upset stomach.

Beyond Meat’s CEO says in interviews that they “just take the amino acids and the fats from another source and recreate those.” Really? Beyond Meat products also include things like dipotassium phosphate, potassium chloride, titanium dioxide, and maltodextrin.

Are the chemicals in fake meat harmful? Probably not. But many people want to avoid them anyway. So if fake meat companies or their marketing surrogates tell you fake meat is natural and healthy for you and your family—make up your own mind about whether that’s true.

The print advertisement on page 34 is just one of our efforts to educate the public about the content of fake meat. Most people do not realize how processed fake meat is and what kinds of chemical additives are used to create it.

Other efforts include digital advertising and email outreach. We need your help to spread the word about the true nature of “plant-based” meats, so please share this article with your friends, family and colleagues.

Video: [The Real Story Behind Fake Meat](#)

Video: [What You and Your Family Need to Know About Fake Meat](#)

Find out more about the consumer push to avoid processed fake meat products at www.CleanFoodFacts.com

(continued on page 34)

Chicken rearing that promises to change the world

Jun 12, 2019 by [Tony McDougal](#) in [PoultryWorld.net](#)

The new United States firm Cooks Venture is promising a chicken that will change the world through the promotion of regenerative agriculture.

Cooks Venture is a group of farmers, cooks and food professionals who couldn't find what they wanted from the current food system and so built one themselves based on utilizing photosynthesis and healthy soil microbiology to draw down and capture greenhouse gases in the soil.

The firm works with scientists, who measure soil carbon, nutrition and other biological factors on its 800-acre farm in Arkansas and on the farms that grow feed for its livestock.

It tracks year on year metrics to determine how its farming practices are impacting soil health, biodiversity and pest populations.

The initiative is the brainchild of the former chief executive officer of meal kit delivery company Blue Apron Matthew Wadiak.

Heat tolerance/ slower growth

It is just beginning to sell its heirloom-breed, pasture-raised chickens at \$3.98/pound – which is akin to current organic chicken prices. The company is raising Naked Neck Free Rangers, a three-way cross bred for its heat tolerance.

It has a hatchery, 30 houses for broilers and 27 for pedigree birds (parent stock for the broilers). The birds are bred for slower growth (55-62 days from birth to slaughter).

It has partnered with Fresh Direct and plans to produce 200,000 chickens per week by the end of the year, or 10m annually, which while being a tiny segment of the 8.5m US broiler industry, is still ambitious.

Mr Wadiak told the San Francisco Chronicle that he was looking to ensure that people could still eat meat but also help save the world: "People aren't going to stop eating chicken. If you sequester carbon by cultivating an animal food system, you'll be able to have the best of both worlds."

One supporter is Bill Niman, founder of Niman Ranch, who plans to sell heirloom breeding turkeys from his farm to Cooks Venture.

"Sustainable agriculture really just means maintaining the status quo and that's not good enough. We need to focus on the health of what's happening beneath the surface; that's what regenerative agriculture's about."

Cooks Venture plans to buy the feed from regional growers, who are being paid a premium to follow regenerative farming practices. They are expected to add organic matter to the soil with crop rotations, boost biodiversity through restoring wetlands and planting trees and reduce pesticide use through integrated pest management practices.

There is growing concern about how intensive agriculture is wrecking the topsoil that can be used for farming.

But the jury is far from clear as to whether restorative agriculture can really change the world. While non-profit organization Rodale Institute argues that climate change could be reverse if all farms followed regenerative organic practices, others beg to differ.

The Food Climate Research Network University of Oxford report from 2017 concluded that even rearing limited number of animals in ways that cause less damage **leads to emissions that still outweigh the removals** and **simply would not be able to produce the protein needed to feed the world**. □

Slow-growing birds are fast becoming mainstream

Jul 26, 2019 by [Jake Davies](#) in [PoultryWorld.net](#)

In June KFC signed up to the Better Chicken Commitment in Europe. It marks a major change for the fast food giant that will see a shift in its supply of both domestically-produced poultry as well as that it imports. And it is perhaps a slightly different business to those that have signed up to date.

Here in the UK retailers Marks & Spencer and Waitrose made the commitment earlier this year, but they are premium-tier retailers and it could be said it was only a matter of time. But KFC represents a brand that has traditionally not heavily marketed its welfare credentials or spoken about its supply chain, making this a distinct shift.

The headline changes are that by 2026 it will have to move from sourcing conventional breeds of bird to slower-growing types and lowering stocking densities to 30kg/sq. m. Other adaptations that are relatively common – at least in Western Europe – include the provision of windows, perches and bales. Thinning is discouraged but permitted once.

Sacrificing efficiency to improve welfare

The clear consequence of sacrificing efficiency to improve welfare outcomes is that a larger carbon footprint is required to produce a kilo of meat. Dutch retailers led the way with switching to slower-growing breeds back in 2014. Then it was considered a real niche but has since grown to be about 40% of production. In France, about a quarter of birds are grown slower, and in the UK the figure is about 11%, including free-range and organic.

(continued on next page)

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The limits of genetic potential

July 11, 2019 from PoultryWorld.net by Jake Davies

Laying hens and broilers have enjoyed great leaps in performance over the decades in which large-scale genetic selection has taken place – but where are the limits? It may not be biological, as Poultry World discovers.

Future breeding programs for poultry may have to take a more holistic approach that considers bird welfare and environmental concerns, in addition to improved performance, a leading geneticist has warned.

While limits to physiological selection do not appear to be close, the need to balance overall bird health and robust development may become more important, according to Michèle Tixier-Boichard, of the University of Paris Saclay's GABI: Animal Genetics and Integrative Biology unit.

Work to determine the limit of poultry selection, where either traits plateau or the "fitness" of a bird deteriorates beyond an acceptable level have not yet yielded a definitive answer, said Dr Tixier-Boichard. The longest selection experiment for a domestic bird was quail, based on four-week bodyweight, which concluded after 97 generations. Even after 90 weeks some response was observed by researchers. For chicken, an experiment selecting eight-week bodyweight ran for 54 generations with no limit observed on the high body weight line after that time – birds selected for low body weight by contrast began to show no response to selection after 50 weeks.

To continue reading click [here](#). □

Genes Found That Could Help Create More Resilient Chickens

June 14, 2019 in Feedstuffs.com

An international team of scientists — led by researchers at The Pennsylvania State University — have identified genes that may help farmers, especially ones in low- and middle-income countries, breed chickens that can resist one of the biggest disease threats facing poultry today, according to an announcement from Penn State. In the study, the researchers found that a set of genes differentially expressed in two breeds of chickens can fight off, in varying degrees, Newcastle disease, a virus that hampers poultry production worldwide.

[Click here for full article](#) □

Slow-growing birds are fast becoming mainstream

(continued from previous page)

Consequences for the environment

But it's worth considering the consequences to the environment. *Research has suggested that if a third of broilers in the US were switched to slow-growing breeds, to meet the same demand 1.5 billion more birds would need to be produced, 7.6 million more acres would be required to feed them, another billion gallons of water would be needed to feed them and they would produce 28bn more tons of manure. It is clear a 2-tier market is emerging – developed countries are demanding higher welfare while the rest of the world is happy just to have food on the table.* □

To meet cage-free pledges, industry will need to grow 3 times faster

June 19, 2019 in WattAgNet.com by Deven King

If the companies that have made cage-free pledges follow through on those pledges, the U.S. egg industry will need 223 million more cage-free layers by 2026, according to Maro Ibarburu, associate scientist – business analyst with the Egg Industry Center (EIC) at Iowa State University. □

5 Chemicals Lurking in Plant-Based Meats *(continued from page 32)*

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Getting egg orientation right: air cell up when setting eggs

July 11, 2019 by [Gerd de Lange](#) from [ThePoultrySite.com](#)

Care must be taken to ensure correct orientation of the eggs when placing them on setter trays.

It is important to pay attention to the orientation of the eggs when placing them on setter trays as this has quite an impact on hatch results, both in terms of hatchability and chick quality. Air cell up is the way to go.

The embryo lies on the surface of the yolk and is connected to the latebra (white yolk), which is located in the center of the yolk. The water-rich latebra has a lower specific gravity than the lipid-rich yolk and, according to the laws of physics, the embryo will always move to the top of the egg ... no matter which way the egg is placed on the setter tray.

By about day 14 the developing embryo lies on top of the yolk sac. It then turns so it lies lengthwise in the egg and by day 18 the embryo's head is under the right wing with the beak pointing upwards, ready to pierce the air cell (internal pipping) and inflate the lungs prior to finally emerging from the egg. But what if the air cell is out of reach of the embryo?

