TPA NEWSLETTER

"Serving the integrated broiler/breeder industry in Tennessee"



Fall 2022

Is the bird flu here to stay? (and other current industry woes)

Unlike the HPAI (highly pathogenic avian influenza) outbreak in 2015 in the Upper Midwest when the cases subsided by the summer months, the current virus did not go away during the hotter months and is starting to, unfortunately, gain momentum across the US. Viruses continually adapt to persist and exist, as we are witnessing. It's what they do. Seals off the coast of New England, a dolphin along the Florida gulf coast, foxes, and other wildlife are being found positive for HPAI. A mixed flock of backyard birds in Obion County, in the northwestern part of Tennessee, was just confirmed positive by USDA/NVSL on Sept. 15th. Biosecurity measures should already be at their highest level possible for everyone. Waterfowl and wildlife (and possibly vehicles and people) continue to spread the disease onto premises, and how it enters houses could be via various possible



ways. Foot traffic (even when recommended preventative measures are being taken), the air/wind, insects (such as darkling beetles), rodents, songbirds, and equipment are all possible vectors. Black vultures are an increasing threat, and daily mortalities must be properly managed and kept from their access with no exceptions. Mortalities awaiting their turn to enter a composter or storage facility of whatever type have got to be properly handled. This, unfortunately, is not being taken seriously enough by some as the reports of vulture die-offs and vulture intrusions into litter/composting sheds across the country are on the increase.

As if our industry doesn't have enough to worry about right now, there was a pending railway strike recently averted that would have stopped shipments of grain, fertilizer, and petrol across the US. Anticipated energy consumption demands and usage going into the fall and winter have many growers on edge. Major labor issues are still real for some plants. USDA/FSIS has announced plans to declare Salmonella as an adulterant. Efforts to overturn a handful of environmental regulatory measures are lingering, and other pressures are mounting by those who think they know how to grow and process birds better than you all do. To our growers, thank you for what you do to keep us all fed. To those of you in the plants and at the complexes, thank you for what you do to keep birds hatched and meat supplied. To those of you in supportive rolls for the industry and the complexes, thank you. Global demand for chicken is forecasted by some to rise 47% by 2030, and without all of you, accomplishing this will not be possible. — Dale

Poultry Growers - TN Ag Enhancement Program Application Period



The Tennessee Agricultural Enhancement Program (TAEP) was established to provide cost share dollars to agricultural producers for the purpose of making long-term investments in TN farms and communities. Participation allows producers to maximize farm profits, improve biosecurity, increase farm efficiency, and make a positive economic impact in their communities. **The annual application period is October 1-7, 2022.** Poultry growers may be eligible to receive up to \$6000 reimbursement in approved equipment purchases.

For more information about TAEP for poultry growers go to: <u>https://www.tn.gov/agriculture/farms/taep/producer/poultry.html</u>. Below is Information about the Master Poultry Producer certification program, which can qualify a grower for up to 50% reimbursement.

Master Commercial Poultry Producer

The Tennessee Master Commercial Poultry Producer Program is a new educational program designed to improve the profitability and efficiency of commercial poultry producers. Completing the Program requirements for certification as a Master Commercial Poultry Producer qualifies producers to receive 50% cost share for the TAEP (**Application C signup period is Oct. 1-7, 2022**). <u>Visit the Master Commercial Poultry Producer Program page</u>.



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TPA's Hall of Fame Inductees for 2022

The Tennessee Poultry Association recently inducted three individuals who have made life-long contributions to the poultry industry into the TPA Hall of Fame.

Gordon Douglas Nofsinger was born in Chattanooga, TN on February 14, 1950, and grew up in the north Georgia area. Doug graduated from high school in Ringgold, GA in 1968, and then from Dalton Junior College in GA in 1970 with an Associates of Arts & Science. In 1972, he graduated cum laude from the University of Georgia with a BS degree in agriculture, while majoring in poultry science.

Doug first started working with poultry in his father's breeder houses from 1966-1970 growing for Central Soya. While at UGA he furthered this experience by working at the poultry science lab as a work study student from 1970-1972. After graduation, Doug started servicing broilers as a field tech for Perdue Inc. in Salisbury, MD and then in Ahoski, NC. From 1977-1984 he worked as a Field Tech for Central Soya. He then



went to work for Seaboard, Con Agra and finally Pilgrim's, serving as their Breeder Manager starting in 1984 until retirement. Doug retired after an amazing 46 years of live production service on Aug. 31, 2018.

Doug and his wife, Linda, have been married for 53 years. Doug was 19 and Linda, his high school sweetheart, was 18 when they married. They have 3 children, 10 grandchildren, and 5 great grandchildren. In retirement, when they aren't spoiling grand kids, the two love to travel, and they hope to visit all 50 states.

Jim Donald grew up in the Athens, GA area, and he attended high school and college in Athens. Jim graduated from the University of GA with a B.S. degree in Ag Engineering and completed his master's degree in Ag Engineering in November of 1970. As an undergraduate needing a job, the Dept. Head in Ag Engineering sent Jim to work on the university's mechanized poultry farm during the late 60's - when electric brooding and automated ventilation were first coming about. While his family had a few chickens when he was growing up, this was his first experience working with poultry housing systems.



With only a couple days off after finishing degree requirements, Jim, along with his wife Cathey – who was 6 months pregnant, moved to Auburn to begin his career as an Extension Ag Engineer starting December 1, 1970. His appointment did not have any specific poultry responsibilities, but he was heavily involved in addressing feed mill, grain bin, crop processing, and electrical power consumption and concerns for all aspects of agriculture production. His title was Extension Ag Engineer, Electric Power and Processing.

Mechanization had arrived, farms were now electrified, and by the 70's the poultry industry was beginning its long boom period. By the late 70's, Jim realized the opportunities were there, and in the early 80's he started addressing environmental, water, nutrient management, and litter disposal concerns. He said, "The industry needed to come up with a plan for poultry waste management, or else someone would make a plan for us." Jim then started publishing technical guidance on waste disposal, composting, and mortality management. He worked very closely with Alabama's state veterinarian at the time, Dr. J. Lee Alley, to address direct pit burial concerns.

Gene Simpson grew up in Miami-Dade County, FL, in a rural area south of Miami, in Perrine, near Homestead. After serving in the Army from 1970 -1973 he attended Miami-Dade Community College as a pre-vet major from 1974-1975. Gene then transferred to Mississippi State University hoping to go to veterinary school there and obtained a BS degree in poultry science. Gene did not have any actual hands-on poultry experience while growing up, but ever since he was 5 or 6 years old - back in the 50's - he had been continually intrigued by a nearby egg laying operation that consisted of five 12' x 30' wooden houses.

While Gene was an undergraduate in poultry science at MS State, he worked part-time for an Ag Economist. This then led to him working straight through graduate school and he earned his PhD in Ag Economics in Dec. of 1982. His graduate work focused on the economics of row crop production in the Mississippi Delta region. This included boil weevil resistance and other insect concerns to organophosphates in cotton production during the time when synthetic pyrethroids were first being introduced.

After graduation, Gene had 9 more days than Jim to get packed and moved to begin his career at Auburn, where he started Jan. 1 of 1983 as an Extension Ag Economist. Gene's first responsibilities were to bring farmers into the computer age. He developed Extension programs on how to use a PC and how to set up financial records. As a farm management specialist, he worked with producers of all types with budgets,



economics, record keeping, and farm analysis. Jim tells us that Gene is the one that brought the internet to the farmers across the state of AL.

Jim's focus at that time was that of solving problems for growers and integrators alike. In the mid 80's Jim was asked to serve on the Board of Directors of APEA as its first Engineering advisor. He served in that capacity for more than 30 years. Opportunities to address air flow and ventilation and the need for Ag Engineering involvement were becoming more apparent. He was receiving lots of phone calls seeking guidance pertaining to poultry house design and management. Jim quickly realized that a team was needed to best tackle these interdisciplinary challenges. So, in 1998, he pulled together Dr. Mike Eckman from Poultry Science, Gene Simpson from Ag Economics, and himself from Ag Engineering, and the rest is history. By 1999 they were publishing the *Poultry Engineering, Economics and Management* newsletter to address practical topics, with the bottom line always being – "will it pay?" Their website, *PoultryHouse.com*, was also launched during this time. *continued on next page*

TPA BOARD of DIRECTORS

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TPA's Hall of Fame Inductees for 2022 (continued from previous page)

As their combined efforts continued to evolve, Jim realized that a poultry technical center or institute was needed to address both sides of all issues. He went to Ken Taylor on Alabama's Poultry & Egg Association board and started discussing how to possibly make this happen. Auburn already had a Poultry science program, with their emphasis being on nutrition, food safety and bird health, and this was not an easy sell. Johnny Adams with the Alabama Poultry & Egg Association eventually worked out a partnership arrangement and he and Ken took it to the Dean to get it approved. It was ultimately approved by Auburn's Board of Trustees. Auburn agreed to fund the salaried positions for what would become the NPTC, the National Poultry Technology Center, but the funds to construct, maintain and operate the facilities and programs would have to be obtained through donations, housing and ventilation workshop registrations and sponsorships, and newsletter advertising.

Jim then served as the first Director for the NPTC and Gene, the Associate Director. As a team they were challenged early on by ALFA, the Alabama Farmers Federation insurance group, to standardize housing specifications for construction, ventilation, and efficiency - and the industry soon changed to whereas all poultry house engineering was based on Auburn's standards. Over 10,000 copies of their *Poultry House Construction Guidelines* book are still in circulation. To quote Jim, "We changed the way every chicken house in the US is built and managed." In 2018, Gene and Jim received the Federation's Cultivator Award, in recognition of their numerous contributions that have benefited farmers and rural families. Systems developed by Gene and Jim are said to have saved the overall poultry industry as much as 50 million dollars, or more.

Jim and Gene's contributions to Tennessee have been invaluable to our industry over the years. They have presented on various occasions at TPA grower and service tech meetings and have worked directly with live production team members and the complexes across the state. The information and expertise shared through their numerous publications and presentations has been most impactful. What many people are not aware of is the tremendous support and guidance given selflessly by these two over the past 12 years to the TPA office and staff. Invaluable assistance has been provided to address environmental and regulatory concerns, challenges with utilities, and opportunities for growers. Tennessee is proud to call Jim and Gene our friends; they are true professionals who care deeply about our industry, and everyone involved.

Gene retired in January 2019 with the title as Professor and Associate Director Emeritus and consulted with Auburn for one more year. He and his wife Cathy have been married 42 years and they have two adult children and three grandkids.

Jim retired in January of 2019 but continued consulting with Auburn for one more year and now has the titles as Professor Emeritus and Director Emeritus. Jim says his phone still rings off the hook and he continues to speak at meetings and work with live production folks when invited to do so. He and his wife Cathey met in a college chemistry class, and the chemistry must have been right for they have been married 55 years. They have two adult children and five grandkids.

To view the audio presentation honoring these three HOF Inductees, go to <u>www.tnpoultry.org</u>, click on the *Award Programs* tab and then on *Hall of Fame*.

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Parham's Pullets named TPA's Farm Family of the Year

Parham's Pullets in Weakley County has been named this year's Farm Family of the Year for the TN Poultry Association (TPA). The Parhams raise pullets for the Tyson Obion County Complex.

David and his wife, Melanie, have been married for 28 years. They have two children Joshua, 21, and Emma, 13. David has lived on the family farm in Dresden, TN his entire life, and Melanie was born and raised in Martin, TN. David graduated from the University of TN - Martin with a bachelor's degree in ag business. He is a 4th generation farmer and worked for Tyson Foods in Union City for 15 years prior to establishing his own poultry operation in September 2019. David started out with Tyson Obion as a Breeder Technician and was even recognized once as their Pullet Breeder Technician of the Year before serving as the poultry complex's Breeder Manager.

Melanie graduated from the University of TN - Martin with a bachelor's degree in social work and from Lipscomb University with a master's degree in professional studies. She is employed with Horizon Health as the Director of the Behavioral Health Unit at the



Murray-Calloway County Hospital in KY, and she also works as a behavioral health consultant for Corterra Healthcare Partners, LCC. Additionally, Melanie serves as the business and financial manager for the family's farming operations.

Since the beginning of David's tenure as a Tyson employee, he expressed an interest in becoming a poultry grower. As soon as the Obion County Complex announced its plans to expand operations, David requested consideration to become a pullet grower. David's dream was realized when ground was broken in May 2019, and construction of the four-house pullet operation began. Due to the success of his poultry business, two more pullet houses were built, and they became operational in 2021.

