TPA NEWSLETTER

"Serving the integrated broiler/breeder industry in Tennessee"

Tennessee Poultry Association

Summer 2022

2022 HPAI Update

As of June 2, 2022, there have been 360 confirmed flocks in the US infected with HPAI (Highly Pathogenic Avian Influenza; H5N1). Of these, 184 positive cases have been on commercial premises and 176 have been in backyard flocks ("non-poultry"), for a total of almost 38 million birds being depopulated in 36 states. Commercial cases peaked in April (106 flocks) and there were 18 cases in May and one case in June to date (commercial meat ducks in PA). Backyard flock cases peaked in May (71 cases) and there have been two confirmed positives reported in June to date, with one of these involving 490 birds in Toombs Co., Georgia (near Vidalia) with the other occurring in WA. In TN this year, a Canada goose in downtown Nashville, waterfowl in NW TN, and a bald eagle in Cocke Co. (East TN, SE of Knoxville) have been found positive. For more info, go to USDA's site and p. 13 of this newsletter to view the current US map for all cases to date.

What is different with the AI virus this year? The H5N1 virus that is being experienced in the US is already in a highly pathogenic form as it is being spread from wild birds. It is not being firstly transmitted in a lower pathogenic form (LPAI) as was the case in TN and AL in 2017 with H7N9, and during the 2014-2015 outbreak with H5N2 and H5N8 that largely affected the upper Midwest. Since the current virus is already highly pathogenic, it does not need to mutate, transform or reassort upon entering a flock to become further problematic. Mixed flocks of chickens and other fowl remain to be at greatest risk when domestic ducks are allowed to directly comingle with wild ducks and geese on ponds and other natural habitats. Also of interest, this H5N1 virus has infected commercial broiler flocks this year, whereas in previous outbreaks in the US, broilers and younger birds were not affected by those particular strains. While the number of cases is waning, optimal biosecurity measures must still be maintained throughout the year. Some countries in the Eastern hemisphere have been experiencing AI almost year-around. Viruses adapt, they change – that's how they survive. Look at how Covid has still not gone away and how new variants have surfaced. There are current AI cases in Mexico and the abovementioned backyard case in southeastern Georgia – whereas the outside temperatures have been well above what is generally considered to be unfavorable for the virus to thrive. Yet it is still surfacing; it is still out there. *(continued on page 9)*

Regulatory changes that will impact us all

As most of you are aware, there are quite a few rule changes under consideration by the current administration. Many are featured throughout this newsletter. Before delving into some of those areas, take note of the very favorable CDL changes that go into effect July 1, 2022 for TN and the expansion of TN's agriculture sales & use tax exemptions for our producers, effective Jan. 1, 2023 (see pages 3-5).

At the national level, however, things are much more controversial and not always so favorable. On Wall Street, the SEC's (Securities and Exchange Commission) proposed climate rule to mandate extensive climate disclosures and reporting throughout the supply chain is of very great concern. Current WOTUS (Waters of the US) regulations are still under harsh review and a strategy to accelerate nutrient pollution reductions has been announced. On a very sensitive note, USDA has proposed rule changes concerning contract growing. The American Farm Bureau Federation supports the rules changes as written, while the NCC (National Chicken Council) and NAMI (North American Meat Institute) have come out against the rule changes as proposed. Not everyone will agree on what these changes should be, obviously, but one thing that is certain is the fact that change is coming (see page 3), and it could quickly get very overwhelming.

Meanwhile, the Supreme Court has agreed to hear the NPPC's (National Pork Producer Council) case against Proposition 12 in California, and a well-known billionaire just lost out on an effort to strongarm a major fast-food chain into discontinuing their affiliation with gestation crates. More and more folks not only want to tell us how to raise their food, but further regulate it and then later complain when food prices inevitably go up and availability decreases. Maybe certain folks aren't hungry enough yet. □

INSIDE THIS ISSUE

AG LIGHTING
INNOVATIONS
An American Company

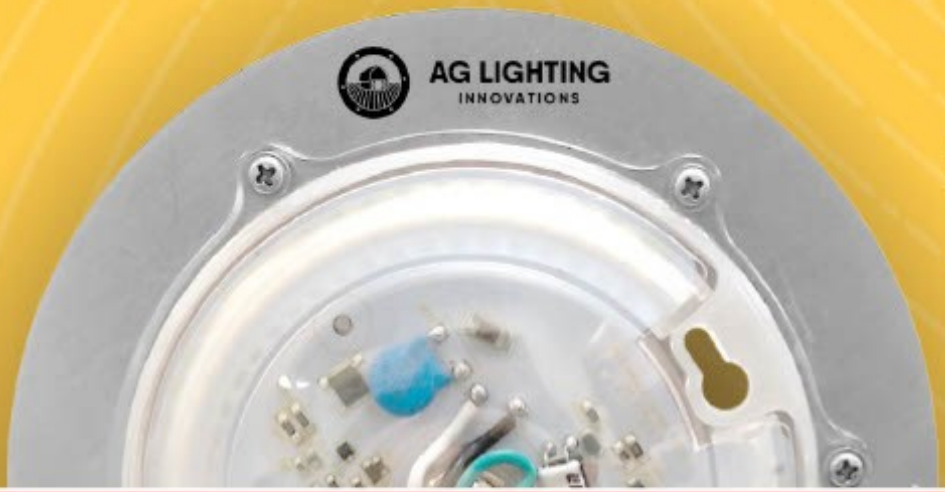
AG 25
DIMMABLE LED FIXTURE

Brighter. Waterproof. Guaranteed.

Brighter - The AG25 LEDs create unmatched brightness while using less energy. This also leads to less light loss over time.

Waterproof - The low profile design is not only sleek and dustproof, but it is also fully enclosed making it 100% waterproof.

Guaranteed - Every AG25 comes with a 5-year, no-questions-asked warranty.



Better Light. Better Bird.

NEW

AG3-30 THE FEEDER LIGHT

3000k *temperature*

48V DC *power*

250 Lumens *brightness*

Easy Install

See more at PoultryLights.com

Biden-Harris Administration Announces New Actions to Strengthen Food Supply Chains, Level the Playing Field for Growers, and Lower Prices for American Consumers

WASHINGTON, May 26, 2022 – USDA Secretary Tom Vilsack today announced more support, resources, and new rules that will strengthen the American food supply chain, promote fair and competitive agricultural markets, prevent abuse of farmers by poultry processors and make prices fairer for farmers and American consumers. Read more: **https://www.usda.gov/media/press-releases/2022/05/26/biden-harris-administration-announces-new-actions-strengthen-food** ◻

American Farm Bureau supports USDA rule changes for poultry contracting

May 31, 2022 at MeatPoultry.com by Ryan McCarthy

Industry trade groups, including the National Chicken Council and the North American Meat Institute, have both come out against the new changes to the rules.