The air cell is situated at the blunt end between the shell membrane and the egg membrane. The egg shell is more porous at this end and therefore air will enter here as the egg contents shrink due to cooling down after laying. During storage and incubation, the air cell gradually increases in size as water evaporates from the egg contents.

When eggs are set accidentally sharp-end-up, the head of the embryo is at the opposite end from the air cell and internal pipping is impossible. It is very difficult for the embryo to hatch in this position because it is fully dependent on the limited oxygen supply through the chorio-allantoic membrane, and because the shell is stronger at the sharp end and there is less space for pipping and moving around. Unsuccessful embryos can be recognized during break-out of hatch residue by their legs being near the air cell; however not all eggs that are incubated sharp-end-up fail to hatch.

A customer in Turkey carried out an experiment in 2016 using different breeds and flock ages. 300 eggs were set sharp-end-up and 300 eggs in the normal position. This resulted in 12.7 – 21.0 percent lower hatch of fertile, mostly due to a difference in late mortality (see figure). Moreover, among the eggs that had been incubated sharp-end-up there were more culled chicks. When sharp-end-up incubation is combined with in-ovo vaccination, the results are even more dramatic. A small-scale experiment conducted by a customer in Hungary in 2019 with 162 eggs per treatment resulted in 93 saleable chicks from sharp-end-up incubated eggs. When eggs in this position were also in-ovo vaccinated, only 39 saleable chicks were obtained. The control group (sharp-end-down and in-ovo vaccination) showed normal hatch results.

Advice

- Be aware that if 10 percent of eggs are accidentally set sharp-end-up hatchability will be up to 2 percent lower.
- Train staff in breeder farm and hatchery to set eggs with air cell up (sharp-end-down/blunt-end-up).
- Use a candling light in a darkened room to make air cell visible if in doubt.
- Consider automated sharp-end-down setting, especially when doing in-ovo vaccination.
- Take a sample from setter trays ready for incubation to check for correct setting.
- Pay more attention to egg orientation if you notice the 'legs near air cell' sign during break-out of hatch residue.

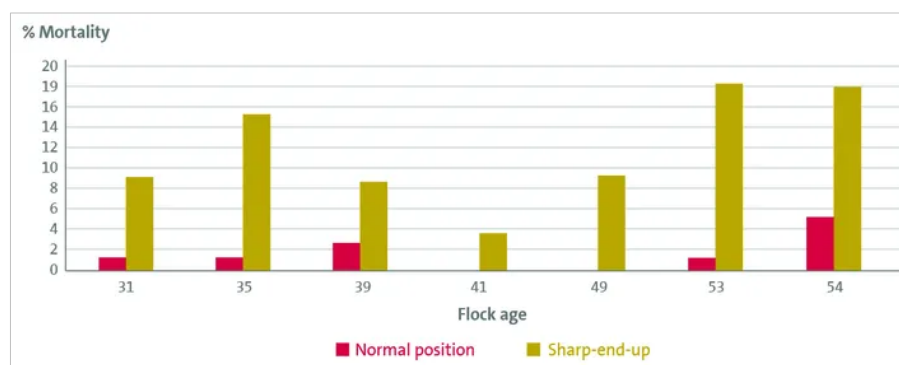


Figure: Embryo mortality 19-21 days for eggs incubated in normal position versus eggs incubated sharp-end-up
© Pas Reform

Walking, not running to automation and robotics

Source: Foodmate on 07.09.2019 By [Joel Crews](#) in [MeatPoultry.com](#)

The opportunities for meat and poultry processing operators to take advantage of automation and robotics technology are many, and an increasing number of solutions are being developed and implemented to address problems in today's plants. In general, stakeholders in processing plants and their supplier partners agree that the health risks associated with repetitive motion, heavy lifting, working in hazardous environments and handling raw or ready-to-eat products can be (or are being) addressed by robotic technology. End-of-the line tasks, including packaging, boxing and palletizing have been the focus of many processors' efforts when implementing automation in their operations. In recent years, box folding, case packing, palletizing and wrapping have become more common as processors test the automation waters and look ahead.

[Click here for full article](#) □

Legal advocacy group gears up to bring down ‘industrial agriculture’

By [Tom Johnston](#) on 7/22/2019 in [MeatingPlace.com](#)

A legal advocacy organization called the Public Justice Food Project said Friday it is expanding its efforts toward “dismantling the systems that prop up industrial agriculture” by bringing litigation “built to win and focused on high-impact structural reform.”

Those efforts largely include expansion of the group’s legal staff. Recent additions include senior attorney Brent Newell, one of the nation’s leading attorneys on air pollution and climate change impacts from “industrial animal agriculture.”

Also part of the push is a new website, [food.publicjustice.net](#), providing resources particularly for lawyers looking to apply their skills to suing “Big Ag,” as well as for local communities, farmers and workers and others wanting to support Public Justice’s work toward that end.

That work ties litigation with political advocacy aimed at changing America’s food system and shifting away from “the inevitability of factory-scaled production, benefitting the few and harming many to the necessity for, and the necessity of, building a system that respects workers, our planet, rural ways of life, and the health and wellbeing of eaters everywhere.”

Public Justice Food Project attorneys so far have been lead counsel in two cases involving independent beef producers versus multinational meatpackers, have led efforts to strike down state laws barring undercover investigations at agricultural facilities, and have fought for clean drinking water for neighbors of poultry processing plants, among other legal pursuits. ▢

Activists strategize at the Animal Rights National Conference

Aug 16, 2019 by [Amanda Radke](#) in [BeefMagazine.com](#)

Animal rights extremists are going to ramp up their efforts to abolish animal agriculture and move to a meatless society. Here’s their [plan](#). ▢

Supreme Court Ruling May Create Roadblock for Activists

June 29, 2019 by [Will Coggin](#) from [The Industry Update Newsletter](#)

This week, the Supreme Court of the United States ruled that agencies should be more restrictive in releasing confidential information under the federal Freedom of Information Act. Activists have long used FOIA to gain intel on businesses they want to shut down. For a more thorough analysis, [read here](#). ▢

The Ag Watchdog

July 13, 2019 from the [Ag Watchdog newsletter](#)

Ag Watchdog is a newsletter highlighting activist threats to agriculture. Ag Watchdog is assembled by the Center for Consumer Freedom, which has a 20-year history of working with agriculture and exposing radical activists. CCF projects include [HumaneWatch.org](#).

Activists Demand “Right to Rescue” from Farms

Direct Action Everywhere is [petitioning](#) the California Governor and Attorney General to recognize what they say is their right to rescue animals from supposedly inhumane conditions on farms. DxE has previously obtained a letter from a UC-Berkeley lawyer claiming California law allows them to do so—which in practice has meant activists storming farms and stealing livestock.

KFC Agrees to Activist Pledge in UK

KFC UK has agreed to abide by the European Chicken Commitment, a pledge pushed by animal activists. The Commitment calls for chicken suppliers to change certain practices by 2026. The European campaign mimics the one from US vegan groups pressuring restaurants and retailers to pledge to serve only Global Animal Partnership-certified chicken by 2024. KFC has not made a pledge in the US to date.

Fake Pork Looks for Swine Fever Advantage

The fake meat company Green Monday is planning on [introducing a fake pork product to China by the end of 2019](#). The company hopes to take advantage of recent disruption in the pork industry caused by African swine fever. Hong Kong-based Green Monday has already begun distributing Beyond Meat’s fake beef patties in Asia.

Wall Street Journal Opposes “Fake Meat” Label Restrictions

The Wall Street Journal editorial board [opposes](#) livestock industry-backed legislation that bans veggie burgers and similar products from calling themselves “meat.” Elsewhere, a lawsuit challenging Missouri’s restriction on fake meat labels [will advance](#) after a settlement could not be reached. Plaintiffs include the manufacturer of Tofurky, ACLU, and the Animal Legal Defense Fund.

Where Does Fake Meat Fit In?

No one would put a Fruit Roll-Up in the produce section next to real fruit. So why would processed fake meat go in the meat aisle? [Read the full piece](#). ▢

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From The Ag Watchdog Newsletter by ConsumerFreedom.com

Medical Journal: Don't Assume Plant-Based Meat is Healthier

[An op-ed in JAMA](#) (the Journal of the American Medical Association) warns against assuming that plant-based meat alternatives are healthy. "Without further studies, there is no evidence to substantiate that these nutrient differences [between real meat and fake meat] alone offer a significant health benefit," the authors write.