The addition of the poultry barns was a nice compliment to their already busy farming operations, Parham Farms, as they also have successful custom hay, cattle, and chrysanthemum operations. David and Melanie own over 525 acres of land, which made their ability to diversify their business enterprise easier. Interestingly, David purchased his first piece of land (22 acres) as a freshman in high school. Their son, Joshua, is also involved in the farming operations. His dream is to become a 5th generation farmer and continue their beloved agricultural heritage.

Parham's Pullets and Parham Farms are dedicated to protecting natural resources and efficient environmental practices, which include conservation and energy savings. Following the guidelines of their comprehensive nutrient management plan, the approximate 75 tons of litter cleaned out from each barn is spread on their own hay and pasture ground as a fertilizer and soil amendment.

The Parhams are very dedicated to soil conservation and soil erosion prevention practices. Grass waterways are maintained, Bermuda grass has been planted, and field tile has been installed, as has black plastic and rock under the eaves of each barn to assist with water drainage concerns. The Parhams take pride in the maintenance and appearance of their land and pullet houses.

Biosecurity measures include house-specific footwear and coverings, bleach foot baths at the entrance of each barn, and adherence to the Perimeter Buffer Area program. They also utilize an advanced technology system to alert of any potential issues within the barns to ensure expeditious resolution.

Supporting agriculture and ensuring agriculture education to future generations is David's passion. David is a local TN Farm Bureau Federation member and currently serves as a Board-Member-at-Large for the Weakley County Farm Bureau. He also serves on the Poultry Advisory Committee for the TN Farm Bureau Federation and has been asked to join its State Resolution Committee.

David is an alumnus of the Alpha Gamma Rho agriculture fraternity at UT-Martin. The Parhams work closely with area schools and FFA programs by supplying chrysanthemums that are used for school fundraising projects. David additionally assists with the county backpack program which provides food for school-age children in need.

Anytime there is a farmer in the community needing assistance, David is usually the first one there to help, whether is it giving advice, guidance or wisdom to new growers, or operating equipment when someone needs a hand. His public service was evident immediately following the devastating tornado that affected his hometown of Dresden on Dec. 10, 2021. David helped clear brush, operated equipment, and provided restoration to the community he so dearly loves.

Parham's Pullets and Parham Farms is a family business committed to the poultry and agriculture industries. Through effective and efficient management, environmental stewardship is achieved. The Parhams believe that it is everyone's responsibility to use and protect our most valuable natural resources through conservation and sustainable practices. They believe we should all leave the world for future generations better than we found it.

TPA proudly recognized the Parhams as their 2022 TPA Farm Family of the Year in Nashville recently during their convention at the Gaylord Opryland Resort & Convention Center on Aug. 20, 2022. During the awards presentation, Tyson Obion's Live Production Manager, Shane Joyner; Breeder Manager, Rob Brown; Service Tech, Sean Goetz, and Complex Manager, Keith Riley were all recognized for making this outstanding farm family nomination.

The video recognizing the Parham's Pullets family farming operation can be viewed at https://www.tnpoultry.org/awardsPrograms/ <u>FamilyofYear.cfm</u>. Box Farms is also featured at the beginning of this presentation, as the first runner-up. Derek and Tonya Box of McKenzie, TN, in Carroll County, have broiler-breeder houses for the Tyson complex in Humboldt. \Box

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2022 TPA Workhorse of the Year - Jeremy Martin

At the 2022 TPA Annual Meeting & Summer Getaway, Aviagen's Regional Business Manager for North America, Jeremy Martin, received two separate accolades. Based on his tireless service to the Association and to the industry, he was honored with the TPA 2022 Workhorse of the Year award. And, serving as 2nd Vice President in 2021, Martin was appointed as 1st VP. Jeremy has served Aviagen North America for nearly a quarter century and has been on the TPA Board since 2019. He also chairs the TPA Scholarship Committee and has been active on the Live Production and Auction committees. In addition, he supports the service tech meetings, the scholarship reviewing and selection process, the annual meeting and events, and various fundraisers. He works closely with Tennessee universities to help develop their poultry programs and get more students excited about the industry.

"Jeremy has been extremely active with TPA and makes himself available to us whenever his skills and advice are needed. He is energetic, enthusiastic, and supportive and knows how to get things



done," said Dale Barnett, Executive Director of the TPA. "More importantly, he was chosen for his passion for poultry and going above and beyond to contribute to the sustainability of the industry in Tennessee and beyond."

Rachel Breeding Kaley Felberg Dustin Daley Hometown: Cookeville, TN Hometown: Tampa, FL Hometown: Albany, KY ♦ 25 years old ♦ 25 years old 27 years old • Aviagen Crossville – 2.5 years Tyson Foods OBC - 2.5 years Tyson Foods Albany, KY – 1 year QA / Regulatory Manager **General Production Manager** General Manager, Maintenance TN Tech University - ANS major UT Martin – ANS major Attended UK – Chemical Engineering Nominated by Clara Goldman Nominated by Keith Riley Nominated by Tony Delk, and De Wet Nortje Stacy Anderson and Tim Esslinger

2022 TPA NextGen Young Leaders Announced







Low Path Update for the APHIS National List of Reportable Diseases

06/28/2022 information from the USDA Animal and Plant Health Inspection Service

The World Organization for Animal Health (WOAH; formerly OIE) updated language to include Low Pathogenicity Avian Influenza viruses, that have proven natural transmission to humans associated with severe consequences, to be notifiable for domestic and captive wild birds. For more information: <u>NLRAD-NAHRS Current Reportable Disease List</u>

UT AgResearch Launches Poultry Website

UTAGRESEARCH INSTITUTE OF AGRICULTUR THE UNIVERSITY OF TENNESSI

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UT AgResearch is giving producers, researchers, and others a new way to keep up with poultry news. The UT Poultry website is now up and running, with resources, events, and news available.

Hen research could protect people from COVID-19

August 9, 2022 at WattAgNet.com by Elizabeth Doughman

A One Health research project could result in more effective preventative measures against both COVID-19 in humans and poultry coronaviruses. <u>Click here for full article</u>



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Seal deaths in Maine linked to avian influenza

July 7, 2022 at <u>WattAgNet.com</u> by Roy Graber

Multiple seals have been found dead along the coast of Maine, and samples from those seals tested positive for highly pathogenic avian influenza. <u>Click here for full article</u>

Role of [Gulls & Terns] in Dissemination of Avian Influenza Viruses

July 22, 2022 at <u>Egg-News.com</u> by Simon M. Shane

A recent review cited by ProMED Mail emphasized the role of Laridae the Family comprising gulls and terns in intercontinental and regional dissemination of avian influenza viruses.

The article noted, "For physiological and ecological reasons, airborne transmission may occur more frequently in Laridae than in Anatidae (ducks, geese and swans) that would favor the evolution of taxon-specific strains" [taxonomic, within the host species]. The ProMED commentator noted that Laridae generally live longer than Anatidae and accordingly, have evolved stronger and new responses that could lead to different levels of infection. Isolates from Laridae demonstrated reassortment among AIV strains, including incorporation of Eurasian genes that appeared in the 2022 North American epornitic [an outbreak with high mortality affecting a large bird population, within a given region]. <u>Click here for full article</u>

Sparboe: Avian flu takes toll on farm owners, workers

July 15, 2022 at <u>WattAqNet.com</u> by Roy Graber

Mental, emotional and physical stress can take a toll on poultry farm owners and employees when that operation is hit by highly pathogenic avian influenza. <u>Click here for full article</u>



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HPAI / Avian Disease

DNA Study Could Help Breed Virus-Resistant Poultry

July 26, 2022 at <u>PoultryWorld.net</u> by Tony Mcdougal

The study of different types of poultry – known to be either more resistant to or more susceptible to common poultry viruses – has uncovered dozens of variations in genes with a central role in the chicken immune response to infection. The findings, from the Roslin Institute at the University of Edinburgh, may point to genetic variations that determine birds' response to infection, to help breed birds that are resistant to disease. *Click here for full article*

Avian flu virus circulates during Europe's summer months

August 9, 2022 at WattAgNet.com by Jackie Linden

To date, one or more outbreaks have occurred in 20 European countries since the start of 2022. Last month, this season's figure has just passed the total of 1,756 outbreaks registered with the EC by 24 European states throughout 2021. Click here for full article

Can CRISPR improve Salmonella detection in chicken?

June 29, 2022 at WattAgNet.com by Elizabeth Doughman

Better testing methods for Salmonella detection in poultry are needed to improve food safety, according to new research published in Applied and Environmental Microbiology. <u>Click here for full article</u>

Anticoccidial sensitivity tests: Useful or not?

July 8, 2022 at <u>PoultryHealthToday.com</u> by Philip A. Stayer, DVM, MS, ACPV

The aim of anticoccidial sensitivity tests is to reveal the anticoccidial that will best control the Eimeria found in field samples. While they may not accurately reflect the real-life coccidiosis challenge in commercial broilers, they are still helpful in making comparisons within anticoccidial classes to see which products might control coccidia isolated from flocks, explains Phil Stayer, DVM, Sanderson Farms. <u>*Click here for full article*</u>



www.hubbardbreeders.com

Free booklet offers insights for addressing IBH in broilers

July 4, 2022 at PoultryHealthToday.com

Poultry veterinarians throughout the US are reporting a re-emergence of inclusion body hepatitis (IBH) in broilers. The disease strikes with little warning, causing high mortality and significant economic losses for producers. Poultry Health Today editors have developed a free booklet with highlights from an IBH roundtable discussion. <u>Click here for full article</u>

Vaccine tweaks can make a big difference against key infectious bronchitis virus strain

July 4, 2022 at PoultryHealthToday.com

New challenge studies have highlighted the best vaccine serotype combinations to tackle the DMV/1639 strain of infectious bronchitis virus (IBV), which has become the predominant strain across the broiler belt and beyond. When challenged with DMV/1639, the best results were seen by pairing Massachusetts with Georgia/08, Kalen Cookson, DVM, Zoetis director of clinical research, told Poultry Health Today. <u>*Click here for full article*</u>

Marek's study could lead to new management strategies in poultry

July 4, 2022 at PoultryHealthToday.com

New research has given scientists a greater understanding of the Marek's disease virus that could lead to new strategies for managing the widespread disease in poultry. Researchers at The Pirbright Institute in the UK showed that the host develops strategies to suppress antiviral immunity to limit T-cell-mediated immunopathology. <u>*Click here for full article*</u>

Study highlights potential issue in poultry vaccine design

July 21, 2022 at <u>WattAgNet.com</u> by Elizabeth Doughman

Live vaccines and viruses can infect the same cells in chickens, which can sometimes lead to new infections in flocks, revealed new research at the University of Illinois Urbana-Champaign. <u>Click here for full article</u>

New recombinant vaccine shows strong, early immune response to three viral diseases

July 22, 2022 at PoultryHealthToday.com

A new recombinant vaccine with a unique, patented construction has been shown to provide 90% protection against infectious bursal disease and 75% against Newcastle disease after a challenge at 14 days of age.

The dual-vectored vaccine also provided 83% protection against a virulent Marek's disease virus as early as 5 days of age.

Poultry Health Today talked with Kalen Cookson, DVM, director of clinical research, Zoetis, about this new management tool. <u>Click here for full article</u>

Special thanks to Brian Johnson (Cumberland) and Keisha Hooper (Tyson OBC) for all of their assistance in Nashville! Y'all are the BEST!!







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acidified product (house 2), and SaniDate[®] 5.0 + ReducelT™ (house 3). Products ran from placement of baby chicks through catch. House 3 drank 109% more than house 1, and 33% more than competitor's acidified product.

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 Vaddu S, Kataria J, Roma E.N., Moller A.E., Gouru A, Singh M, Thippareddi H. Impact of pH on efficacy of peraxyacetic acid against Salmonella. Campylabacter, and Escherichia coli an chicken wings. Poultry Science, Volume 100, Issue 1, Pages 256-262, ISSN 0032-5791, 2021 BioSafe Systems

NEWS FROM AROUND THE COMPLEXES

In an ongoing endeavor to strengthen its success in "Breeding for Welfare and Sustainability," **Aviagen® Group** is pleased to announce that **Tim Burnside** has been appointed as global vice president of Welfare, Sustainability and Compliance. In his new role, he will guide Aviagen Group on policies and developments that serve to enhance bird welfare and sustainability, both internally and externally. **Anne-Marie Neeteson** will support Tim as senior advisor of Welfare, Sustainability and Compliance.