WASHINGTON – Following the US Department of Agriculture's proposed rule changes for poultry marketing disclosure requirements, the American Farm Bureau Federation (AFBF) approved of the possible adjustments by the agency.

AFBF President Zippy Duvall threw his support behind the proposed initiatives.

"Farmers deserve to know what they are getting into, and to understand how they are being paid," Duvall said. "Making sure farmers have access to important information about their poultry company, inputs, stocking densities and feed disruptions is good for everyone in the food value chain."

The USDA is examining the current tournament-style system in poultry growing and the benefits of more input from the producers.

"There are no simple answers for all the challenges that poultry growers face, but it is important that steps are taken to make improvements where possible," Duvall added. "We look forward to reviewing these proposals in detail and we stand ready to work with USDA to ensure farmers can continue putting dinner on the table for America's families."

Industry trade groups, including the National Chicken Council and the North American Meat Institute, have both come out against the new changes to the rules.

"While the Meat Institute supports transparency in meat and poultry markets, we are still reviewing the rule proposed," said Julie Anna Potts, president and chief executive officer of NAMI. "And we remain concerned about further government intrusion in the market through possible proposed rules mentioned in the Advance Notice of Proposed Rule Making." ◻

New Study Highlights Benefits of the Partnership Between Contract Farmers, Chicken Companies

March 2022 from National Chicken Council

The National Chicken Council released a study that presents the results of a recent broiler industry survey designed to capture key live chicken production statistics. In addition, the study summarizes several key trends in broiler production efficiency, returns and loan quality data. *Click here for full article* ◻

COVID-19 Business Liability Protections

April 28, 2022 at Tennessee Chamber of Commerce Capitol Update

SB2448/HB2671 extends the sunset date of Tennessee's COVID-19 business liability protection laws for one year. The Tennessee Chamber strongly supported extending the Tennessee COVID-19 Recovery Act, which provides business protections for all industries, until July 1, 2023. Extending these critical business liability protections aligns sunset dates with all other COVID-19 related laws, which are scheduled to expire at the same time. SB2448/HB2671 passed in its final form. ◻

CDL Reform Legislation Passes in TN

March 8, 2022 at TN Farm Bureau Legislative Alert

SB2399 Johnson/HB2146 Lamberth - Operation Open Road aims to streamline commercial driving licensures and alleviate supply chain concerns. It gives the Tennessee Department of Safety resources to further partner with third-party, private testing entities to establish more CDL testing sites throughout the state. It also knocks down a number of regulatory barriers for private third-party entities to enter the testing business. HB2146/SB2399 allows for the purchase of surplus vehicles to be utilized at testing sites, a shortage that greatly needs filling. The legislation also allows for easier maintenance and entry for both commercial truck drivers and commercial truck driving testing proctors. [This bill has passed.] ◻

Farmers for Free Trade advocates for import tariff reduction

May 31, 2022 at MeatPoultry.com by Ryan McCarthy

The National Pork Producers Council and the North American Meat Institute joined 40 agricultural trade groups with the help of Farmers for Free Trade to ask the Biden administration for suspension, reduction or elimination of all remaining Section 232 and Section 301 tariffs, in return for commitments from other countries to suspend commensurate retaliatory tariffs. *Click here for full article* ◻

Tennessee
Poultry Association

Annual Meeting & Summer Getaway

August 19-20, 2022

Gaylord Opryland Resort & Convention Center
Nashville, TN

- For more information, contact Tracy Rafferty at tracy@tnpoultry.org or (270) 363-2078
- Register online by *July 15* at http://tnpoultry.org/meeting/registrationForm.cfm
- Special group hotel rate available until *July 18 @ 5 pm EST*
- Hotel reservations can be made at the link below: https://book.passkey.com/gt/218418028?gtid=47fa8020286dd804e66716efd7efbb87

Speakers

Silent Auction

Sporting Clays

Golf

Awards Banquet & Live Auction

Live Entertainment by Drake Milligan

TPA BOARD of DIRECTORS

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

1st VP - Clint Lauderdale
Poultry Guard LLC - Hanceville, AL
(256) 636-3303
clintlauderdale@poultryguard.com

2nd VP - Jeremy Martin
Aviagen - Huntsville, AL
(256) 777-8213
jmartin@aviagen.com

Secretary/Treasurer - Dale McLerran
M&M Farms - Moss, TN
(931) 704-3880
dale.mclerran@yahoo.com

Immediate Past President - Shane Joyner
Tyson Foods - Union City, TN

TPA Board Members

Scott Black - Cobb-Vantress
Andrew Blair - Tyson Shelbyville
Darryl Brown - Grower, Lawrenceburg, TN
John Edwards - Koch Foods Chattanooga
Vance Keaton - Live Oak Bank
Brad Nance - Pilgrim's Chattanooga
Richard Stewart - River Valley Ingredients
David Tallent - Grower, Spring City, TN
Andy Todd - Tyson Albany
David Wilds - Koch Foods Morristown
Joe Williams - Huvepharma
Vacant - Tyson Humboldt

Farm Bureau Priority Issues Pass the General Assembly

Modernization of Agriculture Sales Tax Passes Tennessee General Assembly Unanimously

The Tennessee Farm Bureau Federation enthusiastically applauds the Tennessee General Assembly for unanimously passing the Modernization of Agriculture Sales Tax (SB905 Stevens/HB1405 Halford).

As amended, this legislation will provide much needed clarity and certainty on the tax status for both farmers and the businesses from which farmers purchase input items. As a result, qualified farmers will be able to purchase some input items that have previously been denied an exemption. The new exemption language more closely aligns to the process used in manufacturing and eliminates wording that previously resulted in unfavorable agency interpretations.

"We are extremely grateful to the members of the Tennessee General Assembly, especially the sponsors of this bill, for their support of Tennessee farmers," said Tennessee Farm Bureau Federation President Eric Mayberry. "This was a top priority issue for our organization. For many years, the confusion, inconsistent taxation and resulting uncertainty has been frustrating to farmers, retailers and the Tennessee Department of Revenue. Farmers can now focus on what they do best - providing food, fiber and fuel for all of us."

The Modernization of Agriculture Sales Tax law will take effect January 1, 2023. *Read the full press release here.*

ADVERTISING INDEX

Regulatory

EPA Announces Strategy to Protect Water Quality by Accelerating Nutrient Pollution Reductions

April 5, 2022 at EPA.gov

U.S. Environmental Protection Agency (EPA) Assistant Administrator for Water, Radhika Fox, released a new policy memorandum on Accelerating Nutrient Pollution Reductions in the Nation's Waters. This memo reaffirms EPA's commitment to working with federal agencies, state co-regulators, Tribes, water stakeholders, and the agricultural community to advance progress in reducing excess nutrients in our nation's waters.