PETA: Tax Meat

PETA president Ingrid Newkirk argued for a meat tax this week in [an op-ed](#) at the DC publication The Hill. "We can't continue to eat meat as if there were no repercussions, because there are — in the form of heatwaves, floods, wildfires, food shortages and much more," she writes, also citing a recent UN report calling for reduced meat consumption.

Startup Working to Reduce Cost of Lab-Grown Meat

[Multus Media](#), made of up students from Imperial College London, is working to reduce the cost of the nutrient serum used to grow meat cells in a lab.

Lab-Grown Meat Companies Form Lobbying Group

Five companies that seek to produce lab-grown meat—JUST, Memphis Meats, Finless Foods, BlueNalu, and Fork and Goode—[have formed a DC association](#) called the Alliance for Meat, Poultry, and Seafood Innovation. □

Georgia District Court Rules Against 2015 WOTUS Rule

On August 29, 2019, [from the NCC](#)

The U.S. District Court for the Southern District of Georgia announced that it found the 2015 "Waters of the U.S." (WOTUS) rule legally deficient.

U.S. District Judge Lisa Godbey Wood said in a ruling the Environmental Protection Agency (EPA) and Army Corps of Engineers (the Corps) overreached in defining their jurisdiction under the Clean Water Act (CWA). The ruling said the overreach specifically applied to EPA's proposed assertion of federal authority over activities in interstate waters, tributaries and adjacent waters.

The ruling did not invalidate the rule but kept an injunction in place preventing the rule's implementation in 11 states. With the decision this week, the 2015 rule is in place in 23 states and not in effect in 26. New Mexico is in ongoing court proceedings over the rule's interpretation.

"For more than four years, Georgia has led a multi-state coalition against the 2015 WOTUS Rule, a clear example of federal overreach that infringed on the states' traditional role as primary regulators of land and water resources within their borders," Georgia Attorney General Chris Carr said. "We are proud to have fought for this relief, and we look forward to reforms that will permanently relieve farmers and landowners of the unnecessary burdens the rule created."

The Trump Administration is currently in the process of finalizing a new WOTUS rule to replace the 2015 rule. □

Questions About Glyphosate? Best Food Facts Has Answers.

From the June 2019 Newsletter for the [Center for Food Integrity](#)

As your expert source for every course, [Best Food Facts](#) provides objective, science-based answers to common questions about food and how it is produced, as well as the nutrition and safety of foods and ingredients.

Glyphosate has been mentioned in recent news reports and many consumers are looking for answers. Best Food Facts has several articles to address the topic:

[Why is glyphosate appearing in foods such as cereal?](#)

[Should I be concerned about glyphosate?](#)

[Are we being poisoned by glyphosate?](#)

[Are pesticides safe for food consumption?](#)

Best Food Facts has articles on a wide range of timely food topics. A network of scientists, dietitians and experts explain scientific information in a way consumers can understand and use to guide their food choices. Your organization can access this resource to help your employees and customers.

Have a question about food you would like to know more about? [Ask an expert!](#) □



Picture's Worth 1000 Words: Rusting Fan Repair Using Sprayed-on Poly-urea

National Poultry Technology Center, Auburn University

Dennis Brothers, Jess Campbell, Jeremiah Davis, Kelly Goneke, Gene Simpson, Jim Donald

Poultry growers in Alabama and across the nation have seen galvanized metal fan housing corrosion (rusting) become a serious problem in the recent years. This is particularly troublesome given the relative young age that many of the galvanized fans are experiencing this advanced corrosion. Growers should always pay attention to fan cleanliness for ventilation efficiency during and after the flock, however, cleaning fans is also necessary to fight rusting since the dust, litter, moisture and other corrosive elements that collect on fan housings can promote an increased rate of rusting. If left alone, this corrosion can advance to the point of holes in the fan housings up to having to replace the fans due to support structure damage. The bottom line is that replacing prematurely rusted out fans is often not a viable economic choice given the tight margins most broiler and breeder growers face. So what do growers do once they have fans that are experiencing such advanced corrosion?

In 2016, the NPTC began a trial for a new method of addressing this issue using sprayed on poly-urea to coat and repair corroded and damaged metal fan housings. When applied with the proper equipment and expertise, poly-urea coatings are incredibly durable and can add structural strength to the area of application. Growers are likely familiar with commercially sprayed on truck bed liners, which are a type of sprayed on poly-urea coating. For the initial trial on a commercial broiler farm, we sprayed several ten-year-old fans with rusted housings with poly-urea. Some of the fans had corroded to the point of having holes in the housings. All the fans were first washed to remove all dust and debris, then allowed to dry. We then bridged holes and cracks with tape and sprayed the fan housings with the poly-urea coating. In addition to filling air leaks in the housings, we noticed immediately that the fans ran smoother with little to none of the vibration in the housing that was there before. Now three years later, the treated fans are still working well, running smooth and with no evidence of further corrosion or coating damage. There is no doubt that several of the treated fans would have otherwise needed replacement by this time. The grower has been able to pressure-wash the fans after every flock without worrying about damaging the fan housings or the coating. In the words of the grower: "This is the best thing I've done to my equipment in a long time." We have confidence that spraying these fans easily added 5 years to their usable life, likely longer. Repairing fan housings with holes and cracks due to corrosion also has a positive effect on house static pressure, yielding improved ventilation capabilities in winter and possible increased wind speed in summer. Stopping the leaks in the fan housings also improves fan ventilation efficiency = more pulled out of the house per watt of power used.

Growers can now get their corroded fans sprayed with poly-urea coating for reasonable rates of typically less than \$100 per fan. At this rate, growers can get 10 fans treated for about the cost of replacing a single fan. This cost covers spraying the fan housings only with 25-50 mil thick, hot process poly-urea coating by a professional applicator. The repair is fast too. Once the applicator is set up in the house, the entire coating process takes less than 10 minutes per fan. It is usually the responsibility of the grower to have the fans cleaned and dried before application. Moisture on the fan housing is detrimental to the application process. The cleaner and drier the fan, the better the application and adhesion. It is NOT recommended to spray fans when temperatures are below 50° F or at times with a high probability of condensation on the fan housings. You do not have to remove all signs of rust from the fans before coating but any loose rusty material should be removed using a wire brush or similar method. Typically, the spray contractor will have a minimum charge or minimum number of fans to be sprayed per farm. We recommend an on-site estimate before a grower contract with a spray company. We also recommend only spraying fans less than 20 years old and in otherwise good working order. If the blade/motor support members are damaged or their attachment to the fan framing is damaged, that issue should be addressed before considering poly-urea coating. Fans that have significant damage to those areas may need to be replaced instead.

For any question concerning this process, you may contact Dennis Brothers with the NPTC via email at: brothers@auburn.edu



15 year old fan with advanced corrosion that has led to moderate housing damage at the corners. This fan was still operating normally; however, there was significant housing vibration while running and a lot of air leakage. This fan represents the maximum damage candidate for poly-urea coating. Fans with more damage than this should NOT be considered for this type repair.



Same 15 year old fan: using woven poly tape to bridge the corner caps and framing cracks along the bottom of the housing. Good quality duct tape can be used successfully for this as well. The tape must stay adhered tightly during the spray process. This fan is ready for spray coating.

(continued on next page)

Picture's Worth 1000 Words: Rusting Fan Repair Using Sprayed-on Poly-urea

(continued from previous page)



Same 15 year old fan with poly-urea coating applied. After spraying this fan housing, the vibration seen before stopped. There is no doubt the life of this fan is significantly extended. House tightness also improved significantly after repairing all the damaged fans on this farm.



Original poly-urea coated fan three years after initial test treatment. Fan has been pressure washed after every flock. Coating is intact and the fan is still going strong, and running smooth.

□



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MTSU TO BEGIN OFFERING A MINOR IN POULTRY SCIENCE THIS FALL

Beginning Fall 2019, the School of Agriculture offer an undergraduate minor in Poultry Science. "The new minor will be the academic cornerstone as we expand our focus in poultry science at MTSU," says Dr. Kevin Downs, poultry scientist and coordinator of the new program. The Poultry Science minor will consist of coursework in poultry production, poultry evaluation, poultry nutrition and feeding, poultry reproduction and breeder management, poultry processing, and business management. The School of Agriculture will offer a total of five poultry science courses, more than any other university in the state of Tennessee. Downs adds, "We want to be the destination school in our state for high school and community college students interested in studying poultry science and pursuing a career in the poultry industry. The School of Agriculture at MTSU is dedicated to connecting the best and the brightest with the tremendous opportunities for careers in the poultry sector." In addition to the new Poultry Science minor, the School of Agriculture is also collaborating with Tyson Foods-Shelbyville on the Middle Tennessee Junior Broiler Program. The School has also begun efforts to engage college and high school students through the MTSU Poultry Science Club and MTSU collegiate poultry judging team. For additional information about MTSU's poultry program, contact Dr. Kevin Downs at kev-in.downs@mtsu.edu or (615) 898-5217.



ily to fund the first ever MTSU Poultry Academy, an immersive hands-on poultry science Summer educational program for high school juniors and seniors from across the State, and to support equipment purchases for small scale poultry research. The School is appreciative of the continuing poultry industry support as we further develop our academic program in poultry science.