Aviagen[®] is currently collaborating with the Professional Animal Auditor Certification Organization (PAACO) on a project to help strengthen animal welfare and auditing. Expected to be completed July 15, the project will involve the creation of a series of videos featuring Aviagen animal welfare experts. These videos will be used as part of a continuing education program for PAACO-certified auditors, intended to help deepen their knowledge of poultry breeding and the role that animal welfare plays. Some compelling topics that viewers can expect to see are: "Stockmanship and pullet and breeder animal welfare," "Brooding for optimal performance" and "Care of hatching eggs from farm to hatchery." <u>Click here for full article</u>

Additional **Aviagen** announcements: **De Wet Nortje**, former general manager in Crossville (pedigree division) is now heading up the Pedigree/GGP operations out of Huntsville, AL. **Keith McCay**, former VP for pedigree operations is now over Aviagen's research farm in Albertville, AL. **Adam Goldman**, former research center manager in AL, is now over Crossville as their GM.



Tyson Foods Obion County officials show the McDonald's "Supplier of the Year" award and recognition of their 25th anniversary. Pictured L to R: Sandy Luchcuck – President of Global McDonald's for Tyson Foods; Jeff Tucker – Union City Plant Manager; Art Sparks – Obion Co Joint Economic Development Comm Chair; Keith Riley – Complex Manager; Nathan McKay – Divisional Vice-President (photo: Charles Choate – 104.9 KYTN/105.7 WQAK)

ALLIED MEMBER NEWS

Marel has successfully closed the \$540 million acquisition of Wenger, a global leader in processing solutions for the high growth markets of pet food, plant-based proteins, and aqua feed. The two companies have a great strategic and cultural fit and a highly complementary product portfolio and geographic presence catering to customers' rising demand for high-quality food and feed that is processed in a sustainable and affordable way.

Jones-Hamilton Co. announces the promotion of Kimber Ward to the role of National Sales Manager of the Agricultural Division. Ward joined the company in 2021 as Territory Manager. In his new role, Ward will lead the division's sales staff and manage product development and sales in US and international markets.

Boehringer Ingelheim Animal Health USA Inc. announced two new hires in the U.S. Poultry Division. **Dr. Kristen Roza-Sutherland** has been named to the role of Senior Associate Director of Strategic Accounts. Roza-Sutherland has been with Boehringer Ingelheim since 2019 as a Poultry Key Account Veterinarian. **Dr. Travis Schaal** has been named to the role of Senior Key Account Manager for the layer business. Schaal comes to Boehringer Ingelheim from Hy-Line International, where he supervised pedigree and grandparent farms, and hatchery operations for the past nine years.

Poultry Guard® recently hired **Josh Payne**, **Ph.D**., as the new Technical Services Director and **Clint Lauderdale** as the new Sales Director. Payne will be responsible for providing technical support as well as directing





company research initiatives. Lauderdale will be responsible for directing national sales and providing customer support.

Tina Streit, V-P and General manager for the CTB Inc. Business Unit has announced the promotion of **Brent Escoe** to the position of Sales Manager for Latin America covering the **Chore-Time** product range. In his new position he will work with company distributors to develop new initiatives and increase sales.

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DATES TO REMEMBER

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https://www.uspoultry.org/programs/ education/seminar/

TAEP APPLICATION PERIOD

October 1-7, 2022 https://www.tn.gov/agriculture/ farms/taep/producer/poultry.html

REAP GRANT DEADLINE October 1, 2022

Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Loans & Grants in Tennessee

TPA GROWER MEETINGS

November 3, 2022 Museum Center at 5ive Points Cleveland, TN

November 10, 2022 Skyhawk Fieldhouse at UT Martin Martin, TN









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Regulatory

Solicitor General of United States finds Prop 12 violates Interstate Commerce Clause

June 26, 2022 at <u>FoodSafetyNews.com</u> by Dan Flynn

The pork producers, the state attorney generals, the American Farm Bureau Federation, and the Solicitor General all see California's ban on sales as an "extraterritorial" violation of the Interstate Commerce Clause. <u>Click here for full article</u>

US Supreme Court Proposition 12 filings are in motion

July 5, 2022 at WattAgNet.com by Meredith Johnson

The National Pork Producer's Council and the American Farm Bureau Federation filed a preliminary brief in June 2022 with the U.S. Supreme Court detailing allegations describing Proposition 12's negative impact on the country's interstate pork market. <u>Click here for</u> <u>full article</u> \Box

California's Proposition 12 will be heard by Supreme Court on Oct. 11

August 15, 2022 at Food SafetyNews.com by Dan Flynn

The Supreme Court will hear oral arguments in National Pork Producers Council v Karen Ross on Oct. 11. The court on March 28 granted the writ of certiorari to officially put California Proposition 12 on its docket. That means at least four of the nine justices want to hear the matter. <u>Click here for full article</u>

What does the upcoming Prop 12 hearing mean for US eggs?

July 15, 2022 at <u>WattAqNet.com</u> by Meredith Johnson

If the Supreme Court rules that one state can't dictate how animals are raised in another state, Proposition 12's implementation in the layer industry could be seriously questioned. <u>Click here for full article</u>



Dutch farmers protest gov's plan to curb nitrogen emissions

July 7, 2022 at <u>AllAboutFeed.com</u> by Matthew Wedzerai

New farmers' protests have erupted across the Netherlands, despite police warnings not to break the law, following the first demonstration against the government's plan to curb nitrogen emissions on June 22. <u>Click here for full article</u>

Proposal to Ban Purchase of U.S. Farmland by Designated Nations

July 8, 2022 at Egg-News.com by Simon M. Shane

The House Appropriations Committee has approved a provision to ban purchase of U.S. farmland by companies or entities domiciled in Russia, China, North Korea and Iran. The proposal was introduced into the Appropriations Committee by Rep. Dan Newhouse (R-WA) and was added to the USDA-FDA funding bill.

Rep. Newhouse has warned that foreign investment in U.S. farmland may impact the supply of food. In 2021 the Appropriations Committee request the USDA to investigate and report on ownership of U.S. farmland by specific nations some of which are antagonistic to the U.S. Had a legal restraint on purchase of land been in effect in 2013, WH Group may have been blocked from the purchase of Smithfield Foods. An additional concern has been raised over China purchasing tracts of land near the Grand Forks, ND and the Laughlin, TX USAF bases representing a potential national security risk.

According to the USDA foreign investors own 37.6 million acres, close to three percent of U.S. agricultural land including forest and crop land effective December 2020. Of this total, almost half is forestland and 30 percent cropland with the remainder comprising pastures.

Legislation introduced for single food safety agency July 18, 2022 at FeedandGrain.com

Legislation would establish a single food safety agency, transferring authority out of FDA. Click here for full article



US Senate urged to pass Farm Workforce Modernization Act

July 15, 2022 at <u>FeedStrategy.com</u> by Ann Reus

The bill, which has passed in the House, would reform the agricultural guest worker visa program, among other things. <u>*Click here for full article*</u>

The pressure put on EPA over 'factory farms'

July 21, 2022 in FoodSafetyNews.com by Dan Flynn

A letter sent Tuesday to Environmental Protection Agency Administrator Michael Regan urges him to unleash EPA's powers on so-called "factory farms." The letter is signed by 218 known and unknown groups. The many groups want more federal oversight of the organizations USDA calls "Concentrated Animal Feeding Operations" or CAFOs. They argue the Clean Air Act, Clean Water, and Emergency Planning and Community Right-to-Know Act justify the additional scrutiny. <u>Click here for full article</u>

EPA Faces Lawsuit for Ethanol's Impacts on Endangered Species

July 21, 2022 at <u>Drovers.com</u> by Jenna Hoffman

The lawsuit claims the EPA failed to "fully assess" the affect increased corn for ethanol production will have on endangered species, including land conversion and increased fertilizer and pesticide use. <u>Click here for full article</u>



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EPA: Significant New Uses of Chemical Substances; Updates to the Hazard Communication Program and Regulatory Framework; Minor Amendments to Reporting Requirements for Premanufacture Notices

July 5, 2022 at FederalRegister.gov

The Environmental Protection Agency (EPA) is amending the regulations governing significant new uses of chemical substances under the Toxic Substances Control Act (TSCA) to align with revisions that were made to the Occupational Safety and Health Administration (OSHA) Hazard Communications Standard (HCS) and changes to the OSHA Respiratory Protection Standard and the National Institute for Occupational Safety and Health (NIOSH) respirator certification requirements for the respiratory protection of workers from exposure to chemicals. <u>Click here for full article</u>

Senate takes action on environmental regulations

August 5, 2022 at BeefMagazine.com by Jacqui Fatka

Resolution of disapproval that addresses recent Biden action that rolled back NEPA regulatory reform. Click here for full article

FSIS to Include Salmonella Quantification in Raw Poultry Rinse Samples

August 5, 2022 at FSIS.USDA.gov

Starting today, FSIS laboratories will begin using quantification for Salmonella in raw poultry rinses, as previously announced in the July 8, 2022, Constituent Update. FSIS will continue to use Microbiology Laboratory Guidebook chapter 4.11 to isolate and identify Salmonella in raw poultry rinses. The chapter will be updated to revision 4.12 to include the new quantification system. <u>Click here for full article</u>

Industry responds to Salmonella as an adulterant

August 2, 2022 at MeatPoultry.com by Rachael Oatman

WASHINGTON — After the US Department of Agriculture's Food Safety Inspection and Service (FSIS) announced plans to declare Salmonella as an adulterant in breaded and stuffed raw chicken products, meat and poultry trade associations delivered their response.

The National Chicken Council (NCC) released a statement with information from Ashley Peterson, senior vice president of scientific and regulatory affairs.

"Going back to the passage of the Poultry Products Inspection Act in 1957, the mere presence of Salmonella has not rendered raw poultry adulterated," Peterson said. said "We believe FSIS already has the regulatory and public health tools to work with the industry to ensure the continued safety of these products. We've been asking the agency for years to collaborate on these efforts, including two petitions for stricter regulations, requests that have gone largely ignored."

NCC said it is concerned about the "abrupt shift" in policy and how plants, jobs and products may be affected. The association does not believe the decision to change policy was based on data since the product category has not seen an outbreak since 2015.

"The only way to ensure our food is safe 100% of the time is by following science-based procedures when raising and processing chicken, and by handling and cooking it properly at home," Peterson said. "NCC remains confident these products can be prepared and consumed safely, and the industry remains committed to continuing their efforts to further enhance the safety of these products." *continued on page 32*



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Live Production

Egg yolk feed additive could boost poultry immune response

June 17, 2022 at <u>WattAqNet.com</u> by Elizabeth Doughman

Adding egg yolk to feed could help poultry naturally prevent diseases like necrotic enteritis and optimize production performance. <u>Click</u> <u>here for full article</u>

Cobb-Vantress Inc. Flock management app

June 21, 2022 at WattAgNet.com

The Cobb-Vantress Flock Management app is the latest technology designed to help customers achieve more yield, better feed conversion and healthy flocks. <u>Click here for full article</u>

How to leverage data to fill gaps in feed mill workforce

June 13, 2022 at WattGlobalNews.com By Elise Schafer

As rural communities lose residents to larger cities, investment in technology that can operate, collect and interpret data will be critical to overcoming labor shortages while increasing productivity in the animal feed industry. <u>Click here for full article</u>

Lohmann pioneering in-ovo sexing in first German hatchery

July 8, 2022 at <u>WattAgNet.com</u> by Meredith Johnson

German genetics company Lohmann Deutschland and hormone-based sexing company Respeggt have teamed up to support Germany's male chick culling ban. <u>Click here for full article</u>



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Live Production

Poultry Manure Used as Alternative for Soil Phosphorus Supplements in Heifer Grazing

July 19, 2022 at *ThePoultrySite.com* by University of Arkansas

Cattle grazing pastures with high soil-test phosphorus may be getting enough of the nutrient from the grass to eliminate the need for a phosphorus feed additive, according to Arkansas Agricultural Experiment Station research.

"Phosphorus is necessary for developing heifers," said Beth Kegley, professor of animal science for the Arkansas Agricultural Experiment Station, the research arm of the University of Arkansas System Division of Agriculture. "It's important for all energy needs, metabolism, bone growth, fertility and other uses." <u>Click here for full article</u>

Can nutraceuticals control leaky gut in poultry?