The agency will support innovation and pursue science-based and data-driven strategies to reduce excess nutrients in our nation's waters. Critically, EPA will also provide technical assistance and other support to help states, Tribes, and territories scale effective nutrient loss reduction strategies. EPA will also continue to evolve and implement the Clean Water Act regulatory framework to holistically address nutrient pollution. *Click here for full article* ◻

Overreach of SEC Proposed Climate Rule Could Hurt Agriculture

May 6, 2022 at FB.org

The Securities and Exchange Commission has proposed a rule, "The Enhancement and Standardization of Climate Related Disclosures for Investors", mandating extensive climate disclosures by public companies, including measured impacts for their entire supply chain. *Click here for full article* ◻

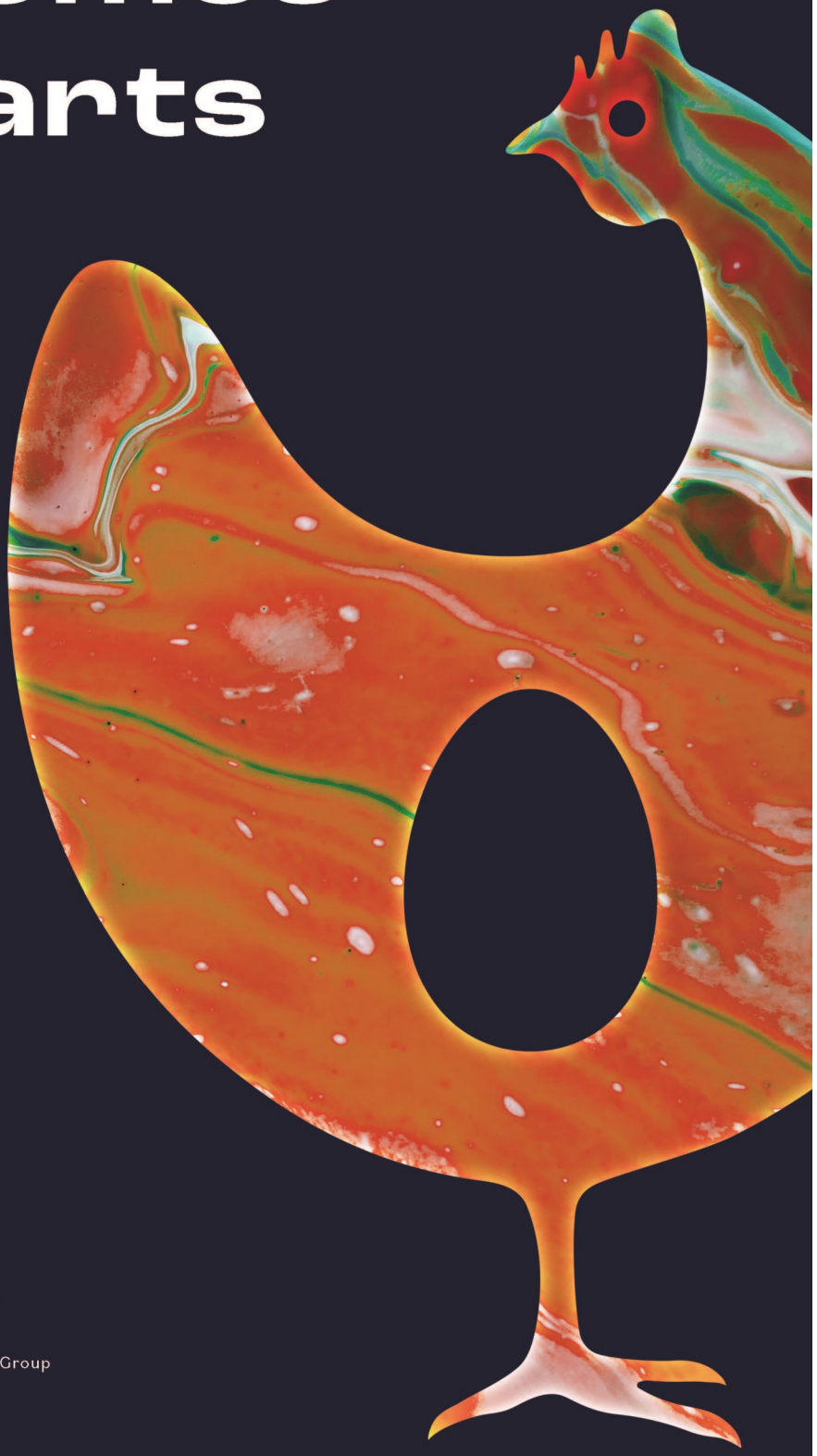
SEC Extends Climate Rule Comment Period

May 10, 2022 at Feedstuffs.com by Jacqui Fatka

The Securities and Exchange Commission announced it will extend the comment period to June 17 on its reporting requirements proposal on climate change-related information from publicly-traded companies and their customers, suppliers and distributors. The proposed regulation would mandate publicly-traded companies to report on their carbon emissions and other climate-related information, providing risk analyses, goals and other potentially sensitive company data, as well as similar information from any companies with which they do business. *Click here for full article* ◻

Boehringer Ingelheim • Original Solutions

What comes next starts here.



Reaching your operation's best potential means more than just adapting to meet today's needs. It's about evolving your approach, anticipating what tomorrow may bring. And while the challenges change, the way we stay ahead of them remains the same: innovation.

That means equipping producers with the most advanced control of their operation yet through premier products, support from technical experts and customizable vaccines - all in one portfolio. Because specific challenges call for specific responses, and the minds at Boehringer Ingelheim are always at work providing original solutions.