SCHOOL OF AGRICULTURE COLLABORATES WITH TYSON FOODS IN FIRST MIDDLE TENNESSEE JUNIOR BROILER PROGRAM

Last Fall, the School began a collaborative effort with Tyson Foods – Shelbyville in developing the first Middle Tennessee Junior Broiler Program. This is an educational program for 4th – 12th grade students from across middle Tennessee. Students receive broiler chicks and starter feed and grow their birds for 6 weeks. The program culminates in a show, auction, and poultry science skill-a-thon. Throughout the program, educational sessions on broiler management, selection, and showing are held on the MTSU campus. The first year of the program was a tremendous success and the 2019 program is expected to be bigger and better. The School is appreciative of support for the program from poultry and allied industries. For additional information about the Middle Tennessee Junior Broiler Program, visit <https://www.mtsu.edu/agriculture/juniorbroilerprogram.php>.



SCHOOL OF AGRICULTURE RECEIVE POULTRY INDUSTRY RECRUITMENT GRANT

The School received a grant totally nearly \$7,000 from the U.S. Poultry Foundation and the Hubbard Farms Charitable Foundation in support of the developing poultry science program at MTSU. These grant dollars will be used primar-



Tyson employees (many MTSU alumni!) and MTSU faculty and students were proud to host the first Junior Broiler Program in middle Tennessee.



Our latest Poultry Housing Tips covers our initial study examining the relationship between air speed and the temperature of market age broilers during hot weather.

What have we seen so far?

- 1) House temperatures in the low 80's with relative humidities in the 80's, common conditions in poultry houses during hot weather, can cause body temperatures to rise to lethal levels if high air speeds are not maintained.
- 2) It can take most of the night to bring elevated bird body temperatures back to normal.
- 3) When the lights shut off at night it can increase the amount of time it takes to bring elevated bird body temperatures back to normal levels.

Let us know if you have any questions.

For details download the tip at our website poultryventilation.com

[Poultry Housing Tips...Using Pads Without High Air Speeds Results in Elevated Body Temperatures](#)

Please let us know if you have any questions

Sincerely,

Michael Czarick
Extension Engineer
UGA Department of Poultry Science
poultryventilation.com
706 540-9111

□

Variable-speed Tunnel Fans...Broiler House Upgrade

2019 Poultry Housing Tips Newsletter: Volume 31 Number 5 by Mike Czarick and Brian Fairchild, Univ. of Georgia

A study was initiated on a broiler farm in Northeast Georgia looking at replacing a house's older tunnel fans with new variable speed tunnel fans. The farm consisted of three, 40' X 500', tunnel-ventilated, totally-enclosed houses which were equipped with eight 15 year-old, slant-wall, 48" fans and four seven year old, 54" cone fans. When all tunnel fans were operating, the houses were capable of producing an average air speed of over 600 ft/min. The farm produced approximately 4.5 lb. birds in 38 days at a density of 0.77 square feet per bird.

The primary objective of the study on this particular farm was to determine what level of savings could be realized if the obsolete 48" slant wall fans were replaced with new 54" Multifan belt-driven variable-speed fans (Model C4E4P3). At full speed (600 rpm) the 54" fans were capable of moving 34,800 cfm @ 0.10", roughly twice that of 48" slant wall fans (approximately 17,500 cfm @ 0.10"). This meant that the eight 48" fans could be replaced with just four of the variable-speed 54" fans. The 54" Multifans 54" have an energy efficiency rating of 19.3 cfm/watt (BESS Labs test #16834), while the 48" fans had a field-measured energy efficiency rating of approximately 18 cfm/watt @0.10", a nearly 10% increase in energy efficiency. Since the existing 54" fans were in good shape and had an energy efficiency rating of over 20 cfm/watt @ 0.10", to reduce the cost of the energy-conservation retrofit it was decided they would not be replaced with the 54" variable-speed fans. Essentially 60% of the total tunnel fan capacity in the retrofitted house was provided by the four new 54" variable-speed fans.

The results of the study can be found at the University of Georgia's website www.poultryventilation.com □

The chicken or the egg – roots of the modern broiler explored

By [Tony McDougal](#) on Aug 30, 2019 in [PoultryWorld.net](#)

Genomics has been used to study breed formation and the roots of modern broilers.

The new study examined the historical and genetic origins of the White Plymouth Rock chicken, an important contributor to the modern broiler.

During the mid-19th century, several chicken breeds that had been introduced to America from Europe and Asia became the founders for those formed in the USA.

[Click here for full article](#) □

Of boundaries and staying friends with your family in the ranch business

July 10, 2019 op-ed by [Burt Rutherford](#) in [BeefMagazine.com](#)

You've worked long and hard to build your ranch. Have your family relationships suffered?

We've all heard the old saw that good fences make good neighbors. Indeed they do. They [establish boundaries](#) and keep livestock where they belong. That allows neighbors, if so inclined, to fuss about something of less importance.

It's also a good idea to [establish boundaries](#) between your work life and your family life. I am not qualified to speak to this directly, because I'm not very good at doing that.

For example, we spent a few days with longtime and very good friends last week. We've taken trips with them for many years and apparently my inability to stop working has become a subject of conversation amongst the women. I overheard them plotting against me, saying their main goal was to keep me from doing any work.

But they're right—there's a time to work and a time to enjoy doing other things. I've just never been very good at drawing that line. However, I've found that grandbabies make it a lot easier.

Then, this week, I get an email from the [Network of Family Businesses](#) on that very topic. "In a business family, boundaries, though often mental structures or commitments, are as real as tangible fences. Boundaries draw lines regarding what is acceptable and what is unacceptable within the family and the enterprise. Boundaries help family members balance personal and professional obligations; maintain family bonds; and develop emotionally and psychologically throughout their lives," the email advises.

In fact, the Network says in a business family, it is as important to have a Boundary Policy as it is a Mission Statement.

A Boundary Policy should include:

The balance between individual needs and business needs

- Maintaining personal and interpersonal privacy
- The elimination of burdensome family baggage
- Avoiding domain 'spillover' – family, business, ownership, management
- Resolving conflicts in the appropriate domain (the family or the business)
- Promoting growth, stability, and success of family business

While establishing a Boundary Policy will take time and input from all family members, there are several key items families need to recognize and can start working on immediately:

- Recognize the need for clear boundaries. These boundaries exist in the family, in the business, and personally with individuals playing several roles depending on the context.
- Talk about boundary issues. Communicate the concerns of each individual and walk toward the conflict. Avoidance is not a healthy option.
- Then develop a written Boundary Statement for your family and business.

If you're successful in your business, it's because you've worked long, hard and with intensive focus. That's good. But it can be harmful to your [relationships with family and friends](#). So set boundaries. Then honor them.

Time will tell if I'm able to take my own advice. ▢

Researchers see link between red meat, lower MS risk

By [Chris Scott](#) on 6/17/2019 in [MeatingPlace.com](#)

Australian researchers found there may be a connection between the consumption of unprocessed red meat as part of a regular diet and a lower risk of having a condition that usually leads to multiple sclerosis (MS).

Scientists at the School of Public Health at Curtin University in Perth, Australia, studied subjects who showed signs of central nervous system demyelination (FCD), which other research says leads to full-blown MS 83% of the time after 10 years of the diagnosis. The Curtin team discovered that subjects who ate more unprocessed red meat than the group that ate much less were between 37% and 52% less likely to be at risk for MS, depending on the amount of red meat in their regular diets. The study found no association between the risk for FCD and red meat consumption for those who ate very little red meat like beef, lamb, pork or veal.