July 18, 2022 at WattAgNet.com by Elizabeth Doughman

Inflammation in the poultry intestine, also known as leaky gut, can impact negatively impact health, feed conversion and other operational efficiencies. <u>Click here for full article</u>

Broiler Welfare Compared Under Different Production Systems

July 6, 2022 in WattAgNet.com by Jackie Linden

According to recently published Dutch research, health and well-being scores were on average slightly improved for broilers kept in higher welfare production systems, although other factors had a bigger impact than the system. Furthermore, there was potential to improve welfare under all three systems examined, the research revealed. <u>*Click here for full article*</u>

Water Management for Parent Stock Broiler Breeders

August 2, 2022 at ThePoultrySite.com by Paul Welten

Feed intake in broiler breeders is controlled and therefore overcompensation of water must be prevented because it can have many negative consequences. On the other hand, water must be provided sufficiently and timely for optimal welfare and production. In this article, important aspects regarding water management for parent stock broiler breeders are described. <u>*Click here for full article*</u>

'Lights out' feed mills improve biosecurity, reduce errors

August 25, 2022 at FeedStrategy.com by Elise Schafer

Learn how lights out manufacturing may be the single solution tomorrow's feed mills' need to address biosecurity and labor concerns. <u>Click here for full article</u>

Understanding hen mortality at peak production

July 22, 2022 at ThePoultrySite.com by Benoit Lanthier DVM, Technical Services Representative at Cobb-Vantress

Mortality can be due to disease but can also be a management problem. *Click here for full article*

Breast meat myopathies decline as new strategies emerge

August 2022 at <u>WattPoultryUSA-Digital.com</u> by Austin Alonzo

Integrators are using nutrition and management strategies to reduce woody breast, white striping and spaghetti meat syndromes. <u>Click</u> <u>here for full article</u> **_**

Food Safety

Biosensors could improve food safety in poultry processing

June 30, 2022 at <u>WattAgNet.com</u> by Elizabeth Doughman

Researchers from Michigan State University are developing a rapid nanoparticle-based biosensor test to improve Salmonella and Campylobacter detection in poultry processing. <u>Click here for full article</u>



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Approach could reduce pathogens in poultry scalders

July 22, 2022 at <u>WattAqNet.com</u> by Elizabeth Doughman

A non-chemical intervention could improve the filtering and cleaning process of scalders, leading to better pathogen reduction at poultry processing plants. Click here for full article

FSIS Announces Study of Effect of Increased Poultry Line Speeds on Worker Safety

July 29, 2022 at <u>FSIS.USDA.gov</u>

On Jan. 31, the U.S. District Court of the District of Columbia granted USDA's motion for remand in a case challenging the issuance of line speed waivers to certain establishments participating in the New Poultry Inspection System (NPIS). The remand allows USDA to reconsider the poultry line speed waivers in light of the time-limited trials it implemented for swine establishments participating in the New Swine Slaughter Inspection System.

Poultry establishments with existing line speed waivers received a letter with information about the study and how to apply for the modified waiver. Establishments with a current line speed waiver must agree to participate in the study and provide worker safety data in order to receive a modified waiver. Establishments have until Sept. 1 to let FSIS know whether they consent to participate in the study, and until Sept. 30 to submit the initial requested worker safety information. <u>*Click here for full article*</u>

Poultry Modified Line Speed Waivers Causing Concern

September 8, 2022 at FeedStuffs.com by Jacqui Fatka

Legislators ask USDA to provide more time as participation in new study grants third-parties access to chicken farms. Rep. Andrew Clyde, R-Ga., led 34 of his colleagues in sending a letter to Secretary of Agriculture Tom Vilsack expressing concerns about and urging the delay of USDA's rule that will force poultry plants to reduce their line speeds by 25% if they decide against opting into a USDA study by the Sept. 1 deadline. <u>Click here for full article</u>

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Meat/processing

Poultry Poised to Take Nearly Half of the Global Meat Market by 2031

July 9, 2022 at <u>PoultryWorld.net</u> by Tony Mcdougal

Poultry will continue to be the fastest-growing meat over the next decade and by 2031 will take 47% of the meat market, according to the latest OECD/FAO Agricultural Outlook. The long-term shift towards poultry will continue to strengthen, due in part to a preference for white meat among high income countries. This is because poultry is seen as easy to cook, healthier and perceived as a better choice. In middle and low-income countries, poultry is seen as a cheaper alternative to other meats. <u>*Click here for full article*</u>

2 technologies transforming the poultry cold chain

June 10, 2022 at <u>WattAgNet.com</u> by Elizabeth Doughman

New approaches that reduce waste and inefficiency can save money and improve sustainability.

Advances in cold chain and refrigeration technology can improve poultry supply chain efficiency, help reduce costs and ensure sustainability from farm to fork.

"Most businesses for the last 100 years have run statically, meaning you plug it in the wall, you set the setpoint and you let it go until it breaks or fails. That leaves a lot of money on the table from an energy standpoint," Manik Suri, founder and CEO, Therma, explained.

The term cold chain refers to all aspects of the temperature-controlled supply chain – from refrigerated production to storage to transportation – needed to preserve and extend the shelf life of frozen poultry products. It requires precise validation systems that monitor safety and temperature throughout the supply chain.

"Refrigeration has a lot of waste and inefficiency around it and if we can use technology to reduce that waste, it can help save businesses money and help the planet," he added.

These innovations include:

1. Automating cold chain temperature monitoring

Historically, the monitoring of refrigeration temperatures required manual tracking on a clipboard. This is a largely inefficient process, especially for places that don't have staff working on nights and weekends. It can also quickly result in lost or spoiled inventory or food safety concerns.

"The internet of things (IoT) is a great example of a technology that's used these days for reliable monitoring of the inside of fridges, freezers, distribution centers and warehouses," said Suri. "In addition, sensors give us the ability to see what's going on inside continuously and reliably."

2. Remote refrigeration controls

Remote refrigeration controls function similarly to the smart thermostat devices commonly found in homes today. For personal use, these devices can learn how and when people use heat and air conditioning, resulting in more efficient energy use in the house.

"If you complement these kinds of devices with data science, you can actually do things like turn the devices on or off when energy prices change. So, when energy gets really expensive, you use less of it," Suri stated. □

Intelligent cameras, robots benefit poultry processing

May 2, 2022 at <u>WattAgNet.com</u> by Eduardo Cervantes Lopez

From broiler harvesting to transporting processed chickens, new technologies can help to produce chicken more efficiently and protect workers. <u>Click here for full article</u>

Pulsed Light Technology Effectively Kills Harmful Pathogens in New Study

August 16, 2022 at ScienceDaily.com

A light-based, food sanitization technique successfully eliminated multiple harmful pathogens in a new study. The pulsed light technique shows promise as an effective alternative to the chemical, heat and water-based antimicrobial technologies commonly used in the food industry -- and could be applicable more generally in sanitized environments such as hospitals, water treatment facilities and pharmaceutical plants, according to the researchers. <u>*Click here for full article*</u>

Researchers study public opinion on gene-edited foods

July 6, 2022 at <u>MeatPoultry.com</u> by Jeff Gelski

Consumer opinions about GMOs will impact future of the category. *Click here for full article*

Meat/alt protein

The Ag Watchdog Newsletter

Fake Meat CEO: Lab-Grown Meat Won't Work

June 25, 2022 - Impossible Foods CEO Pat Brown says cell-cultured "has zero percent chance of ever being competitive in the market" due to the cost of producing it. However, many believe otherwise: Cell-cultured meat companies raised \$1.4 billion last year. Brown, whose company produces plant-protein alternatives, has said publicly his intention and belief is that these alternatives can replace real meat by 2035.

21% Have Mistakenly Bought Plant-Based Meat

July 2, 2022 - The National Chicken Council released a consumer survey finding one in five Americans say they have accidentally purchased fake chicken, mistaking it for real chicken. Most Americans surveyed, including the vast majority of vegans and vegetarians, support distinct sections at the grocery store to reduce consumer confusion.

Report: Plant-Based Meat the Best Green Investment

July 9, 2022 - <u>A report</u> from the Boston Consulting Group claims that every dollar invested in meat/dairy alternatives results in three times the emissions reduction compared to other "green" investments. Plant protein investments are better than green cement, green buildings, and zero-emission cars, according to the report. A previous report from the consulting company predicted the US and Europe would reach "peak meat" by 2025. \Box





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Plant protein makes headway in U.S. consumer diets

June 16, 2022 at <u>WattAgNet.com</u> by Emma Cottrell

According to a University of Minnesota survey, over 30% of U.S. consumers intend to incorporate more alternative plant protein into their diets.

With a rise in climate consciousness, more consumers in the U.S. are substituting meat protein with alternative plant protein. <u>Click here</u> <u>for full article</u> **D**

New Study Shows Human Cells Struggle to Absorb Plant-Based Protein

June 25, 2022 at The Industry Update Newsletter

A <u>new study</u> published in the Journal of Agricultural and Food Chemistry revealed that the plant-based protein commonly found in imitation meat is not absorbed into human cells as well as real meat. The study compared fake chicken with real chicken and found that the ultra-processed proteins in substitutes don't break down into peptides as well as those from natural meats. While manufacturers often try to market fake meat as a healthy alternative, most products offer lower protein, added ingredients to mimic taste, flavor and texture, and higher sodium content.

Didn't See This One Coming: Workouts for Cell-Cultivated Meat

June 27, 2022 at <u>Drovers.com</u> by Jennifer Shike

Can cultivated meat be "exercised"? Deep-tech food company MeaTech 3D Ltd. thinks so. Click here for full article

Is cultured meat friend or foe?

July 6, 2022 at <u>WattAgNet.com</u> by Mark Clements

A study aims to discover whether the impact of cultured meat production on farm businesses will be all negative. <u>Click here for full</u> <u>article</u>

McPlant 'seems done' in US

July 27, 2022 in <u>Alt-Meat.net</u> by Melissa Sue Sorrells

After months of reports of disappointing sales, the McPlant — McDonald's collaboration with Beyond Meat and it's answer to the Impossible Whopper — "seems done" in the US, according to JP Morgan equity analysts. <u>Click here for full article</u> \square

Nationwide Survey Reveals 81 Percent of Americans Want Clearer Product Labeling of Plant-Based 'Chicken'

June 28, 2022 from National Chicken Council

The National Chicken Council asks the Food and Drug Administration and U.S. Department of Agriculture for clearer guidance and strict enforcement of misleading product labels

The National Chicken Council (NCC) today announced findings from a recent national survey* of Americans regarding consumer attitudes about chicken and plant-based 'chicken' alternatives. Survey participants included individuals who consume meat and animal products, along with flexitarians, vegetarians and vegans. The results indicate the majority of Americans want clearer product labeling and separate shopping sections for plant-based products.

The NCC comments can be read in their entirety *by clicking here*. □





Tyson Foods Pilots Four Day Work with Good Results

June 28, 2022 at <u>6KTALnews.com</u> by Marla Lacen

Tyson Foods started testing the new work schedule in January after receiving employee feedback. Maintenance workers are the only team that will not switch to the shortened work week. Human Resources Manager for Broken Bow Tyson, Donna Duggan, says the three -day weekend had improved production for the plant and work-life balance for employees. Click here for full article

Ag groups continue calls for addressing ag labor crisis

August 3, 2022 at BeefMagazine.com by Jacqui Fatka

Senators again were urged to support agriculture workforce reform, with the latest effort from 446 agricultural trade associations, agribusinesses, and farmer co-ops in a letter to Senate leadership in both parties and copied to all 100 senators. However, changes are still sought from the House version from the American Farm Bureau Federation. Click here for full article

Robotic palletizing systems relieve labor shortage woes

August 3, 2022 at FeedStrategy.com by Jackie Roembke

Find out how robotic palletizing systems are helping feed manufacturers cope with labor shortages and setting companies up for future growth. <u>Click here for full article</u>

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The Mont Belvieu Propane **Spot Price** on Sept. 2, 2022 was **\$1.131/gal.** after setting a new high for the year at \$1.615/gal. during the first full week of March 2022. The last time propane was \$1.615 or higher was during the spring through fall months of 2008. The lowest price experienced in 2022 was \$1.015 on Aug. 16 and prices have stayed under \$1.20 since early July.

Allowing for an average of \$0.60 per gallon for tariffs, handling and delivery to most areas, **the average current retail prices can be expected to be roughly \$1.73/gal.** Larger accounts can often negotiate a lower price agreement by as much as \$0.05/gal., or more. To follow Mont Belvieu spot pricing go to <u>https://www.eia.gov/dnav/pet/hist/eer epllpa pf4 y44mb dpgD.htm</u>. TPA's allied member propane companies would love to discuss all of this with you to obtain best pricing and service. Their contact information can be found at the back of this newsletter in the allied membership listings.