See our full range of solutions at
www.poultryhealthusa.com

VAXXITEK HVT+IBD VAXXITEK HVTIBD+ND VAXXITEK HVTIBD+ILT

Podcast: USPOULTRY looks at Emergency Planning and Community Right-to-Know Act

May 13, 2022 at MeatPoultry.com by Ryan McCarthy

Paul Bredwell, executive vice president of regulatory programs for USPOULTRY, focuses on the needs of poultry industry members and providing guidance on what could be the next regulations from state or federal officials. *Click here for full article*

Supreme Court to Hear NPPC Case Against Prop 12

March 29, 2022 at FoodMarket.com

The U.S. Supreme Court at its Mar. 25 conference agreed to hear a case brought by the National Pork Producers Council and the American Farm Bureau Federation (AFBF) against California's Proposition 12, which bans the sale of pork from hogs born to sows that weren't raised according to the state's "arbitrary" production standards. *Click here for full article*

New Op-ed: SCOTUS Considers Bacon and the Commerce Clause

April 9, 2022 at Industry Update

As highlighted last week, the U.S. Supreme Court is considering the constitutionality of a California law that bans the production or sale of pork and other animals that are raised using conventional animal husbandry methods. Beyond the resulting shortages and price increases that would happen in California if Proposition 12 were left intact, it also tells farmers in other states how to raise hogs and bans their products from being sold at California supermarkets if they don't comply. *Read on about why Prop 12 should be declared unconstitutional in a recent op-ed published by Berman and Company here.*

Kansas' 'Ag-Gag' Law Denied a Revisit by Supreme Court

May 2, 2022 at Drovers.com by Paige Carlson

Activists entering animal facilities under false pretenses are protected in Kansas by 'free speech' due to recent Supreme Court rejection. *Click here for full article*

HPAI updates *(continued from front page)*

Boot covers are enough protection, right? Boot covers are not necessarily enough biosecurity to prevent the virus from being tracked in, for it all depends on how they are used and what other measures may be in place or not. Getting out of the vehicle, walking around the truck to put on boot covers and then trekking across graveled and concreted areas to enter a chicken house without taking any further precautionary measures is prime opportunity to pick up and spread the virus along the way. Wild birds fly over and make deposits directly on the grounds. If not deposited directly, vehicles, visitors, wildlife, vermin, insects, dogs and cats can introduce pathogens onto the grounds that can then get picked up by the people entering the houses. Double booting properly before entering a flock (and not stepping on contaminated surfaces during the process), proper use of well-maintained foot baths and washes, the Danish bench system, showering in and out when required, etc. must be strictly, properly, and consistently performed. What about going from house to house? Are the proper steps still being followed? HPAI and other pathogens can be picked up between houses and could very well be the cause of disease outbreaks. Growers that are not taking any precautionary measures and are going freely around the farm and from house to house are perhaps taking the greatest risks. Taking proper measures before entering the first house only gets you so far if the proper steps are not taken between houses. Even when songbirds and vermin are kept from entering houses and darkling beetle control measures are in place, darkling beetles still come into these houses from the wild after feeding on wild bird droppings and/or trekking across contaminated grounds. Once HPAI or other pathogens are introduced by beetles or other vectors, it may very well be too late to prevent an outbreak. Always defend the flock and help enforce all biosecurity measures to ensure that everyone else does so, as well. Be responsible, be the role model, be the leader, don't be the one that turns their head if protocol is not being properly followed by someone else. ◻

Aviagen North America Cuts Ribbon on New Feed Processing Facility in Pikeville, Tenn.

June 1, 2022 – HUNTSVILLE, Ala. – On the morning of May 27, global poultry breeding company Aviagen® hosted a ribbon-cutting ceremony for its brand new feed processing facility (feed mill) in Pikeville, Tenn. There to do the honors was the Pikeville Chamber of Commerce, along with Pikeville City Mayor Philip Cagle, Bledsoe County Mayor Gregg Ridley and Jeff Aiken Deputy Commissioner of the Tennessee Department of Agriculture. *continued on page 43*

Women in Poultry Dr. Kate Hayes

May 2022 at ThePoultrySite.com by Sarah Mikesell

Dr. Kate Hayes is a Poultry Veterinarian who was recently appointed Vice President of Veterinary Services for Aviagen North America. A Doctorate of Veterinary Medicine (DVM) and Master's in Avian Health and Medicine number among her long list of achievements, and at Aviagen she leads a team that works hard to ensure the safety and security of the world's poultry supply. In this article she talks about her passion for her work, the steps that have led to where she is today, and how she has successfully turned many challenges into opportunities.

Please introduce yourself and describe your current role and responsibilities.

My role as Vice President of Veterinary Services offers me the privilege to work with an amazing team of veterinarians, laboratory, biosecurity and animal welfare specialists, overseeing flocks in the US and collaborating with global teams to help customers maximize the health and welfare of their birds.

What is your background and how did you come to work in the poultry industry?

I am the gal who always dreamed of becoming a veterinarian. From dressing up as a vet and doctoring our Irish setter, Misty, at age 4, to doctoring dairy cows while attending college as an undergraduate student working on the university farm, my path was always clear.

continued on page 41

DOING BUSINESS WITH A LOCAL FEELS GOOD.

I am your hometown Trusted Choice® insurance agent and I want to help protect what's important to you.
#iamyourtrustedchoice

I am Independent.
I am in your Community.
I am your Trusted Choice®
Independent Insurance Agent.

RJA Randy Jones & Associates

Lecil Brothers
(615) 790-6555
lecil-brothers@leavitt.com
rjainsurance.com

Trusted Choice
INDEPENDENT INSURANCE AGENTS

NEWS FROM AROUND THE COMPLEXES

Tyson Foods announced a milestone investment to provide free education for all U.S. team members. Beginning this summer, U.S. team members will have the ability to attain master's, undergraduate and associate degrees, career certificates and literacy and technology fundamentals – all for free. *Click here for full article* ◻

Tyson Foods to build new rendering plant in Alabama

April 18, 2022 at MeatPoultry.com by Joel Crews

Tyson Foods Inc. announced on April 15, plans to build a poultry rendering plant adjacent to its River Valley Ingredients rendering facility that was part of its Hanceville poultry complex that was lost to a fire in July 2021.

The $208 million plant, spanning 121,000 square feet, is expected to be completed in mid-2023. The company said it planned to retain the 124 employees who worked at the original plant from the time of the fire to the completion of the new facility. The new plant will be located just outside the city limits of Hanceville, in Cullman County

"This investment signals our continued support to the agricultural industry and jobs in Alabama, and we look forward to a renewed relationship with the Hanceville community and its leaders," said Jason Spann, complex manager of the Hanceville facility. "As a family company, it's important to us to be the most sought-after place to work, operate as a good neighbor, conserve natural resources and protect the environment," Spann added.

Tyson said the rendering plant plays an integral role to the region's poultry industry, not only in the Hanceville region, but also by providing services to other poultry companies in states adjacent to Alabama. The service it provides allows it to produce usable proteins and fats from by-products of poultry processors by breaking down and cooking inedible parts to be used in the production of pet food and animal feed, reducing waste and energy use.

City officials expressed their gratitude for Tyson's longstanding commitment to the state of Alabama and Cullman County.