The study results appear in the [Journal of Nutrition](#) and concluded that a Mediterranean diet that includes unprocessed red meat could be beneficial for those at high risk of developing MS, the report added. ▢

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Four areas of hatchery management to help achieve better biosecurity

June 25, 2019 from [PoultryHealthToday.com](https://poultryhealthtoday.com)

Diligent attention to four areas of hatchery management — egg-pack quality, incubation, sanitation and in ovo vaccination — can go a long way toward reducing pathogen loads and delivering healthy chicks without the help of an antibiotic, according to a hatchery specialist.

Christopher Williams, PhD, director, technical services devices for Zoetis, is part of a team that helps hatcheries transition to no-antibiotics-ever production or troubleshoots for hatcheries that have already transitioned but are finding mortality is up.

Every hatchery is different, he told *Poultry Health Today*. Steps such as microbial sampling are taken, but it's the combination of biosecurity measures that matters.

Aim for robust chicks

Williams acknowledged that hatchery schedules are important and put pressure on breeder managers, but hatcheries will perform better if managers understand the small details that make up breeder-farm husbandry.

The quality of eggs that go into the hatchery are a direct reflection of what's going to come out of the hatchery. Poor egg-pack quality increases the potential for problems. "We don't need to be setting cull eggs as a standard practice," he said.

If incubation isn't done correctly, birds weaken. "...any small lapse in sanitation is really going to cause a problem. So, that's why I look at bird health, bird quality, uniformity — all these things that come together in the hatchery," Williams said.

More robust and uniform chicks will be less susceptible to bacterial or fungal infections. It's essential to pay attention to details such as making sure positive and negative pressures are correct and that clean and dirty areas are segregated, he said.

Two types of biosecurity

Williams advised poultry operations to think of biosecurity in two ways. There's external biosecurity, which involves putting up barriers, and internal biosecurity, which has to do with making sure the environment is controlled within the hatchery.

Overall hatchery sanitation needs to take into account support equipment. Tray washers, power washers and fogging devices as well as any other equipment used in the hatchery have to be clean at the start of every day and cleaned up after use. Ventilation, including filters, plays a large role in sanitation and supports the hatchery environment.

The use of gentamicin during *in ovo* vaccination certainly had a place and helped to prevent bacterial infections, but most hatcheries have discontinued use of this antibiotic because it is deemed medically important to humans by FDA. Vaccine preparation has therefore become a "critical control point," he said.

Without antibiotics, it's even more imperative that vaccine preparation takes place in a clean environment. "We have to have environments that we can mix our vaccine in that we can keep clean. When we apply the vaccines — when we connect the bag to the machine — we have to be thinking about sterile and aseptic technique," Williams continued.

All these management steps involving biosecurity interact, and any small lapse in sanitation is really going to cause a problem. "The weakest link is going to break the chain," he cautioned.

Hatchery visits

When evaluating hatcheries, look with "soft eyes," Williams said. "You need to see things for what they are, not what you think they are. And many of the problems that we find are right in front of our face, but we've looked at them so often we don't recognize them as a problem."

He predicted the trend to use more automation and robotics will help improve hatchery biosecurity as well as bird welfare. In an industry with an often-transient labor force, robotics provide a way for hatcheries to move eggs or chicks with reliable, repeatable motions that can be controlled. "I see that as a huge investment going forward but also a very good one."

To listen, go to the [podcast](#) . □

Wet-Bulb Reservoirs Can Be Source of Bacterial Contamination for Hatching Eggs

on August 21, 2019 in [PoultryHealthToday.com](https://poultryhealthtoday.com)

Wet-bulb reservoirs in hatchery incubators should be included in the bacterial-monitoring program to ensure they aren't the source of egg-shell contamination, Jean Sander, DVM, senior technical services veterinarian, Zoetis, told *Poultry Health Today*. Her advice is based on recent experience with a US poultry company that wanted to figure out why bacterial counts on the surface of hatching eggs was high and, in some cases, actually increased during incubation when it should have declined.

[Click here for full article](#) . □

Temple Grandin: Rewarding chicken enrichment

07.10.2019 by [Dr. Temple Grandin](#) from [MeatPoultry.com](#)

I recently served as a judge for a contest conducted by Perdue Farms designed to develop environmental enrichments for broiler chickens. In many organic or high welfare standard programs, additional items have to be added to the environment to accommodate the behavioral needs of the animals. Chickens have a natural instinct to roost, climb up and hide under things. Perdue challenged their growers to invent enrichments and submit them in a contest. A total of 33 growers submitted their designs. To be eligible, each design had to be built and tested in a real broiler house. The Perdue staff narrowed the field to five finalists for the final judging. On the day of the contest, the five winning entries had all been constructed and installed at the Perdue Research Farm.

When the judging team entered the research barn, it was obvious that the broilers were actively using all five of the enrichments. The birds were midway through the growing period and very active. The entries were judged for both broiler behaviors and practicality of use for the production procedures. During chicken catching and cleaning of the barn, for example, the enrichment devices must be easy to move out of the way.

Ingenuity at work

The five final entries were distinctly different and clearly illustrated the originality and creativity of the family farmer producers. They included:

The Carpenter Bench This design was mounted on the barn wall and it consisted of a 12-in. wide by 6-ft. long shelf with two cleated ramps. The chickens walked up the ramps and roosted on the shelf. The entire unit was hinged and could be folded up against the wall for catching and cleanout.

Chicken Tree This enrichment was constructed from old pallet boards that pivoted on a central rod and placed on the floor of the barn. During use, the boards were fanned out like a tree, and during catching, it was hung on the wall with boards rotated flat.

Suspended Roosting Ramp Many chickens climbed and roosted on this design. It was a larger unit with a plastic pipe frame and mesh netting surfaces. The inventor experimented with different types of netting to find one that chickens could easily walk on. During catching, it would be hoisted up to the ceiling, the same way feeders and waterers are raised.

Enrichment 1900 This entry consisted of two small wooden ramps hinged on the top like a tent. The cleated ramp angle could be adjusted by how wide the tent was opened. For cleaning, it would be picked up, folded, and hung on the wall.

Chuckles This entry, named by the producer's children, was constructed from plastic pipe and plastic lattice material. It had ramps, a roost area, a hiding place and a hay feeder.

The Carpenter Bench, the winner, was entered by Four C Farms. The whole family was involved in the process, with the parents and two children wearing T-shirts that read "Happy Chickens are Healthy Chickens."

Beneficial designs

Providing broilers with ramps and devices to walk on helps improve leg health and reduces lameness. This can provide a real economic benefit.

Many of Perdue's growers have older barns with low roofs. This is one reason why the smaller devices that could be set out on the floor would be preferred. The larger suspended ramp would not work in these buildings. In larger barns, the suspended ramp might be the preferred design. What this shows is that designs need to be effective in the environments and conditions they are to be used in.

One of the finalist's families told everybody this project changed how they viewed chickens. Previously, they were not very interested in the quality of life for a chicken. After they saw how the chickens "enjoyed" using their device, it changed how they viewed chickens. They were no longer just production activities. □

Effects of elevated grids on growing male chickens

July 5, 2019 from Tony McDougal in [PoultryWorld.net](#)

Elevated grids offer birds an opportunity to rest in a species-specific manner and can improve welfare, especially for medium growing chickens.

German research looked at whether environmental enrichments, which may improve welfare in broilers, could help dual purpose strains.

Increasingly, due to ethical reasons, there are attempts to fatten the male chickens of layer strains or to use dual purpose strains but until now there has been limited knowledge on the behavior of these birds.

So, the aim of the study, carried out by scientists at three German research institutes, was to test the use of elevated grids and their effect on animal-based indicators, (eg physical condition).

In 2 successive trials, the researchers kept a total of 1,217 male chickens from 3 strains (Lohmann Dual, Lohmann Brown Plus and Ross 308) that show differences in growth performance in 24 pens (2 trials x 3 strains x 8 pens). *(continued on next page)*

Effects of elevated grids on growing male chickens *(continued from previous page)*

In half of the pens, grids were offered at 3 different heights (enriched groups); in the other half of the pens, no elevated structures were installed (control groups).

The scientists recorded the number of birds using the grids at different heights and also looked at:

- Locomotor activity
- Walking ability
- Plumage cleanliness
- Footpad health of chickens

Low and medium growth chickens

Chickens with low and medium growth performance preferred the highest grids during both the light and dark periods.

Fast growing chickens

In contrast, fast-growing chickens used the lowest grid more frequently. Fast growing chickens kept in the enriched pens tended to have a higher level of locomotor activity and reduced chest cleanliness.

Medium growth chickens

Chickens from the medium growth performance strain showed better walking ability when kept in the enriched pens. Enrichment did not affect any of the welfare measures in the slow-growing chickens.