Quotes for Mont Belvieu **propane futures** are projecting to stay fairly steady through this fall and winter, with the forecast gradually tapering down to \$1 by later March or April. The average current retail price is projected to be at its highest now, for the coming year. To follow the futures trading for spot pricing go to <u>https://www.cmegroup.com/trading/energy/petrochemicals/mont-belvieu-propane-5-decimals-swap.html#</u>.

For **REAP grant funding** for energy retrofit projects go to <u>https://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency</u>. The next **application deadline is October 31, 2022**. Visit your local NRCS office for more information.

For an update on current **FMCSA emergency declarations**, **HOS waivers**, and exemptions go to <u>https://www.fmcsa.dot.gov/emergency-declarations</u>.

Industry responds to Salmonella as an adulterant (continued from page 21)

While NCC questions FSIS's policy shift, the North American Meat Institute (NAMI) remains open to working with FSIS on the changes.

"Consumer health and safety are the driving forces for the industry in the production of meat and poultry products," said Julie Anna Potts, NAMI president and chief executive officer. "Efforts to combat Salmonella remain a high priority for the meat and poultry industry, which invests millions in research and technologies to better understand and control Salmonella. Salmonella is a complex microorganism and more must be done to educate the public and to invest in research and innovations, such as irradiation, to fight it at all points in the food supply chain. We are encouraged to see FSIS is providing notice and a comment period to allow the industry to participate in the rulemaking process." TPA FUNDRAISER TICKET HIGH SELLERS 1^{st -} Melissa Marler Koch Foods Chattanooga

2nd – Shane Joyner Tyson Foods Obion County

Congratulations to the winning ticketholders: 1st place - \$2500 Keith McCay - Aviagen (ticket sold by Joe Williams)

2nd place - \$1250 Terry Kruizenga - Koch Foods (ticket sold by Melissa Marler)



Congratulations to the winners of the sporting clays event at the 2022 TPA Annual Meeting & Summer Getaway. This was our first time shooting at Cross Creek Clays in Palmyra TN, and the course was perfect!





<u>1st place</u> - Keith Riley, Tyson Foods Obion Co. (97) <u>2nd place</u> - Matthew Butler, Cobb-Vantress Lafayette (93) <u>3rd place</u> - Brian Tacto, Bank OZK (91) <u>Highest scoring female</u> - Connie Mou, Danisco Animal Health (65)





Gaylord Springs Golf Links

1st Place, Flight A

Ronnie Powell David Tapocie Graham McBride Jacob Dotson

2nd Place, Flight A

Zach Spruill Paul Beach Hunter Bolden Gabe Colwell

1st Place, Flight B

Reed Johnson Kent Weldon Terry Couch Michael McCurdy

2nd Place, Flight B

Daniel Dyar Tim Burrell Bart Smith Keith Harper





<u>Closest to the Pins</u> – Hannah Bratton, Mike Sears, and Parker Throgmorton <u>Longest Drive</u> – Hannah Bratton



TPA ANNUAL MEETING ART CONTEST WINNERS

Congratulations to the winners of our 6th annual youth art contest. Each of these young ladies walked away with a cash prize. In addition, the Best of Show winning art pieces were auctioned off for substantial scholarships!!!



Josie Holt Daughter of Andy & Ellie Holt 1st Place 10-14 years & Best of Show



Adella Hustrulid Daughter of Bobby & Corinthia Braly 1st Place 15-18 years & Best of Show Runner-up



9 years old & under winners 1st place – Jasmine Krstovic 2nd place – Mila Lengsfield 3rd place – Anderson Holt



10 - 14 year old winners 1st place - Josie Holt (BEST OF SHOW) 2nd place - Bella Russell 3rd place - Lilly Stutts



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- There are currently around 950 items to choose from • Includes delivery to any address in the continental USA.

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Must be present to win!!

Congratulations to Lori Pinion from Tyson OBC for winning the \$500 gift card from Pete Krstovic at Quality Incentive Company!!!

AUCTION FUNDRAISER TOP PRODUCER Tina Hurley Koch Foods Morristown





VINCIT GROUP



Lida Phengmany

\$3000 - sponsored by *TN Corn Promotion Council* & *TN Soybean Promotion Council* Hometown: Shelbyville, TN School: MTSU Year: Freshman Major: Undecided Parents: Saul & Vongxay Phengmany Souk & Lida Poulet Farm

2022 TPA SCHOLARSHIP RECIPIENTS







Kaylea Simmons

\$2500 - sponsored by *Zoetis* Hometown: Pikeville, TN School: UT Knoxville Year: Freshman Major: Pre-Veterinary Medicine Parents: Bryan & Aimee Simmons B & A Farms



Anna McGlothlin

\$1500 - sponsored by *Tyson - Albany, KY* Hometown: Portland, TN School: Western KY University Year: Freshman Major: Business Parents: Russell & Heather McGlothlin Little Bill Farm and AA Poultry Farm



Kaylee Riddle

\$1500 - sponsored by *Merck Animal Health* Hometown: Celina, TN School: Vol State Comm College Year: Freshman Major: Health Science Parents: Amanda Lacy TMS Farms



Sadie Harris

\$1000 - sponsored by *Live Oak Bank* Hometown: Huntland, TN School: Berry College Year: Junior Major: Biology Parents: Jeffrey & Cheryl Harris Harris Farms

2022 TPA SCHOLARSHIP RECIPIENTS



Zoey Fuller

\$1000 - sponsored by *River Valley AgCredit* Hometown: Westmoreland, TN School: Transylvania University Year: Sophomore Major: Biology Parents: Nathan & Amanda Fuller Fuller Farms



Kaymen Hustrulid

\$1000 - sponsored by *BankPlus* Hometown: Pulaski, TN School: UT Chattanooga Year: Junior Major: Spanish & International Studies Parents: Robert & Corinthia Braly S & B Hollow Farms



Kyle Brown

\$1000 - sponsored by Farm Credit Mid-America Hometown: Lawrenceburg, TN School: TN Tech University Year: Senior Major: Workplace Leadership & Human Behavior Parents: Derick & Kendrah Brown Laurel Hill Farms



Abigail McConnell

\$3000 - sponsored by *Cobb-Vantress* Hometown: Munford, TN School: MTSU Year: Senior Major: Animal Science Parents: Daryl & Michelle McConnell



Bethany Priest

\$2000 - sponsored by Aviagen Hometown: Maryville, TN School: TN Tech University Year: Senior Major: Animal Science Parents: Paul & Amy Priest



Sarina Richards

\$1500 - sponsored by Boehringer Ingelheim Hometown: Bell Buckle, TN School: TN Tech University Year: Freshman Major: Agribusiness Parents: Shannon Richards & Troy Richards

2022 TPA SCHOLARSHIP RECIPIENTS



Aidan Flynn

\$1500 - sponsored by *Pilgrim's Chattanooga* Hometown: Lafayette, TN School: UT Knoxville Year: Freshman Major: Animal Science / Pre-Vet Parents: David & Andrea Flynn



Alexus Hooper

\$1000 - sponsored by Darling Ingredients Hometown: Union City, TN School: UT Martin Year: Freshman Major: Agribusiness Parents: Keisha & Rance Hooper



Ansley Eskew

\$1000 - sponsored by *Marel* Hometown: Morristown, TN School: MTSU Year: Junior Major: Biochemistry Parents: Will & Heather Eskew



Emily Johnson

\$1000 - sponsored by *Koch Foods Morristown & Chattanooga* Hometown: Cookeville, TN School: TN Tech University Year: Senior Major: Agriculture Parents: James & Candace Johnson



Lyndsey White

\$1000 - sponsored by *Tyson Obion County* Hometown: Charlotte, TN School: MTSU Year: Sophomore Major: Animal Science Parents: Darinda & Chad White



Alec Hamby

\$500 - sponsored by *Big Dutchman* Hometown: Social Circle, GA School: University of Georgia Year: Senior Major: Criminal Justice Parents: Mark & Laurie Hamby

2022 TPA SCHOLARSHIP RECIPIENTS



Abbey Massey

\$2500 - sponsored by FS Group & Ceva Animal Health Hometown: Flintstone, GA School: University of Georgia Year: Freshman Major: Biology (Pre-Med) & Spanish Parents: Starr & Kent Massey



Natalie Williams

\$1500 - sponsored by Sunbelt Rentals Hometown: Martin, TN School: UT Knoxville Year: Freshman Major: Pre-Dentistry Parent: Jeni Simmons



Courtney Keaton

\$1000 - sponsored by *Chore-Time* Hometown: Anderson, MO School: Univ of AR Fayetteville Year: Freshman Major: Animal Science/Pre-Vet Parents: Vance & Jennifer Keaton



Seth Curl

\$500 - sponsored by *Cumberland Poultry* Hometown: Russellville, AR School: Ouachita Baptist University Year: Senior Major: Biomedical Sciences & Psychology Parents: Dwight & Amy Curl



Caroline Key

\$500 - sponsored by Bank OZK & Poultry South Hometown: Alvaton, KY School: University of Kentucky Year: Freshman Major: Biology Parent: Chris & Mindy Key



Eli Nance

\$500 - sponsored by *Poultry Guard & Diamond V* Hometown: Tunnel Hill, GA School: University of Georgia Year: Junior Major: Mechanical Engineering Parent: Brad & Jill Nance

Managing bed bugs in poultry facilities

August 2022 by Tom Tabler, Department of Animal Science, University of Tennessee Kelly M. Loftin, University of Arkansas; Pramir Maharjan, Tennessee State University Shawn Hawkins, University of Tennessee; Jessica Wells, Mississippi State University Jonathan Moon, Mississippi State University; Jorge Urrutia, Mississippi State University



Bed bugs (Cimex lectularius) are a serious reemerging pest in broiler breeder houses. They had all but disappeared in the U.S. until about 25 years ago, when they began an unfortunate comeback. Bed bugs are now frequently reported in human establishments such as hotels, college dormitories and apartment complexes, as well as broiler breeder houses. The first record of bed bugs in poultry barns dates back to the early 1930s (Kulash, 1947). However, bed bugs have been around for thousands of years; they are mentioned in medieval European texts and classical Greek writings as far back as Aristotle (Potter, 2012). However, most people in the U.S. still have no knowledge of them and have never seen one. Bed bugs belong to a family of insects called Cimicidae. Members of this insect family are small, oval, flat, hard-bodied, flightless insects in which the wings are absent or reduced to stubs. All members of this insect family feed exclusively on blood. Let's look deeper into the problem of bed bugs in broiler breeder houses.

Some bed bug background

Bed bugs (Figure 1) were thought to be largely eradicated from the U.S. for several decades after World War II, except for a few small pockets (Cranshaw et al., 2013). This was likely because most of them had been eradicated by widespread use of DDT and other broad-spectrum insecticides in the 1940s and 1950s (Tabler et al., 2015). What we failed to recognize at the time was that, while infestations worldwide were declining, insecticide resistance was occurring in a small part of the bed bug population. Today, we recognize insecticide resistance as a worldwide problem reported in hundreds of insect species, including pyrethroid resistance reported in bed bug populations and implicated as one of the many factors associated with the current bed bug resurgence (Gordon et al., 2014). Again, they are an ancient pest. Bed bugs have been unearthed from archeological digs dating back more than 3,500 years. They hitched a ride to the U.S. on ships during colonial times and gradually moved inland from the coast. This most recent bed bug resurgence has followed a similar pattern, with initial reports of infestations beginning in the late 1990s occurring in locations such as New York, Miami and San Francisco (Potter, 2011).

Bed bug biology

Bed bugs are reddish-brown insects that may resemble ticks or small cockroaches. They are sucking pests with modified mouthparts that form a proboscis that is used to penetrate the skin. It takes about 3 to 10 minutes for an adult bed bug to consume up to six times its weight in blood in a single meal (Goddard, 2022). They are on the host for only a short time during feeding. After feeding, bed bugs retreat to a hiding place where they remain during daylight hours while the blood meal is digested. Bed bugs are nocturnal, hematophagus (feed on blood), ectoparasites (external, skin surface pests) of birds and mammals. Fortunately, bed bugs are not vectors of any known human or bird disease (Basnet and Kamble, 2019). They are the only hematophagus insects not known to vector disease, making them the focus of studies to determine if there are any clues on how to render other species ineffective at disease transmission (Basnet and Kamble, 2019). The bed bug life cycle consists of the egg, five stages of nymphs (each progressively larger than the preceding stage), and the adult (Steelman, 2000). To develop from one stage to the next, each immature nymph must take regular blood meals. Bed bugs are obligate parasites, meaning they cannot survive without feeding on the blood of a host. However, they can go extremely long periods between feedings, if necessary, perhaps up to a year or longer. Adult bed bugs must take a blood meal to continue to reproduce, as a blood meal is required for production of each batch of eggs by the female. But there's no need to try to starve them to death; they can hold out longer than you.