"Tyson Foods could realistically build a new plant in dozens of locations in the Southeast," said Dale Greer, Cullman economic agency director. "They are reinvesting here because there is a history of local and state government support for the company and a proven track record that Cullman County can provide a quality, dependable workforce. It is a true partnership." ◻

ALLIED MEMBER NEWS

Jones-Hamilton Co. announces the promotion of **Mike Putnam** to the role of Division Manager of the Agricultural Division. Putnam joined the company in 2021 as Sales Manager. During his extensive career, Putnam has held sales and management roles at leading animal nutrition and animal science companies, including managing sales for a Fortune 400 company. He is active in AFIA, OFIA, the Texas Grain and Feed Association and other agricultural groups. He holds a degree in marketing and management from the University of Sioux Falls.

J.B. Hunt Transport Services Inc. announced the launch of CLEAN Transport,™ a new program that will allow customers to acquire carbon offset credits equivalent to the emissions created by their shipments. *Click here for full article*

Cumberland is introducing a new IR Hopper Sensor that uses infrared sensing to help poultry producers better manage their feed hopper levels. This is accomplished by having an adjustable sensor in the hopper, which gives the producer more control of how they want to run their feed system.

Marel is pleased to announce its acquisition of Sleegers Technique, a Dutch provider of interleaving, stacking, loading and slicing solutions for food processers globally. *Click here for full article*

Marel is pleased to announce an agreement to acquire Wenger Manufacturing LLC ("Wenger"), a global leader in processing solutions focused on pet food, plant-based proteins and aqua feed ("the Acquisition"). The acquisition is subject to customary closing conditions such as anti-trust and approval of Wenger's shareholders. *Click here for full article*

Darling Ingredients Inc. announced it has completed the acquisition of Valley Proteins, one of the largest independent rendering companies in the United States. *Click here for full article*

Darling Ingredients Inc. has entered into a definitive agreement to purchase Brazil's largest independent rendering company, FASA Group, for approximately R$2.8 billion Brazilian Real in cash ($560 million USD at today's exchange rate), subject to post-closing adjustments and a contingent payment based on future earnings growth. FASA Group processes more than 1.3 million metric tons annually through 14 rendering plants, with an additional two plants under construction, and has approximately 2,400 employees. *Click here for full article*

Lubing introduces the arrival of their new manual operation e-Flush regulator. This regulator is designed to go from normal operation to flush with just a half-turn of the flush knob. This simplifies the flushing process and makes it easier to operate compared to their Optima style regulators. The e-Flush regulator can also be adapted with a solenoid for automatic flush with the use of the Lubing LCW control. You can learn more by visiting our web page here: www.lubingusa.com/eflush-regulator.html

The employees and management of **QSI, a Vincit Group company**, presented a $10,000 check to the Morristown Regional Cancer Center (MRCC). The QSI donation enables the Cancer Support Programs of MRCC to thrive. ◻

DIVERSIFIED

DiversifiedAg.com

The **Plasson Water on Demand Pro** optimizes water management by allowing you to easily control the water pressure in all drinker lines according to your birds' changing demands.

- Preset pressures for the entire grow-out cycle
- Program and monitor pressure of nipple lines from your controller or remotely via mobile device
- Keeps litter dry by automatically reducing flow rates
- Boosts bird performance by maintaining high flow rates during high consumption periods

Controllers & Communication

Heating

Ventilation

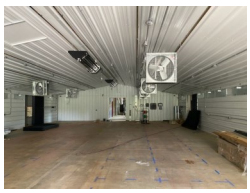
Feeding & Watering

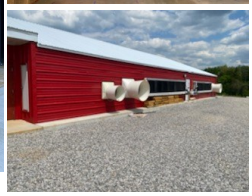
ALWAYS THE RIGHT FIT

Diversified's complete solutions enhance performance and maximize results.

Construction continues for the Tennessee Tech Poultry Research Facility. This facility will hold up to 96, 5'x5' floor pens. Dr. Victoria Ayres anticipates this facility to house approximately 2,400 birds, which will be beneficial for industry collaborations. An open house will be announced at a later date, upon the completion of the facility. In the meantime, Dr. Ayres and one of her undergraduates are working on a study this summer to look at feed manufacture techniques to reduce trypsin inhibitor in broiler diets, ultimately increasing amino acid digestibility.








WELCOME NEW ALLIED MEMBERS

NUTRA BLEND
DRIVE TO FEED

NutraBlend
Randy Holliman
615-218-1420

Cole Agency, Inc.

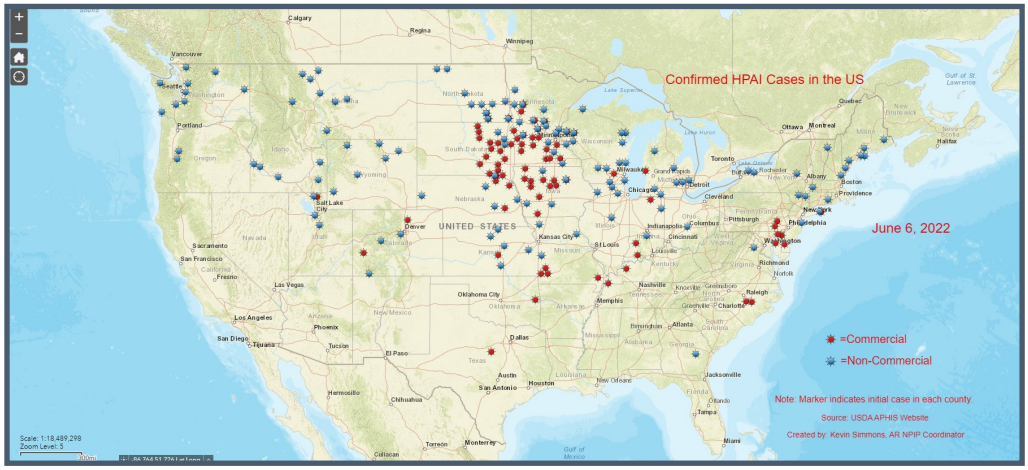
Cole Agency
Rusty Russell
478-472-2010

IFF

Danisco Animal Nutrition & Health IFF
Bob Moore
Connie Mou
908-433-7989

PHOENIX SENTRY

Phoenix Sentry
Bob Reeves
936-598-2761
936-591-1900



DATES TO REMEMBER

SHOOTING HUNGER
June 24, 2022
Carroll County, TN
https://shootinghunger.com/index.php/locations/west-tn

USPOULTRY FINANCIAL MANAGEMENT SEMINAR
June 27-29, 2022
Hilton Clearwater Beach Resort
Clearwater, FL

FSMA PCQI TRAINING
July 19-21, 2022
Gaylord Opryland
Nashville
https://www.afia.org/events/calendar/fsma-pcqi-training/

USPOULTRY HATCHERY-BREEDER CLINIC
July 20-21, 2022
DoubleTree Downtown
Nashville, TN