The findings suggest that elevated structures may improve chicken welfare, particularly for medium growing chickens. For fast-growing chickens, researchers found evidence for an improvement of animal-based indicators although they used the elevated structures less.

The article is published in the June 25 edition of **Frontiers in Veterinary Science**. □

Longer sentencing for animal cruelty in UK broadly welcomed

JUNE 26, 2019 BY MARK CLEMENTS IN WATTAGNET.COM

A new bill to enable longer sentences for those found guilty of the worst cases of animal abuse is being considered by the U.K. Parliament.

If passed, it would allow the courts to take a tougher approach with those guilty of gross neglect of farm animals, dog fighting and abuse of kittens and puppies, and hand down sentences of up to five years in prison, up from the current U.K. maximum of six months.

The U.K. was the first country in the world to implement laws protecting animals, starting with the 1822 Act to Prevent Cruel and Improper Treatment of Cattle. The body of welfare legislation has gradually grown since then, yet, over recent years, there have been a number of cases in which the country's courts have said that they would have handed down longer sentences had they been available.

Commenting on the new bill, Environment Secretary Michael Gove said he wanted to make sure that those who abuse animal would be met with the full force of the law, adding that the five-year sentence would be one of the toughest in Europe.

The bill has been welcomed by charity The Royal Society for the Prevention of Cruelty to Animals, which last year alone, received one call every 27 seconds to its cruelty hotline.

If U.K. courts have found their current sentencing powers inadequate, then tougher sentences are to be welcomed, however, accusations of cruelty should never be confused with modern farming practices, and these sometimes elicit the same responses from accusers as does cruelty. For the lay person, it can be difficult to distinguish between the two.

Allegations of poultry cruelty

The announcement has come in the same week that farm animal advocacy group Animal Equality revealed findings from investigations on three farms supplying one of the UK's largest poultry companies, and alleged "extreme suffering".

The group says that chickens were suffering from severe leg injuries, with some unable to stand, that carcasses were left to rot for days among flocks and that chicks were struggling to breathe. None of this is what anyone wants, but it also noted that sheds were "gigantic" and "double decker," calling its report "High-Rise of Hell."

If the reports of unaddressed cruelty are correct, then exposure is to be welcomed, but given planning complexities in the U.K., and the common public resistance to rural development, I would doubt very much that the size of these gigantic buildings breaks any rules.

The findings, Animal Equality says, were drawn from visits to poultry farms made earlier this year and have been passed to the Department for the Environment, Food and Rural Affairs, the originators of the new welfare bill, and to Red Tractor, a UK quality assurance scheme.

A number of supermarkets have expressed their concern and the company which takes birds from these producers has commented that it has zero tolerance for anything that jeopardizes the health and welfare of birds and that it would be investigating the allegations.

(continued on next page)

Longer sentencing for animal cruelty in UK broadly welcomed *(continued from previous page)*

For its part, Red Tractor, which has tightened its standards this month, noted that it was aware of the breaches on the three farms and that at one, issues had been resolved, while on the other two, managers were within a 28 day corrective period to retain their certification.

Prior to publishing The Animal Welfare (Sentencing) Bill consultation was carried out and more than 70% of respondents supported tougher sentencing. Had I been asked, I probably would have been one of that 70%, but only in cases where the law had been broken, and cruelty clearly defined and understood. And it's worth remembering that no assurance scheme, public or private, no matter how good, can be omnipresent. There will always be failings. What matters is that once issues are recognized, they are resolved as quickly as quickly as possible and steps put in place to ensure that they don't happen again. □

Determination of Death – and the Implications for Halal

June 20, 2019 by [The Poultry Site](#)

Survey shows more than 95 percent of UK Islamic scholars indicated that pre-slaughter stunning would be halal-compliant if it could be shown that the procedure did not result in instantaneous death.

[Click here for full article](#) □

FSIS denies petition to declare feces in chicken as an adulterant

6.27.2019 from [MeatPoultry.com](#) by [Erica Shaffer](#)

WASHINGTON – The Food Safety and Inspection Service (FSIS) of the US Dept. of Agriculture denied a Physicians Committee for Responsible Medicine (PCRM) petition calling for the agency to declare and regulate feces on poultry as an adulterant.

The PCRM requested in its petition and an addendum that FSIS:

- declare and regulate feces as an adulterant;
- amend FSIS regulations that prescribe mandatory safe handling statements and to require that all meat and
- poultry product labels uniformly disclose the presence of feces; and
- amend the FSIS regulations...to remove the word “wholesome” from the official inspection legend for poultry and include an explicit warning that the product may contain feces.

“We have decided to deny your petition because we disagree with the petition's underlying assumption that meat and poultry products bearing the mark of inspection are likely to be contaminated with feces,” FSIS said in its final response to the petition. “We also have determined that the labeling changes you are requesting are inconsistent with the Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA) and would result in labeling of meat and poultry products that is misleading to consumers.”

[Click here for full article](#) □

Electrostatic spray more cost-effective for large poultry processors: study

By [Julie Larson Bricher](#) on 7/15/2019 from [MeatingPlace.com](#)

University of West Virginia scientists report that the economic benefits of electrostatic spraying in chicken wing processing become more evident as the scale of production increases, and that for small operations, the immersion method is more cost-effective.

In a recent study comparing the efficacy of commercial antimicrobials to inactivate unstressed and stress-adapted *Campylobacter jejuni* on broiler wings these two methods, the scientists found that the electrostatic sprayer and the immersion method have similar antimicrobial effect. An economic feasibility analysis was performed based on the assumption of approximately 1,500 wings produced annually from very small poultry plants.

After inoculating unstressed or stress-adapted *C. jejuni* cells onto fresh chicken wings, the samples were either untreated (control), immersed in or electrostatically sprayed with peroxyacetic acid (PAA-0.1%), lactic acid (LA-5%), lactic and citric acid blend (LCA-2.5%), sodium hypochlorite (SH-70?ppm), or a mixture of PAA-H₂O₂ (SD-0.25%) for 30?seconds.

The study found that there was no difference in the inactivation of *C. jejuni* cells between immersion and electrostatic spray, but among all stressed cultures, different degrees of inactivation were shown in the samples treated with PAA (0.3–2.5 log CFU/g), LA (0.8–2.3 log CFU/g), LCA (0.6–2.4 log CFU/g), SH (0.3–2.2 log CFU/g), and SD (0.1–2.3 log CFU/g) compared with the control.

[Read the abstract online](#) in *Food Control*. □

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.

Integrated plan with live production needed to meet new Salmonella standards

June 14, 2019 in [PoultryHealthToday.com](#)

Poultry companies struggling to meet higher USDA standards for *Salmonella* need to increase control efforts in live production to help avoid dreaded Category 3 designations as well as potential regulatory action that could shake customer confidence.

"Processing can't do it all," insisted Douglas L. Fulnecek, DVM, who spent 28 years with USDA Food Safety and Inspection Service (FSIS) before joining the animal-health company Zoetis in 2016 as senior public health veterinarian.

"For poultry companies to meet today's rigorous USDA/FSIS standards, there needs to be a comprehensive, integrated plan involving live production and processing to minimize the presence of *Salmonella* throughout the entire operation. Everyone needs to be part of the solution," he said.

To [read more](#). □

Conagra Brands responds to millennial demands

6.11.2019 by [Keith Nunes](#) in [MeatPoultry.com](#)

CHICAGO — As the millennial consumer evolves, so is Conagra Brands Inc. Sean Connolly, president and CEO, highlighted how the consumer group is impacting Conagra's innovation strategy during the opening session of the Sosland Publishing Purchasing Seminar taking place this week in Chicago.

He noted that millennials have been at the forefront of changing consumer purchasing behaviors. In the past, taste, price and convenience were key drivers. Today, such issues as nutrition, flavor distinctiveness and authenticity have become attributes of equal importance.

"As we study these changing consumer dynamics, we do so more and more by really leveraging big data as we try to keep track of these trends and design products with all these modern attributes," Connolly said.

Two issues affecting millennials are many are beginning to start families and they are financially constrained.

"Right now, they are the first generation that's making less money than their parents," Connolly said. "But they have grown up with very sophisticated taste buds by eating out at restaurants and having takeout. So, how do they make their very weak balance sheets jive with their very expensive tastes? Increasingly it's things like frozen food."

Combined with the demographic beginning families, it drives home meal purchases and home meal preparation.

"They are increasingly trying new products to see what fits their evolving family structure," Connolly said. "The second thing that we focus on is convenience. They are time pressed and as a result they are looking for convenient solutions."