Three to four generations per year are possible and populations can double every 16 days (Machtinger and Martin, 2019). A female bed bug can lay 50 to 350 eggs in her lifetime, but under favorable conditions as many as 550 eggs can be produced. Eggs usually hatch in 6-10 days, but this is temperature dependent and at temperatures below 70 degrees F hatching can take up to 28 days (Roe, 2000). Newly hatched nymphs will immediately seek out a food source, which in a broiler breeder house, is the chickens. Feeding occurs in the dark, usually in the middle of the night or on toward dawn. The bed bug uses the presence of carbon dioxide and heat to locate its host. It requires about four days for bed bugs to grow between nymph stages at a temperature of 80 degrees F. Therefore, the entire life cycle from egg to adult requires about 30 days (Steelman, 2000). Adults typically live 9-10 months. Under ideal conditions, each adult will generally feed once a week, so many feedings occur during its lifespan (Jacobs, 2015).

Cooler temperatures retard development, and activity level declines as the temperature drops below 60 degrees F. Eggs are not laid when temperatures are below 50 degrees F (Machtinger and Martin, 2019).

Resurgence and control

While not all the factors related to this most recent resurgence in bed bug populations are known, it's likely that increased long-range air travel, a reduction in the use of residual insecticides, movement of bed bugs from birds to bats to humans, and the ability of bed bugs to disperse locally all play a role (Steelman et al., 2008). Passive dispersal is by far the most important method for bed bugs to reach new hosts. They are very efficient hitchhikers and can be transported in or on luggage, clothing, beds and furniture (Steelman et al., 2008). In a breeder house situation, they can easily and unknowingly be transported from the chicken house to dwellings on clothes, shoes, purses or bags. Bed bugs can arrive at a clean poultry facility as eggs, nymphs or adults attached to egg boxes, clothing, shoes, cages, slats, egg buggies, etc. (Steelman, 2000). They may also arrive on replacement roosters or on new pullets and roosters delivered when a new breeder flock is placed on the farm. *continued on next page*

Managing bed bugs in poultry facilities (continued from previous page)

It only takes one impregnated female being moved onto a clean farm to produce a welldeveloped infestation in a broiler breeder house within a few months (Tabler et al., 2018). A male is not necessary if the female was impregnated when the move occurred. She will eventually run out of sperm and must mate again to fertilize additional eggs but that's not a problem because she can mate with her own offspring after they become adults. Bed bugs are extremely difficult to control in a breeder house setting. There are simply too many cracks and crevices and hiding places where they take can shelter safely. Because, for the most part, they are nocturnal, you may not know you have a bed bug problem until the population becomes so high that they appear in the daytime on eggs coming down the belt and start biting workers gathering eggs. Unfortunately, by the time numbers reach this level, it has become an infestation that is totally out of control.

For some growers, bed bug infestations can be unnerving to say the least (McDonald, 2020). This is understandable, because in some individuals, the psychological aspects resulting from a



Figure 1. Adult bed bugs, nymphs and eggshell casings. Photo by Dini Miller & Molly Stedfast

bed bug infestation and bed bug bites can include nightmares, flashbacks, hypervigilance (to keep the bugs away), insomnia, anxiety, avoidance behaviors, and personal dysfunction; symptoms most often associated with posttraumatic stress disorder (PTSD) (Goddard and de Shazo, 2012). On an infested poultry farm, it creates discontent among hired labor and infested barns can act as a source for bed bug movement to workers' homes, hitchhiking on clothing, purses, boxes and bags. It is a concern for the integrator about spreading bed bugs to other farms on equipment, as well as a stress point for egg production and the welfare of the flock (McDonald, 2020).

Bed bugs in breeder houses

Unfortunately, there are few effective classes of insecticides available today to treat against bed bugs, in part because the predominant use of pyrethroid-based products has resulted in resistance in most bed bug populations. As a result, products like Tempo (cyfluthrin) and permethrin may not kill bed bugs. It may be necessary to use a non-pyrethroid pesticide such as Durashield (chlorpyrifos) or Ravap (chlorpyrifos + dichlorovos). Ravap can be used with birds on the farm (check the label), but Durashield can only be used when the houses are empty and must be mixed and sprayed by a certified pest control person (McDonald, 2020). Other products that have proven useful in the war against bed bugs include Optimate (gamma-cyhalothrin), BP-100 (pyrethrins and piperonyl butoxide), Grenade (lambda-cyhalothrin), and Phantom (chlorfenapyr). In addition, to be successful, insecticide applications must reach the cracks, crevices and hiding places that act as harborage sites for the bugs, which is sometimes difficult to do. Some products are contact sprays, meaning they must contact the bed bug to be effective. Because some significant portion of the bed bug population will remain hidden, contact sprays are often not the best treatment option.

Some animal health supply companies have developed bed bug treatment programs for use on breeder farms between flocks and with birds on the farm. While it is difficult to eradicate every single bed bug on an infested farm (there are simply too many hiding places), there are programs that can keep bed bug numbers at manageable levels. Always follow label directions for all chemicals and make sure to thoroughly spray locations such as nest boxes, including the corners and under the nest pads, and all cracks, crevices and hiding places. Bed bug eggs may not always be killed by chemical treatment, so spraying will likely need to be repeated about two weeks after the initial spraying to kill recent hatchlings.

Heat can be used as an alternative to chemical spraying when birds are absent from the farm. Sustained heating of the house to 130 degrees F for a few hours should kill bed bugs and their eggs. However, the logistics of heating every crack and crevice in a poultry facility to 130 degrees F is particularly challenging. If using heat, there is risk of collateral damage and care must be taken not to set the house on fire or melt water pipes or equipment. Before applying heat treatment, an outside perimeter residual insecticide should be applied to kill any bugs trying to escape the heat. Insecticide treatment may also be required in the attic before heat treatment because bugs will move into the attic to escape the heat treatment. Diatomaceous earth has also been used as an alternative to chemical insecticides with various levels of success that appear to be somewhat weather dependent. For example, it seems to work better when the humidity is low compared to high humidity levels.

Be careful. Not every chemical insecticide may be legal in every state. Check with your integrator, local county Extension office or other regulatory official before using any chemical insecticide in or around your poultry houses or home. Even if a product is legal for use in your state, check with your integrator before using to make sure it is on their approved list of products deemed safe for use in or around chicken houses. READ AND FOLLOW ALL LABEL DIRECTIONS FOR SAFE USE OF ANY CHEMICAL PESTICIDE. Also, use common sense. Pesticides are poisons, so take necessary precautions, handle chemicals carefully, and store in the original labeled container in a safe place away from children, pets and livestock. Do not contaminate water supplies, streams or ponds. Dispose of empty containers in a safe and approved manner and location.

Summary

Bed bugs are difficult pests to control in broiler breeder houses. There are numerous hiding places that complicate eradication. In addition, bed bugs have developed resistance to most of the insecticides used against them. Use extreme caution to prevent transporting them from farm to home or farm to farm. Consult an expert pest exterminator or animal health supply facility if you develop a bed bug infestation in a broiler breeder operation. Complete bed bug eradication in a poultry house may be difficult, but the numbers can be reduced to manageable levels. \Box

Manage litter quality for better paw quality

August 2022 by Tom Tabler, University of Tennessee; Victoria Ayres, Tennessee Tech University; Yi Liang, University of Arkansas; Pramir Maharjan, Tennessee State University; Jonathan Moon, Mississippi State University and Jessica Wells, Mississippi State University



Chicken paws (Figure 1) would be a waste product of U.S. poultry production were it not for their high demand in China as a delicacy food item. Their popularity there is somewhat similar to that of chicken wings in the U.S., according to the U.S. Poultry and Egg Export Council. A chicken "paw" is the portion of the leg below the spur; a chicken "foot" includes the paw as well as the portion of the leg below the feather line. The demand for paws in China is a windfall for poultry integrators in the U.S., who would otherwise have no choice but to sell paws to renderers for practically nothing just to be rid of them. However, in 2020 alone, more than 201,958 metric tons of paws were exported to China from the U.S., generating a revenue stream of \$461 million. Before the mid-1980s, chicken paws were of little economic value and were rendered along with feathers, blood and other unsaleable parts of the chicken. At that time, footpad dermatitis (FPD) was not considered a serious issue and little research or animal welfare efforts were invested on the topic. Fast forward to today, however, and the insatiable demand for high-quality paws for the export market has put a spotlight on paw quality and FPD. This increased attention comes from the fact that the lesions that result from FPD are a cause of animal welfare, food safety and product downgrade concerns. In addition, chickens with FPD may not perform as well which takes money out of growers' paychecks.

Foot pad dermatitis

Foot pad dermatitis is a serious problem for today's poultry industry, negatively affecting broiler health and welfare status, walking and feeding/drinking activity, growth performance, carcass quality, and economic profit (Swiatkiewicz et al., 2017). It is a condition of inflammation and necrotic lesions on the plantar surface of the foot pads, commonly observed in fast-growing broilers and turkeys (Shepherd and Fairchild, 2010). FPD appears as brown-black coloration and lesions on the foot skin, with inflammation, hyperkeratosis, and necrosis of the epidermis, found in histopathological examination (Greene et al., 1985). These lesions can serve as an entry point for Staphylococcus aureus and other microorganisms (Jensen et al, 1970; Hester, 1994). The occurrence of FPD is now used as an important audit criterion for welfare assessments in poultry production facilities in the U.S. and Europe (Berg 2004; National Chicken Council, 2017).

Paw Quality

Paw quality refers to the overall health of the foot, including the health of the toes and footpad. There are a multitude of factors that may influence the occurrence and severity of FPD including drinker design and management, environmental factors, diet composition, genetics, house temperature and humidity levels, bedding materials/litter conditions, sex and age of birds, genotype, lighting program, and gut health (Shepherd and Fairchild, 2010; Tabler et al., 2013; Swiatkiewicz et al., 2017). Of these, litter condition (specifically, wet litter) is likely the most important factor because foot pads are in constant contact with the material on the floor. FPD may not develop even though other factors may be present if the litter remains dry. However, wet litter (litter with more than 30 percent moisture) is associated with an increased incidence and severity of FPD in broiler and turkey housing systems (Martland, 1984; 1985).

Litter Management

Litter management is likely the most critical factor in maintaining good paw quality. Poultry litter (Figure 2) serves several important functions including thermal insulation, moisture absorption, a protective barrier from the hard floor, and it allows for natural behaviors (dust bathing and scratching). Type, quality and quantity of litter can affect the level of FPD in a flock. Pine sawdust, rice hulls and peanut hulls are acceptable and common bedding materials; however, kiln-dried pine shavings are most often the material of choice if available and the price is right. Although, other competitors that can outbid the poultry industry for pine shavings are making this material increasingly difficult to obtain. As a result, other bedding material options are being investigated such as miscanthus grass, switchgrass, sand and wheat straw. Numerous factors determine the choice of bedding materials, including cost, availability, moisture absorbance and particle size is extremely important because smaller particles absorb and release moisture more rapidly than larger particles. Larger particles tend to slick over and form cake more quickly and hold moisture longer. Litter should be a minimum of 3 to 4 inches deep to maintain a good moisture absorbing capacity and reduce FPD.