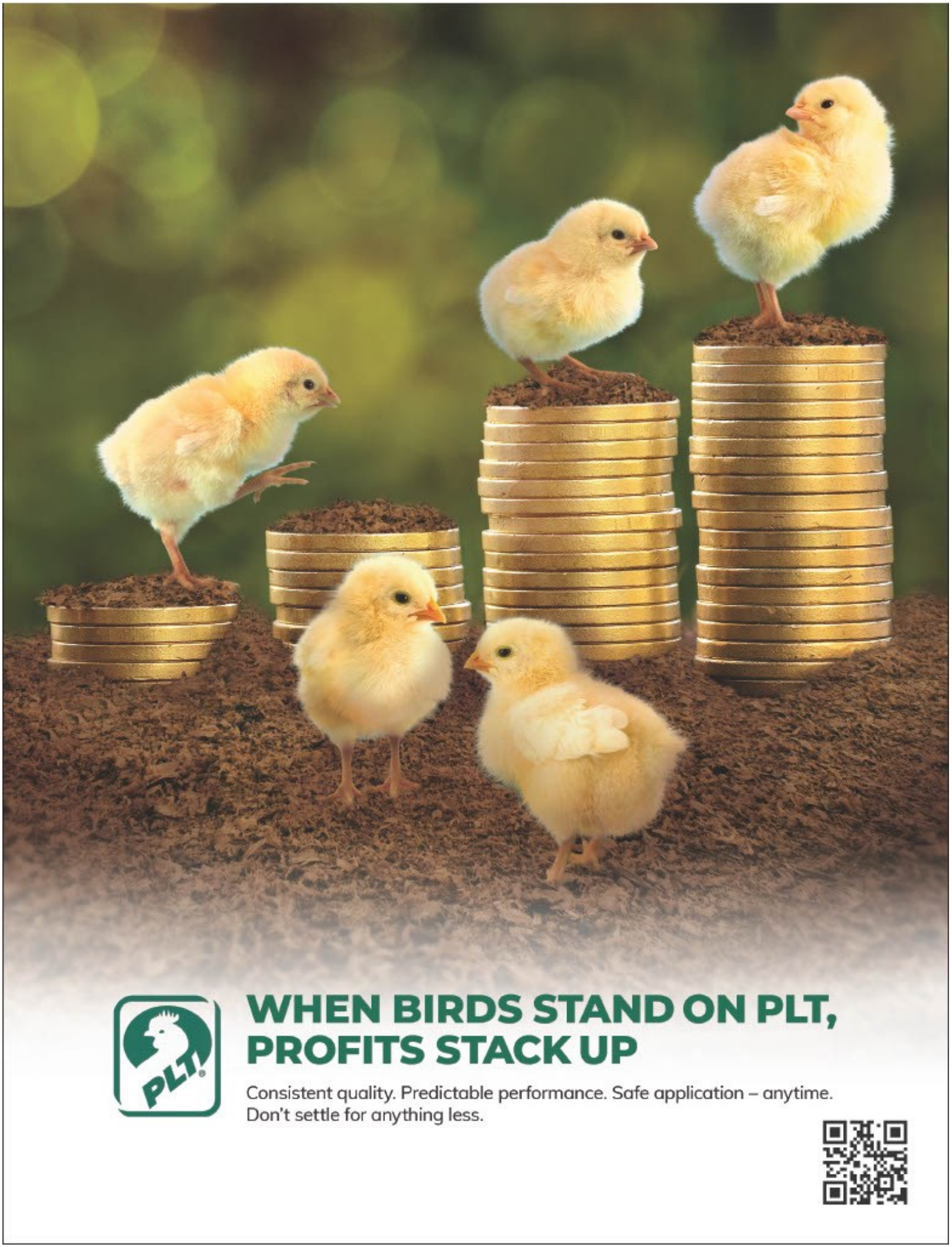
TPA ANNUAL MEETING & SUMMER GETAWAY
August 19-20, 2022
Gaylord Opryland Resort
Nashville, TN

POULTRY SYMPOSIUM
August 24-25, 2022
The Poultry Federation
Rogers, AR
https://www.thepoultryfederation.com/events/4-production-symposium

SHOOTING HUNGER
September 15, 2022
Nashville, TN
https://shootinghunger.com/index.php/locations/middle-tn

USPOULTRY LIVE PRODUCTION SEMINAR
September 21-22, 2022
DoubleTree Downtown
Nashville, TN
https://www.uspoultry.org/programs/education/seminar/

1-800-273-TALK (8255)
OR
TEXT TN TO 741741
TENNESSEE FARMER SUICIDE PREVENTION


PLT
WHEN BIRDS STAND ON PLT,
PROFITS STACK UP
Consistent quality. Predictable performance. Safe application – anytime.
Don't settle for anything less.

Icahn Fails in Attempt to Move McDonald's Corp on Gestation Crates

June 23, 2022 at Egg-News.com by Simon M. Shane

By any measure, Icahn suffered a severe loss in his recent campaign to make McDonald's Corporation commit to phasing out purchase of pork derived from sows held in gestation crates.

His two nominees for the Board gained only one percent of the shareholder vote. The lopsided response to the resolution probably does not represent the sentiment of consumers. This presumption should be taken into account by the Board and management of McDonald's Corporation.

Carl Ichan, an experienced and influential activist investor may regroup and commit serious funding to a subsequent nomination of candidates to the Board.

McDonald's Corporation issued a statement following the annual meeting confirming their commitment to leadership on environmental social and governance issues that presumably would include sow welfare following their stance on cage-free egg production. Their intentions will be judged by events. ◻

Are cage-free mandates wiping out U.S. family farms?

May 3, 2022 at WattAgNet.com by Meredith Johnson

Meredith Johnson: A large portion of family-owned egg farms that are still in business today could potentially be out of business in the next five years due to U.S. layer housing laws. *Click here for full article* ◻

WOULD YOU LIKE TO ADVERTISE IN THE TPA NEWSLETTER?
Contact Tracy at (270) 363-2078 or tracy@tnpoultry.org for more information.

Farmers for Free Trade advocates for import tariff reduction

May 31, 2022 at MeatPoultry.com by Ryan McCarthy

The National Pork Producers Council and the North American Meat Institute joined 40 agricultural trade groups with the help of Farmers for Free Trade to ask the Biden administration for suspension, reduction or elimination of all remaining Section 232 and Section 301 tariffs, in return for commitments from other countries to suspend commensurate retaliatory tariffs. *Click here for full article* ◘

How COVID Transformed Trans-Pacific Container Shipping

April 21, 2022 at FoodMarket.com by Greg Miller

COVID-driven cargo demand has dramatically altered the trans-Pacific shipping landscape. New data from Alphaliner highlights just how much the Asia-U.S. trade lane has changed over the past two years.