He said the pace of change is creating opportunities for food and beverage companies.

"All of this change is creating opportunities for manufacturers to sell," he said. "And if you're going to sell and sell well in this environment there needs to be a model so you can show up and stand out. The bottom line is if you think there is a demand space out there that consumers are increasingly interested in and you don't fill that demand space, somebody else will."

"They are changing the narrative of almost everything we do and almost everything everyone else does," Connolly said. □

Harvard Launching Animal Law Clinic

Aug. 10, 2019 from the [AgWatchDog](#) newsletter

Harvard University announced this week that it is launching an Animal Law & Policy Clinic to work on issues related to livestock, wildlife, zoo animals, and "the overarching threat to all forms of life from climate change." The number of schools offering animal law courses has increased from nine in 2000 to 167 today. □



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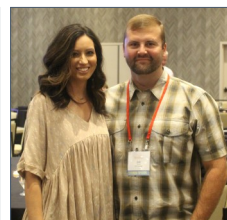
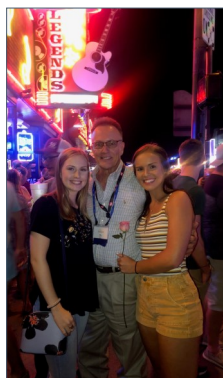
Cobb representatives Scott Black, Randy Yates, Mark Hamby and Jim Jones.



Koch Foods representatives Dan Nuckolls and David Wilds.



Marel representative Don Stone.



Tennessee Agricultural Enhancement Program



TAEP Application C

Poultry Grower

Application Period
October 1 – 15, 2019

Application Guide

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TAEP Overview

The Tennessee Agricultural Enhancement Program (TAEP) was established in 2005 to provide cost share dollars to agricultural producers for the purpose of making long-term investments in Tennessee farms and communities. Participation allows producers to maximize farm profits, adapt to changing market situations, improve operation safety, increase farm efficiency, and make a positive economic impact in their communities.

Application Period

The 2019 application period is open for two weeks: October 1-15, 2019.

Eligible Purchase Dates

Program purchases can be made starting October 1, 2019 and must be completed by the program reimbursement request deadline.

Approval Notification

Approval notifications are scheduled to be mailed in mid-December.

Reimbursement Request Deadlines

The reimbursement request deadline for Poultry Grower is August 1, 2020. Payments are based upon expenses incurred for eligible program items.

2019 TAEP Application C		
Program	Reimbursement Maximum*	Reimbursement Request Deadline
Poultry Grower	\$10,000	August 1, 2020
<i>* Final maximums will be determined based upon overall demand for cost share funding.</i>		

Program Changes

Reimbursement Requests Deadline Change

The reimbursement request deadline for Poultry Grower has changed from September 1 to **August 1, 2020**.

Verification Period Increased

To ensure more long-term investments, the verification period has increased from three years to **five years**. Applicants must utilize equipment and structures reimbursed with cost share funds for the intended purpose of the program for a minimum of **five (5)** continuous years from the date of purchase.

New Items

- Feed Bin
- Litter Management Equipment
- Overhead Trolley System
- Retrofit Items — LED Lights and Ventilation Fans

Eligibility Requirements

To be eligible for TAEP cost share, applicant must:

1. Be a citizen of the United States of America or lawfully present in the United States.
2. Be a Tennessee resident operating a farm located in Tennessee.
3. Be at least 18 years old during the application period.
4. Meet minimum poultry requirements for the program..
5. Have filed a Federal IRS Schedule F (Form 1040), Profit or Loss from Farming, within the last two years (2017 or 2018).
Applicant will not be required to submit a copy of their Schedule F at the time of application. However, applicant may be asked to submit a copy of their Schedule F prior to TAEP approval to verify their farming operation. If your operation does not file a Schedule F, please contact TAEP about alternate documentation to verify farming status.
6. Have current membership with the Tennessee Poultry Association (TPA). Applicant membership will be verified with TPA to determine eligibility. Membership must be in the name of applicant or applicant's operation. Contact TPA at 931-225-1123 or visit www.tnpoultry.org for additional information.

Tennessee Department of Agriculture may:

- Accept, modify, or reject any or all requests.
- Modify program criteria, approval, and payment processes.
- Provide partial funding for specific activity components that may be less than the full amount requested.
 - Require additional information from the applicant.
 - Deny payments for projects that do not meet requirements.

Note from TPA: *Your local county Ag Extension office is your best resource to answer questions and assist you with the application process, if needed.*

UT EXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

<https://extension.tennessee.edu/Pages/Office-Locations.aspx>



Program Requirements

Application

1. Applications must be submitted during the application period October 1 – 15, 2019.
 - Applications may be submitted by one of the following methods:
 - Mail — applications must have a postmark date ranging from October 1 - 15, 2019
 - Hand delivery to TDA, Holean Building, 424 Hogan Road, Nashville, TN 37220 between October 1 - 15, 2019 during normal business hours
 - Applications will not be accepted if faxed or emailed.
 - Applications are ineligible if postmarked or received prior to October 1 or after October 15, 2019.
2. Applicant may only submit one Application C per Federal IRS Schedule F, per person, per application period, per operation.
3. Applicant will be notified in writing of approval or disapproval. Notifications will be mailed in mid-December.
4. Reimbursement packet supersedes all information printed in the application booklet.

Reimbursement

1. Receipts dated prior to October 1, 2019 are not eligible.
2. Receipts for in-kind services are not eligible. Trade-in value is not eligible.
3. Used equipment, used materials, and leased equipment are not eligible for cost share reimbursement unless otherwise noted.
4. Labor provided by applicant is not eligible for cost share reimbursement.
5. Applicant cannot be reimbursed for purchases from a business where applicant participates in ownership (producer cooperatives excluded).
6. Applicants cannot combine projects and submit more than one reimbursement for the same item.
7. Reimbursement documentation must be postmarked or hand delivered by the reimbursement request deadline. Additional processing time is required for incomplete reimbursement requests and requests submitted within one month of the program deadline. It is recommended you submit your reimbursement request as soon as your project is complete.
8. There can only be one reimbursement payment per program approval. Projects must be completed by reimbursement request deadline.
9. Falsifying applications, invoices, or other documents submitted to TDA may make producer and farm ineligible to participate in present and/or future TDA programs, and may result in civil litigation or criminal prosecution.

Verification

1. Applicant must utilize equipment and structures reimbursed with cost share funds for the intended purpose of the program for a minimum of **five (5)** continuous years from date of purchase.
2. Site visits relating to the performance of the project before, during, and after completion may take place. Site visits may include verification of program eligibility to ensure applicants meet minimum livestock/acreage requirements for chosen program(s).
3. Applicant may be required to repay funds if they fail to comply with all aspects of the cost share guidelines.

Poultry Grower Cost Share Opportunities

Minimum Poultry Requirements	Certifications	Lifetime Limit	\$10,000 Maximum Reimbursement
Broilers – 75,000/yr Non-Broilers – 10,000/yr	Not Applicable	Not Applicable	Standard 35% Cost Share
Final maximums may be reduced based upon overall demand for cost share funding.			

Guidelines

Eligible Items

New or Used Equipment

Item 1

- Propane Tank – for poultry house use only; tanks may be purchased new or used
 - Minimum capacity – 1,000 gallons; smaller capacity tanks (500 gal.) may be purchased to reach the minimum capacity
 - Above ground only
 - Must be ASME certified (American Society of Mechanical Engineers)
 - Must be purchased and installed by a Tennessee licensed dealer
 - Foundation — concrete pad or footers
 - Labor — labor conducted by a contractor/supplier for installation is eligible; labor cannot exceed 30% of total reimbursement;
not eligible — labor provided by the applicant

New Equipment Only

Items 2 - 7

- Generator — for poultry house use only
 - 20-50 KW power generation per house
 - Materials and labor to connect and wire the generator including automatic transfer switch
 - Foundation — concrete pad
 - Labor — labor conducted by a contractor/supplier for installation is eligible; labor cannot exceed 30% of total reimbursement;
not eligible — labor provided by the applicant
- Feed Bin — for on farm storage of poultry feed only
 - Must meet current housing and feeding system specifications
 - Must be corrugated metal
 - Foundation — concrete pad
 - Labor — labor conducted by a contractor/supplier for installation is eligible; labor cannot exceed 30% of total reimbursement;
not eligible — labor provided by the applicant
- Litter Management Equipment — must be designated by the manufacturer for poultry house use; includes tractor or skid-steer mounted implements used to windrow, de-cake or scrape walls for optimal litter management and composting; *not eligible — self-propelled equipment*