Meluzzi et al. (2008) reported that controlling environmental conditions (ventilation, temperature, humidity, litter moisture, etc.) appeared to be the best way to control the onset of FPD. This requires diligent management on the part of the grower. Litter acts as a large sponge to soak up moisture in the house. Proper ventilation helps remove excess moisture and humidity and prevents the "sponge" from becoming saturated and forming caked litter. Caking refers to the compressing of litter layers into a single wet layer at the top of the litter material. This thick, dense, wet layer holds most of the moisture and fecal material in the litter (Shepherd and Fairchild, 2010). Mayne (2005) suggested that continually standing on wet litter will soften the footpad and make it more prone to damage, predisposing the bird to developing FPD. Shepherd and Fairchild (2010) reported FPD lesions have been found to be more severe as litter moisture increases, particularly when the litter contains high moisture along with sticky fecal droppings. Litter moisture can be greatly affected by drinker design



Figure 1. Chicken paws.

and management. Water line height and pressure regulator adjustment must be carefully managed to prevent wet floors and maintain flock performance. Line height that is too low or water pressure that is too high will eventually result in wet floors. However, line height that is too high or pressure set too low will restrict water intake, thereby reducing feed intake and growth rate. Poor water quality may also cause intestinal upsets in the flock or cause nipple drinkers to leak and add excess water to the litter. Test poultry drinking water supplies and know what birds are drinking, from a mineral and bacteria standpoint. *continued on next page*

Manage litter quality for better paw quality (continued from previous page)

Diet and Nutrition

Much like wet litter, nutrition is a major factor in the onset of FPD, particularly with the use of more all-vegetable diets and antibiotic-free feeding programs today. Protein is an important dietary factor influencing litter quality, as excessive protein in the diet is metabolized to uric acid and excreted. Water intake in chickens increases with increasing protein content in the diet, thereby increasing litter moisture (Swiatkiewicz et al., 2017). Soybean meal has been investigated as a possible cause of FPD because indigestible carbohydrates (non-starch polysaccharides, or NSP) in soybeans and other plants may be sticky and caustic and contribute to FPD (Hess et al., 2004). Nagaraj et al. (2007) and Cengiz et al. (2013) reported that chickens fed a diet with all-vegetable protein had higher incidences and severity of FPD than broilers fed with a mixed vegetable and animal protein dietary source. Eichner et al. (2007) also observed increased litter moisture and FPD severity in chickens fed an all-vegetable diet, as did Hossain et al. (2013). Bilgili et al. (2010) indicated feeds should have optimum amino acid density but minimum crude protein levels, which is achievable using digestible and synthetic amino acids.

As NSP concentrations increase in the feed, gut viscosity increases, resulting in manure that more readily adheres to the footpads of the birds. Diets containing wheat with increased levels of viscous NSP tend to have lower metabolizable energy values and higher digesta viscosity than normal wheat diets. The viscosity of the gut contents can affect fecal dropping adhesion to the foot and over time may deteriorate the epidermis and keratin layers of the footpad. These diets can be improved with the addition of NSP-degrading enzymes, showing significantly lower digesta viscosity than a wheat diet alone (Choct et al., 1995).

Another factor that can contribute to FPD is litter friability (Eichner et al., 2007). Litter should be loose (friable) and dry because chickens tend to scratch, peck and work the litter material, improving aeration, speeding up drying and reducing particle size. As litter slicks over and becomes damp and wet, it eventually forms cake, and birds can no longer work the litter. As the birds walk and rest on this caked litter, the outer layer of the footpad begins to soften. The caked litter produces friction between the soft footpad and the floor, causing the outer skin layers to erode and setting the bird up for FPD (Fairchild and Czarick, 2011).



Temperature, Humidity and Stocking Density

Temperature and humidity inside the chicken house fluctuate with season of the year. Ventilation rates change as growers adjust to increasing and decreasing temperatures as seasons change.

Lowest ventilation rates are in the winter as growers attempt to avoid reducing house temperatures and try to save on fuel costs. As growers attempt to conserve heat, they often sacrifice proper ventilation rates. In so doing, house humidity levels rise, and this saturated air eventually increases the moisture level in the litter causing wet and caked litter. For this reason, wet litter is a bigger problem in the winter than in other seasons of the year. As a result, FPD is seen more frequently in the winter. Although, excessive cool cell usage in summer that results in wet litter can also increase FPD. Regardless of season, it is important to maintain in-house relative humidity levels between 50 and 70 percent. Relative humidity over 70 percent for long periods of time will result in litter slicking over, becoming wet and forming cake, even with young chicks. It is less expensive to maintain the proper environment with judicious fuel use and adequate ventilation than to try and dry litter back out once it has become wet and slicked over from inadequate ventilation.

The information regarding stocking density is mixed. Some studies have reported that higher stocking densities are associated with a greater incidence of FPD whereas other studies have suggested that stocking density plays little or no role in the formation of footpad lesions (Shepherd and Fairchild, 2010). It is more challenging to keep up with the increased moisture removal demands associated with more birds in the house. However, many growers do a good job of managing these additional demands, even during winter months when ventilation rates are often reduced to conserve fuel. Therefore, management practices may play a more critical role in maintaining good paw quality than stocking density. Although having additional birds in the house makes maintaining litter quality more challenging, it has been concluded that stocking density itself has little effect on FPD if adequate house environmental conditions are provided (Dawkins et al., 2004).

Although it is widely accepted that management and environmental conditions, particularly litter moisture, are the main factors influencing the incidence and severity of FPD, some research indicates a different susceptibility in the development of FPD among different strain crosses or fast-growing genotypes (Kestin et al., 1999; Sanotra et al., 2003). Zampiga et al. (2019) also reported a difference in FPD related to genotype. Therefore, identifying genetic strains of broilers that may offer greater footpad resistance to challenging environmental conditions may be key for preserving animal welfare and profitability in the future (Zampiga et al., 2019).

Summary

The development of a multi-million-dollar export market for chicken feet has changed how the poultry industry regards litter management and footpad dermatitis in the broiler house. Today, only the breast and wings prevent chicken paws from being the most valuable part of the chicken. However, only high-quality paws meet rigid export standards, and it is vital to avoid footpad dermatitis issues which could knock paws out of the lucrative export market and into the rendering plant instead. Wet litter is likely the most important factor affecting paw quality, making litter management critical to protecting paw quality. Other factors also play a role including nutrition, environmental conditions, ventilation, genotype, lighting program, etc.

However, growers should focus their attention on litter management to preserve paw quality. Dry litter usually means good paws, and good paws usually mean better flock health and welfare (and a bigger paycheck). So, while growers may not think they get paid for good paw quality, they most likely do if that good paw quality means their birds make more trips to the feeders and drinkers and perform better than they would with FPD and painful lesions on their feet.

Status of 2022 Corn and Soybean Crops

September 2, 2022 Egg-News <u>newsletter@egg-news.com</u> by Dr. Simon M. Shane

The USDA Crop Progress Report released on August 29th documented moderate progress of both soybean and corn crops. Corn is still lagging the 4-year average. Forty six percent of corn was at the dented stage up from 31 percent last week and 8 percent of the crop was mature. The fact that a high proportion of the corn crop was planted over a two-week period created widespread vulnerability to heat and drought at the critical stage of silking and will have an adverse impact on corn yield in severely affected areas.

Ninety one percent of the soybean crop was setting pods on August 29th with 4 percent dropping leaves. Crop condition was similar to the corresponding week in 2021.

For the week ending August 28th topsoil and subsoil moisture levels are now closer to the corresponding week in 2021 as some central and easterly states in the corn-belt have had relief from drought. Combining the USDA classifications of "very short" and "short", topsoil moisture for the eight largest corn and soy-producing states improved, with an average of 45.4 percent (last week 47.5 percent). The two driest states were Nebraska, (81 percent) and Kansas (80 percent) with the western counties in both states most impacted by drought. States less affected as reflected in topsoil moisture were Minnesota (22 percent) and Ohio (25 percent) for the two driest categories.

EGG-NEWS will report on the progress of the two major crops as monitored by the USDA through November.

	WEEK ENDING		
Сгор	August 21st	August 28th	4-Year Average
Corn Silking (%)	100	100	100
Corn Dough (%)	75	86	88
Corn Dented (%)	31	46	52
Corn Mature (%)	4	8	9
Soybeans Blooming (%)	100	100	100
Soybeans Setting Pods (%)	84	91	92
Soybeans Dropping Leaves (%)	0	4	7

Crop Condition	V. Poc	or Poor	Fair	Good	Excellent
Corn 2022	8	11	27	42	12
Corn 2021	4	10	26	46	14
Soybeans 2022	4	9	30	46	11
Soybeans 2021	5	10	29	45	11
Parameter	V. Sho	ort Short	Adequ	uate	Surplus
Topsoil moisture: Past Week	19	29	48		4
Past Year	17	30	49		4
Subsoil moisture: Past Week	20	29	48		3
Past Year	20	29	48		3



During mid-July AccuWeather projected that drought and heat would reduce the corn crop to a range of 14.0 to 14.3 billion bushels compared to the WASDE August value of 14.36 billion bushels (14.5 in July).

The 2022 ProFarmer Tour estimated the corn crop at 13.759 billion bushels with an average yield of 168.1 bushels per acre. Their estimate of the soybean crop is 4.535 billion bushels with an average yield of 51.7 bushels per acre.

Reference is made to the August 12th WASDE Report #627 and the Grain Storage Report retrievable under the STATISTICS Tab.



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COLLEGE of AGRICULTURE & APPLIED SCIENCES

Department of Agriculture, Geosciences, and Natural Resources 256 Brehm Hall Martin, Tennessee 38238 Office: 731.881.7260 Fax: 731.881.7968

June 28, 2022

Dear Tennessee Poultry Association,

I would like to offer my thanks for the funds donated by your organization to be used in our growing poultry science program on our UTM Teaching and Demonstration Farm. Each semester, we raise approximately 1,200 broilers in our on-campus UTM/Tyson Model Broiler Facility. This scaled-down version of a Tyson broiler barn allows us to demonstrate parts of the modern poultry production process for our students enrolled in various agriculture majors.

Another important component of this facility is that it allows for multiple students each semester to be involved in the care of the broilers and maintenance of the facility. These students take time out of their already busy schedules to be involved at the barn each morning and evening. In addition to gaining valuable experience working side-by-side with some of Tyson's grower technicians, we have been fortunate to be able to compensate these students for their hard work with the funds your organization has given.

We have spent \$3,990.00 on student salaries for eleven total students – five students in the fall 2021 semester and six students in the spring 2022 semester. Thank you again for your continued support!

Regards,

Jah Mahin

Zachary Morphis, B.S. LVMT Instructor, Veterinary Health Technology University of Tennessee at Martin – CAAS 256 Brehm hall Martin, TN 38238 901.326.1252 zmorphis@utm.edu





Production and sanitation: Are the right questions being asked to ensure food safety?

July 4, 2022 at <u>MeatingPlace.com</u> by Maggie Smith

Without sanitation, the safety of food cannot be guaranteed. Without food safety measures in place, sanitation is ineffective. Which is more important? Fortunately, the meat and poultry industry places heavy importance on both. However, the relationship between the production and sanitation departments can change, much like the scales of justice. The "blame game" is two-sided, with each department contributing their own points of contention.

While the relationship between Production and Sanitation can be both antagonistic and symbiotic, the key to success is focusing on providing each team with the proper tools to achieve their similar objectives. There are common themes that seem to pop up between the departments, and these require more attention if the poultry or meat processing plant is to ensure food safety objectives are met. These include, but are not limited to, cleaning time, pre-op, USDA activities, re-cleaning, and deviations (e.g., quality assurance [QA], noncompliance reports [NRs], audits).

Of course, the most important aspect of establishing an effective relationship between the two departments is communication. If both Production and Sanitation ask the right questions, the poultry or meat processing plant will go a long way toward improving and strengthening its food safety objectives.

What to ask: Cleaning time

Most sanitation crews do not have a complete 8-hour shift to perform cleaning tasks. Pick-up is the first step to any cleaning process. What can Production do to circumvent the sanitation crew from spending actual cleaning time on this task? Taking five minutes prior to the end of the shift to perform pick-up greatly benefits the sanitation crew.

On the other side, Sanitation's part is to be at the equipment and ready to work at the beginning of their shift. Designated employees can also begin pick up with other crew members conducting the first rinse right behind those who are performing pick up tasks. Any measure taken with respect to the lean manufacturing principles of "5-S" sanitation - sort, straighten, shine, standardize and sustain - is a win, especially if Production is on board.

What to ask: Pre-op

It's time to pre-op, but the sanitation crew is still cleaning. Why? Was the pick-up longer? Are they short-staffed? Were they not using their time wisely? It is easy to place blame, but is it accurate? Both sides play a role in ensuring the plant starts up on time. The end of production on one day may forecast the beginning of production on the next day, with sanitation squeezed in between. It is an unpalatable sandwich for everyone involved.

The occasional hinderance of sanitation not being finished by the end of the scheduled shift is understandable. However, if it is commonplace, a root cause analysis (RCA) should be completed. Production and Sanitation should each conduct their own RCA, communicating the process completely with each other and coming to a collective understanding of the reasons for unfinished work. No doubt both sides can make improvements to ensure tasks are performed like clockwork.