There's now far more container shipping capacity in the trade than pre-pandemic. Capacity keeps rising, with more new shipping services focusing on the Asia-East Coast lane than Asia-West Coast.

Carrier competition is up, with more players overall and a lower share controlled by the three giant global alliances. The trans-Pacific liner leaderboard is different as COVID-era demand trends spur new deployment strategies. *Click here for full article* ◘

U.S. West Coast Ports Inefficient

June 3, 2022 at Egg-News.com by Simon M. Shane

The World Bank and S&P Global Market Intelligence has ranked ports worldwide in the second edition of the Container Port Performance Index. Rankings are based on the duration of the turnaround time during which container vessels are docked to unload cargo and receive empty containers.

The ability of West Coast ports to service vessels was under stress during late 2020. The pandemic created serious delays resulting in disruption of supply chains. This contributed to shortages of imported goods, an inability to export agricultural products and both higher prices for importing nations.

Leading world ports based on their efficiency during 2021 included the King Abdullah facility followed by major ports in Oman, Qatar and Abu Dhabi. In fairness all these ports were recently constructed and equipped with modern equipment, adequate area and managed by expatriate personnel. Shanghai-Yangsan, Ningbo and Guangzhou in China were also among the top ten.

The King Abdullah port moves 96 containers per hour on average compared to 26 for West Coast facilities. **In 2020, Los Angeles was ranked 337th in efficiency out of 351, followed by Long Beach at 341. The Port of Virginia which is relatively modern ranked 23rd followed by Miami at the 29th rank, demonstrating the difference between the West and East coasts.**

The World Bank determined that inefficiency was due to limitations on port area, deficient transport infrastructure, inadequate investment and oversight and a lack of coordination among public agencies involved in management and investment. ◘

Congested Port of Long Beach

King Abdullah Port Saudi Arabia

Animal Agriculture Alliance releases updated Sustainability Impact Report

April 21, 2022 at BeefMagazine.com

Carbon neutrality, reducing GHG emissions among significant contributions highlighted. *Click here for full article* ◘

Here's why chicken is one of the most sustainable protein options

April 22, 2022 at ChickenCheck.In

Our environmental footprint isn't just made up of how much electricity and water we use, but also what we eat. In fact, eating patterns focused on reducing the carbon footprint are known as the, "Climatarian diet." And guess what? Chicken is recommended as one of the top 5 Climatarian diet-friendly foods. Why? On this Earth Day 2022, let's take a closer look. *Click here for full article* ◘

POULTRY FACILITIES *Loans*

A very specific loan product for a very specific client

BankPlus has a strong commitment to agriculture and to integrated poultry lending. For over 100 years, BankPlus has built our success on providing farmers with customized financial services, great products and support that promotes agricultural production.

Our loan officers understand the unique challenges that modern farming operations face and are equipped with the skills and expertise to craft flexible loan products to meet your individual needs. Also, BankPlus has been recognized as a Top SBA Lender.

FREE GIFT!

Retro Fit, Refinance or Purchase your poultry facility with a $500K+ loan from BankPlus and we'll bring you a free gift at closing!

BankPlus®

BankPlus.net

Leigha McLendon
First Vice President &
Director of Guaranteed Lending
601-607-4389
LeighaMcLendon@BankPlus.net

Kenny Williamson
Senior Vice President &
Commercial Lending Team Leader
601-607-4402
KennyWilliamson@BankPlus.net

Inactivation of Avian Influenza Virus in Chicken Litter

at USPoultry.org

Recovery from outbreaks of highly pathogenic (HP) avian influenza virus (AIV) requires cleaning and disinfection before a premises can be tested to be declared negative for virus. Cleaning and disinfection have focused on removal of all organic material and require extensive labor and time and are expensive. Since AIV is not environmentally stable and can be inactivated at high temperatures, an alternative to complete removal of organic material is to use heat to kill the virus. Using heat to reduce the environmental load of AIV will also improve safety for individuals involved in recovery at infected premises. *Click here for full article* ◻

Avian Flu Strain Behind Recent Outbreaks Related but Not Identical to 2014-15 Strain

June 2, 2022 at PoultryHealthToday.com

The US poultry industry is on high alert following reports of highly pathogenic avian influenza (HPAI) infecting wild birds and commercial flocks in poultry-dense regions of the U.S. broiler market. David Swayne, DVM, Ph.D., of the USDA-ARS National Poultry Research Center, sheds light on what we know so far about the new outbreaks. Click here for full article ◻

UK researchers develop potential avian flu vaccine

April 8, 2022 at WattAgNet.com by Elizabeth Doughman

A new vaccine could protect chickens against future outbreaks of highly pathogenic avian influenza (HPAI) at hatch.

The potential avian flu vaccine activates antigens to create a protective immune response in the bird. It can also avoid interference from maternal antibodies. Typically, antibodies help boost the immunity of the chicks at hatch, however, they can also decrease the effectiveness of vaccination.

"Maternally derived antibodies interfere with vaccination by masking epitopes of the vaccine antigen in a manner that does not provide protection against the antigen-bearing virus. This masking hinders the ability of the host immune system to generate neutralizing antibodies to the vaccine antigen," Munir Iqbal, Head of the Pirbright Institute's Avian Influenza Virus group, said.

In a study published in *npj Vaccines*, the new vaccine design protected chicks against the H9N2 strain of avian influenza and was not affected by maternal antibodies.

"The active ingredient in conventional vaccines are viruses that have been inactivated to be non-infectious. The active ingredient in this vaccine is protein derived from a component of the same virus. At no stage, is it infectious," explained Iqbal.

"This technology is a more targeted and direct approach of immunization compared to conventional inactivated vaccines." The technology, known as a targeted antigen delivery vaccine, is also easier and less costly to produce than previous avian flu vaccines, the researchers said.

HPAI outbreak in the U.S.

This discovery could one day aid poultry producers in the U.S., who are currently experiencing the worst outbreak of HPAI since 2015.

So far in 2022, HPAI has been confirmed in commercial poultry flocks in the following states: North Dakota, Kentucky, Delaware, Maryland, Missouri, Iowa, Wisconsin, South Dakota, Indiana, North Carolina, Minnesota and Texas. The Texas case involved pheasants. The virus has also been confirmed in the Canadian provinces of Ontario and Nova Scotia.

To learn more about HPAI cases in North American commercial poultry flocks, see an interactive map on WATTPoultry.com. Read our ongoing coverage of the global avian influenza outbreak. ◻

WE BRING MORE "YES" TO YOUR PRODUCTION

When it comes to your processing plant, you can't afford excessive downtime. You need a partner who can take on anything from planned maintenance to an emergency outage and get the job done safely and effectively. As your one-stop shop for total plant solutions, Sunbelt Rentals is expertly equipped to address your evolving operational needs. From condensation control and power generation to air compressors and material handling, our team provides full turnkey solutions, customized to elevate performance and keep your production rolling. Make it happen today with the industry leader in comprehensive rental service and support.