Poultry Grower Cost Share Opportunities

Eligible Items

5. Overhead Trolley System — manual or automated; used to aid in the removal of mortalities and to transport supplies throughout the poultry house
 - Must be purchased as a complete system; *not eligible — repairs to an existing system*
 - Labor — labor conducted by a contractor/supplier for installation is eligible; labor cannot exceed 30% of total reimbursement; *not eligible — labor provided by the applicant*
6. Biosecurity Items — poultry house area use only
 - a. Drive Over Foam/Spray Vehicle Disinfection System
 - ramps are eligible if purchased with the system; *not eligible — purchase of foam*
 - b. Boot Wash — automatic
 - one per house for the main foot traffic or control room entrance
 - spare brush kit & scraper attachment are eligible with boot wash purchase; *not eligible — purchase of disinfectant*
 - c. Environmental Pads — reinforced concrete pads for the front/receiving end of the poultry house to allow for better cleaning and disinfection before and after receiving poultry
 - recommended dimensions: 20' wide x 24' deep (front to back) x 6" thick; reinforced concrete, sloped away from the building
 - Labor — labor conducted by a contractor/supplier for installation is eligible; labor cannot exceed 30% of total reimbursement; *not eligible — labor provided by the applicant*
 - d. Farm Gate — entrance to the poultry operation; gates must be installed far enough off the road for a semi-truck and trailer to be safely and completely out of traffic before stopping at the gate
 - 12' to 16' gate, solar & battery setup; electronic opener/arm; must include two separate touch pads per gate, set at both high and low heights for easy access for all semi-trucks and farm vehicles; *not eligible — cellular remote controlled access, ornamental gate post construction (rock, brick, etc.), material and labor for providing electrical service*
 - e. Security Camera — perimeter use only
 - f. Poultry House Cleaner — for cleaning, washing down, and disinfecting the interior of the poultry house
 - large 540 RPM PTO driven sprayer and/or blower rigs
 - sprayer tank size must be 500 gallon and PTO driven
 - blower must be PTO driven and come with a spray attachment
7. Poultry House Retrofit
 - Items are for retrofit purposes only; *not eligible — new poultry house construction*
 - Items are for use in the growing area only
 - Items must meet current poultry house specifications
 - Labor conducted by a contractor/supplier for installation of retrofit items is eligible; labor cannot exceed 30% of total reimbursement; *not eligible — labor provided by the applicant*
 - a. LED Lights - includes LED light fixtures that contain fixed LEDs within the apparatus or built into the fixture as one unit
 - b. Ventilation Fans — tunnel fans, stir fans, and minimal vent fans
 - must be designated for poultry house ventilation use only
 - must be fixed mounted
 - c. Ventilation Doors — replacement side vent, attic vent, and tunnel doors
 - d. Replacement Motors — for poultry house fans, ventilation systems, automated feeding systems, sidewalls and curtains

How to Apply

Paper Application

Applicants choosing to apply using the paper method will need to submit Application C form (pp. 9 & 10) by mail or hand-delivery. Paper forms will be electronically scanned. It is important to complete form in CAPITAL LETTERS using a black or dark blue ink pen. Do not use a felt tip pen, pencil, or marker. Leave boxes blank to indicate spaces. Please do not write outside the boxes.

Important! The form should be completed IN CAPITAL LETTERS using a BLACK or DARK BLUE ballpoint/fountain pen. Characters and marks used should be similar in the style to the following:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 ☒ ☒

Paper applications may be submitted by one of the following methods:

- **Hand delivery** to TDA, Holeman Building, 424 Hogan Road, Nashville, TN 37220 between October 1-15, 2019 during normal business hours.
- **Mailed** to TDA, TAEP FY2019 - C, P.O. Box 40627, Nashville, TN 37204

Paper applicants must be postmarked or hand delivered October 1-15, 2019.

Tip: Applicants are encouraged to keep a copy of their application materials and mail the original using a traceable method of delivery. For example, USPS Certified Mail with Return Receipt method will provide the sender with evidence of delivery (to whom the mail was delivered and date of delivery).

1. APPLICANT INFORMATION

- **Name** — enter your full legal name and indicate your title and any suffix you may have
- **Social Security Number** — list only the last four digits of your social security number; additional taxpayer information will be collected at time of reimbursement; participants will receive Form 1099-G for payments over \$600
- **Mailing Address** — enter the address where you receive your mail; TAEP documentation will be sent to this address
- **Farm County** — enter the county where your TAEP project will be located
- **Home Address** — enter the address where you live; the home address may be the same as your mailing address; P.O. Boxes not accepted as a home address
- **Home Phone & Cell Phone** — enter available contact numbers
- **Email** — enter current email address (optional)

2. FEDERAL IRS SCHEDULE F

Federal IRS Schedule F — indicate which years (2017, 2018) you have filed a Federal IRS Schedule F (Form 1040). You are not required to submit a copy of your Schedule F at time of application but may be asked to submit a copy prior to TAEP approval to verify your farming operation. If your operation does not file a Schedule F, please contact TAEP about alternate documentation to verify farming status.

3. TAEP PRODUCER NUMBER (TPN)

The TAEP Producer Number (TPN) is a unique number used to identify each applicant. The TPN is exclusive to an individual and cannot be transferred. If you have applied for TAEP within the past three years, your TPN will be mailed to you September 2019. Please include your TPN on the application form and any other TAEP correspondence. New applicants will not have a TPN until their first application is processed.

4. APPLICANT REQUIREMENTS

Applicant Requirements — TPA membership required at time of application.

5. POULTRY INFORMATION

Poultry — Indicate your total number of poultry during a calendar year.

2019 TAEP Cost Share – Application C

Poultry Grower

Official Use Only

Important! This form will be scanned. Please complete in CAPITAL LETTERS using a black or dark blue ink pen. Do not use a felt tip pen, pencil, or marker. Leave boxes blank to indicate spaces. Please do not write outside the boxes.

1. APPLICANT INFORMATION

Last Name:

First Name:

Middle Name:

Title: ☐ MR ☐ MRS ☐ MS ☐ MISS Suffix: ☐ JR ☐ SR ☐ II ☐ III ☐ IV

Social Security Number - Last four digits only: - -

This is for identification purposes ONLY. Applicant will provide taxpayer information at time of reimbursement.

Mailing Address:

City:

State: Zip: Farm County:

Home Address:

City:

State: Zip:

Home Phone: [] [] [] - [] [] [] [] Cell Phone: [] [] [] - [] [] [] []

2. FEDERAL IRS SCHEDULE F: *I have filed a Federal IRS Schedule F in one of the following years.*

Please check year(s) filed: ☐ 2017 ☐ 2018 ☐ No, I have not filed

3. TAEP PRODUCER NUMBER (TPN):

New TAEP applicants will not have a TPN until applications are processed.

4. APPLICANT REQUIREMENTS:

Membership in the Tennessee Poultry Association (TPA) is required at time of application. Applicant membership will be verified with TPA to determine eligibility. Membership must be in the name of applicant or applicant's operation.

Are you a current member of Tennessee Poultry Association? ☐ Yes ☐ No

Please indicate poultry type, # of birds per year, and # of poultry houses for your operation.

Poultry Type	# of Birds/per year	# of Poultry Houses
<input type="checkbox"/> Poultry – Broilers	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Poultry – Non-broilers (breeders, layers, & pullets)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

- I certify I am a citizen of the United States of America or lawfully present in the United States.
- I certify I am a resident of Tennessee and that I am at least 18 years old during application period.
- I certify I have filed a Federal IRS Schedule F (Form 1040) within the last two years (2017 or 2018).
- I understand only one Application C is allowed per Federal IRS Schedule F, per person, per application period, per operation.
- I understand it is my responsibility to ensure that my project is eligible and meets all TAEP criteria.
- I certify all the information on this application is complete, true and factual to the best of my knowledge and belief.
- I understand providing any false, fraudulent, or misleading information may result in penalties and/or make my operation ineligible to participate in present and/or future Tennessee Department of Agriculture programs.
- I have reviewed and understand all of the guidelines listed in this application booklet.

Print Name:

Date: / / Signature:

- Application must be postmarked or hand delivered Oct. 1 – 15, 2019
- FAXES AND EMAILS ARE NOT ACCEPTED
- It is recommended to make a copy and mail the original using a traceable method of delivery
- Applicant will be notified in writing of approval or denial of application

Mail to:
TN Dept. of Agriculture
Attn: TAEP FY2019 – C
P.O. Box 40627
Nashville, TN 37204