What to ask: USDA activities

Does USDA present a hurdle? USDA has been known to come to the floor during sanitation tasks to determine where there is a lack of personnel, then return to their office and when it is time for pre-op, they make a beeline for that area. There is a fine line, but this practice has no benefit to production or to sanitation. Does USDA practice good hygiene and inspection tasks? Do they wash their hands when coming to the floor? Do they properly conduct their inspections? Or, are they a cause of contamination by scraping a belt with their nails to see if there is buildup, for example? Awareness of the activities of USDA can be a revelation as to the cause of an issue.

What to ask: Re-cleaning

During pre-op, if equipment or an area in the plant needs re-cleaning, are there sanitation personnel at the ready to complete this in a timely manner? Perhaps not the entire crew, but sanitation personnel should be immediately available in the area to re-clean and present for re-inspection. Are the areas needing re-cleaning repeatables? Per an RCA, are the repeatables for the same reason? The root cause of the lack of effective cleanliness should be determined. Is the root of the problem an inadequately trained employee? Have equipment modifications been made? Was sanitation given enough time to clean?

What to ask: Deviations

The sanitation shift is bound to receive deviations, whether they are from FSQA, USDA (NRs), or audits. At times, management or FSQA wants to answer the NRs and audit deviations, or they don't want to accept the answers from the sanitation department (i.e., appeals). If Sanitation can give sound reasons for wanting to appeal an NR or audit deviation, support them. They are the subject matter experts and more than likely they have not come to this decision without thinking it through.

No question, ensuring food safety is the answer.

To resolve any issues, the questions to ask are 'why' and 'what'? Why did it happen? Why have we always done it this way? What can be done to correct it? What can we do to improve lack of repeatability? What can we do to work together to ensure we are producing safe and quality product? 'Who' is inconsequential and only leads to the blame game.

The common theme is communication and awareness of the roles of both Production and Sanitation. The blame game is not a contest. No one is a winner, and it only serves to weigh the scales of justice out of balance. Both sides must work together, with open communication, respecting the other's factual reasons and decisions. Food safety needs sanitation and sanitation needs food safety. The relationship is symbiotic.

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<u>Jackson</u> Son of Josh Payne Poultry Guard



<u>Michelle</u> Granddaughter of Desine Butler USPOULTRY



<u>Paisley</u> Daughter of David & Faith Kraft Cobb-Vantress



Obituaries

"Honoring TPA members who have gone before us"

Ethan Russell, age 31 of the Walnut Shade Community in Macon County, TN passed away August 22, 2022 at Tri-Star Skyline Medical Center in Nashville, TN. He is survived by: wife, Kelly Russell; daughters, Bella & Haidyn Russell; parents, Ryan & Tammy Russell all of the Walnut Shade Community; brother and sister-in-law, Trevor & Lindsay Russell

TN Poultry Association P.O. Box 1525 Shelbyville, TN 37162 www.tnpoultry.org Executive Director Dale Barnett (931) 225-1123 (931) 434-8045 mobile dbarnett@tnpoultry.org

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2022 Application C

Poultry Grower Commercial Producers

Application Period October 1 – 7, 2022

Application Guide

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Program Requirements

Application

- 1. Applications must be submitted during the application period October 1 7, 2022.
 - · Applications may be submitted by one of the following methods:
 - Mail applications must have a postmark date ranging from October 1 7, 2022
 - Hand delivery to TDA, Holeman Building, 424 Hogan Road, Nashville, TN 37220 between October 1 7, 2022 during normal business hours
 - Applications are not accepted by fax, email, or text.
 - Applications are ineligible if postmarked or received prior to October 1 or after October 7, 2022.
- 2. Applicant may only submit one Application C per farm operation*, per Federal IRS Schedule F, per person, per application period.

*A farm operation may be owned and operated by a single individual, multiple individuals, company, corporation or a partnership located in Tennessee. A farm operation may involve the production of multiple agricultural products and may have multiple locations in Tennessee. Only one person from the farm operation is eligible to apply for TAEP Application C cost share.

- 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

- Receipts dated prior to October 1, 2022 are not eligible. All items, regardless of backorder status, must be purchased by the program reimbursement deadline. Backordered items may be ineligible for cost share if not delivered to the farm by the program deadline.
- 2. Receipts must be in the name of the applicant approved for cost share funding.
- 3. Receipts for in-kind services are not eligible. Trade-in value is not eligible.
- 4. Used equipment, used materials, and leased equipment are not eligible for cost share reimbursement unless otherwise noted.
- 5. Labor provided by applicant is not eligible for cost share reimbursement. Labor is for structures only.
- Applicant cannot be reimbursed for purchases from a business where applicant participates in ownership (producer cooperatives excluded).
- Applicants cannot combine projects or attach items to another applicant's project. Applicants cannot submit multiple reimbursement requests for the same purchased item.
- Reimbursement documentation must be postmarked or uploaded to your TAEP Online Account Portal by the reimbursement request deadline. Additional processing time is required for incomplete 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 completed.
- 9. There can only be one reimbursement payment per program approval. Projects must be completed by reimbursement deadline.

Verification

- 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.
- 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 eligibility and minimum livestock/acreage requirements for chosen program(s).
- 3. Applicant may be required to repay funds for failure to comply with all aspects of the cost share guidelines.
- Providing any false, fraudulent, or misleading information may result in penalties and/or make the applicant's operation ineligible to participate in present and/or future Tennessee Department of Agriculture programs for a minimum of five years and may result in civil litigation or criminal prosecution.

50% Master Producer Requirements

Master Producer Programs

The University of Tennessee offers several educational programs for the agricultural industry. These programs are designed to provide hands-on experience in current management practices that are important to the profitability and sustainability of the industry.

All approved applicants are eligible for 35% (Standard Producer) cost share. For applicants wanting to qualify for 50% cost share (Master Producer), an eligible master producer certificate is required at time of reimbursement (not time of application).

Eligible Courses

Program	Eligible Courses	Certificate Eligibility		
Poultry Grower	Master Commercial Poultry Master Farm Manager Master Farm Family Health & Wellness	Certificate issued January 1, 2019 or after		

Master Certification & TAEP 50% Cost Share

To be eligible for 50% cost share, an approved applicant must complete an eligible Master course **prior to submission of their** reimbursement request.

- · Certificates must be issued 2019 or after to be considered current for TAEP.
- · Courses to obtain certificates must be completed by the applicant approved for TAEP cost share. No substitutions allowed.
- · Copy of current certificate must be submitted with reimbursement request.

Course Schedules

Contact your local UT/TSU Extension office to inquire about educational course offerings.

- University of Tennessee | utextension.tennessee.edu
- Tennessee State University | tnstate.edu/extension

Poultry Grower Cost Share Opportunities

Minimum Poultry Requirements	Certifications	Lifetime Limit	\$6,000 Maximum Reimbursement		
Broilers – 75,000/yr Non-Broilers – 10,000/yr	Not Applicable	Not Applicable	Standard 35% Master 50% Cost Share Cost Share		
Applicant must be an existing commercial poultry producer meeting at least one of the minimum poultry program requirements (broilers/non-broilers) at time of application. Final maximums may be reduced based upon overall demand for cost share funding.					

Guidelines

Eligible Items

Items not listed as eligible will not be considered for cost share reimbursement.

New or Used Equipment - Item 1

 Propane Tank – above ground and for poultry use only; must be purchased and installed by a Tennessee licensed dealer and be ASME certified (American Society of Mechanical Engineers); 1,000-gallon minimum capacity (small capacity tanks of 500 gallons may be purchased to reach the minimum capacity); concrete pad or footers eligible; labor conducted by a contractor/ supplier for installation is eligible; not eligible – labor provided by the applicant

New Equipment Only - Items 2 - 10

Ø New items cannot be previously owned.

Ø Items purchased at an auction are considered used.

- Generator for poultry use only, must be stationary, fixed mounted; minimum of 20 KW per house; concrete pad foundation; includes materials to connect and wire the generator; contract labor to install; not eligible – portable/PTO generators
- Feed Bin with optional auger and concrete foundation pad for on farm storage of poultry feed only; must meet housing and feeding system specifications; contract labor to install; not eligible – replacement parts
- 4. Litter Management Equipment must be designated by the manufacturer for poultry house use; equipment includes conveyors/elevators, pull-type spreaders (min. 140-bushel capacity), and poultry specific mounted implements used to windrow, de-cake (house cleaners), till, pulverize, level, and/or scrape walls for optimal litter management; not eligible self-propelled equipment, front end loaders, bucket attachments
- Overhead Trolley System aid in the removal of mortalities and transport supplies; manual or automated complete system; contract labor to install; not eligible – electrical service
- Feed Bin Scales automated feed bin scales and electronics; contract labor to install and interface; not eligible electrical service
- Poultry Scales automated poultry scales with hanging platform; contract labor to install and interface; not eligible electrical service
- Migration Fences sectional fence panels and dividers; includes upright supports when required; not eligible repairs, parts, labor

continued on next page

Eligible Items _

- 9. Biosecurity Items
 - a. Drive Over Foam/Spray Vehicle Disinfection System includes ramps are if purchased with the system; contract labor to install and interface along with site prep for drainage; not eligible purchase of foam; electrical service
 - 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, labor, and materials to install
 - 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; contract labor to install
 - 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 (electric and/or battery/solar); 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; contract labor to install; not eligible cellular remote-controlled access, ornamental gate post construction (rock, brick, etc.), material and labor for providing electrical service
 - e. Poultry House Cleaning Equipment must be designated for poultry house use for cleaning, washing down, and disinfecting the interior of the poultry house; minimum 540 RPM PTO driven sprayer and/or blower rigs; sprayer tank size must be 200 gallon and PTO driven; blower must be hydraulic or PTO driven; spray attachment optional

10. Poultry House Retrofit Items

Items are for retrofit (upgrade/replacement) purposes only. Items are for use in growing areas only and must meet current poultry house specifications. Not eligible - new poultry house construction and repairs to existing equipment.

- a. LED Lights and Dimmer Controllers must be purchased through a poultry supply company and specified for agricultural use; must have a 5-year warranty; includes LED light fixtures that contain fixed LEDs within the apparatus or built into the fixture as one unit; includes automated dimmer to accommodate higher efficiency LED lighting; contract labor to install and interface; not eligible residential grade LED lights, electrical service, wiring, conduit, keyless fixtures
- b. Ventilation Fans must be designated for poultry house ventilation use and must be fixed mounted; tunnel fans, stir fans, minimal vent fans, controllers; contract labor to install; not eligible belts, blades, fan cones, shrouds, diffuser guards, mounting hardware
- c. Ventilation Doors side vents, attic vents, tunnel doors, and inlets; contract labor to install; not eligible louvers, shutters, mounting hardware
- d. **Motors** to be used for the following: poultry house fans, ventilation systems, automated feeding systems and/or automated sidewall systems; contract labor to install; not eligible pulleys, belts, bearing assemblies, mounting hardware
- e. Feed-line Gear Boxes for use with automated feeding systems

continued on next page

Poultry Grower Cost Share Opportunities

Eligible Items -

- f. End doors must be designated for poultry house use; roll-up or bi-fold end door (crank or mechanical) for exterior of poultry house; contract labor to install; not eligible sliding doors, custom doors, handmade doors
- g. Curtains must be designated by the manufacturer for poultry house use; sidewall drop curtains, inside divider curtains; not eligible – labor to install
- h. Cool Cell/Sprinkler Ventilation Systems must be designated by the manufacturer for poultry house ventilation use; cool cell pads, cool cell pumps, sprinkler drops/spinners, controllers, and pressure regulators; contract labor to install; not eligible – plumbing lines, fixtures, mounting hardware
- i. Watering Systems must be designated by the manufacturer for poultry house watering system; pressure regulators, medicator pumps, injectors, and flush breather units; not eligible nipples, water/plumbing lines, mounting hardware
- j. Slats for hen houses must be purchased through a poultry supply company and meet housing system specifications; preassembled plastic slats and pre-cut wooden slats, sticks and structural rail support systems; not eligible – hardware, individual boards or lumber that is not purchased through a poultry supply store or itemized for wooden poultry slats
- k. Nesting Pads for hen houses must be designated by the manufacturer for poultry house use
- I. Egg Conveyor Equipment conveyor belts and egg handling tables; not eligible egg packers, repairs
- m. Brooders and Heaters must be designated by the manufacturer for poultry house use; full section only; not eligible repairs, parts, labor
- Knee Braces must be made of metal and designated by the manufacturer for poultry house use; contract labor to install; not eligible – repairs, parts, lags/bolts

TAEP Contact Information

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