Visit **sunbeltrentals.com** or call **800-736-2504** to bring more "Yes" to your processing plant.

SUNBELT® RENTALS
POWER & HVAC SERVICES

OIE Follow-Up Report on the Ongoing HPAI Outbreak in the U.S.

At wahis.woah.org

Click on the link to navigate to the most recent OIE report on the avian influenza outbreak in commercial poultry in the U.S. *Click here for full article* ◘

Avian Influenza's Arrival in Alaska Signals Danger for Other Parts of the World

May 23, 2022 at FloridaPhoenix.com by Yereth Rosen

Alaska is both a reservoir and a distribution hub for avian influenza viruses. Each year, millions of birds migrate here from Asia, North America, South America, Australia and even Antarctica, converging to feed and breed in the near-continuous daylight. They crowd together, creating opportunities for viruses to exchange genetic material and get rearranged. *Click here for full article* ◘

Avian flu never left Mexico [H7N3]

April 27, 2022 at WattAgNet.com by Benjamin Ruiz

While highly pathogenic avian influenza (HPAI) outbreaks have sprung up in several U.S. states, among other places in the world, one might wonder about the status of bordering countries. *Click here for full article* ◘

H7N3 avian influenza hits Mexican breeder farm [H7N3]

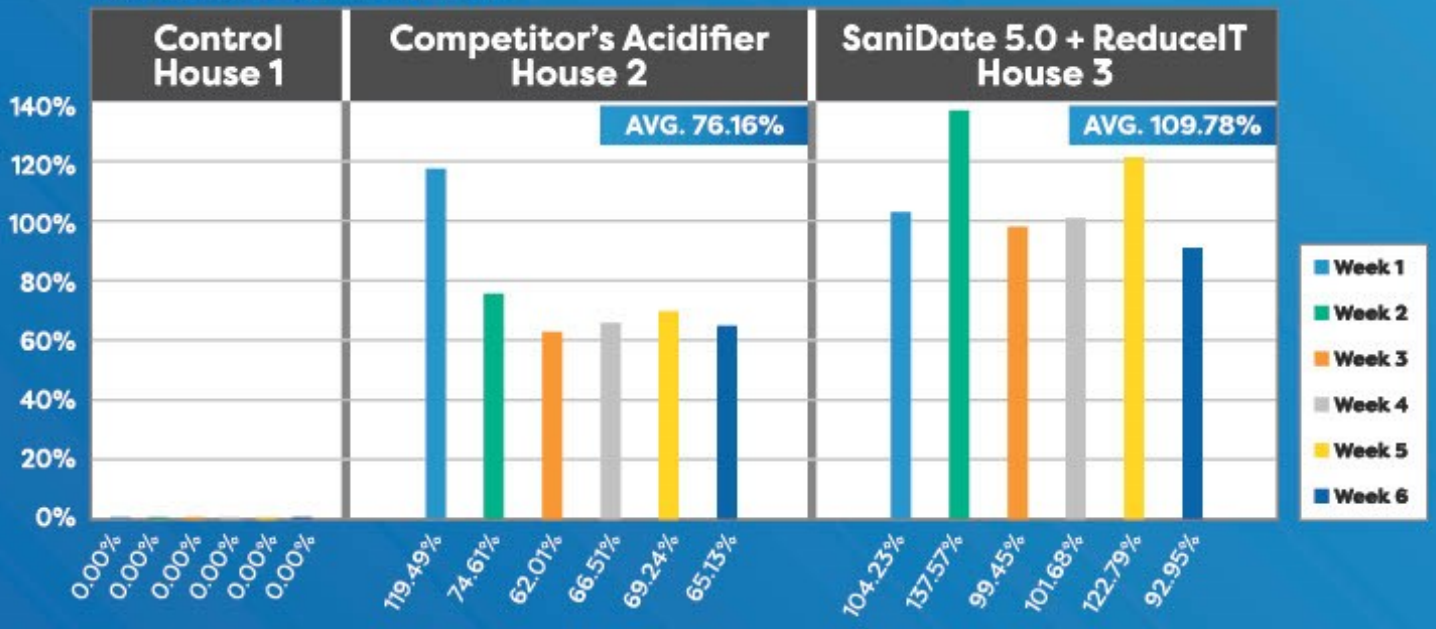
April 27, 2022 at WattAgNet.com by Roy Graber

An outbreak of highly pathogenic avian influenza (HPAI) hit a poultry breeder facility in General Cepeda, Mexico. *Click here for full article* ◘

Reduce pH, Increase Success

BioSafe Systems conducted a farm trial in the fall of 2021 to compare the weekly average water consumption between the control house (house 1), the competitor's acidified product (house 2), and SaniDate® 5.0 + ReduceIT™ (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.

%Δ Water Consumption



Keep water clean and clear, provide greater antimicrobial control, and promote a healthy gut flora. Use SaniDate 5.0 + ReduceIT to quickly lower drinking water pH, prevent scale buildup, bacteria growth, and algae in water lines.

ReduceIT™

- Sulfuric acid (strong acid) + sodium sulfate (buffering salt) formula
- Acidifier and pH control
- Ideal for use while birds are present
- Improves water palatability and efficacy of disinfectants[1]
- Buffered acids are less corrosive, protecting equipment and workers

SaniDate® 5.0

- Peroxyacetic acid + hydrogen peroxide formula
- Sanitizer/disinfectant
- Chlorine free
- No harmful residues
- OMRI-Listed

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

BioSafe Systems

1-888-273-3088 | BioSafeSystems.com

UK researchers: Watch for emerging, more infectious strains of avian flu virus

April 18, 2022 at PoultryHealthToday.com

Poultry producers worldwide should be on the alert for emerging strains of avian influenza virus that could pose a greater threat to bird and human health, according to researchers at The Pirbright Institute in the UK. Their work shows that the virus strains H9N2 and H7N9 can share genetic information to create a H9N9 strain that could cause more severe disease. *Click here for full article* ◘

Europe Pushes for Acceptance of HPAI Vaccination

June 6, 2022 at WattAgNet.com by Jackie Linden

At the end of May, agriculture ministers of the EU agreed on a strategic approach to the prevention and control of HPAI through the development of vaccination. This is seen as a complementary control measure to protect domestic poultry — in addition to continued biosecurity and other existing control measures.

To progress the actions, ministers called for member states to update risk assessments, and to develop vaccination strategies that target particularly vulnerable areas, poultry types, and farming systems. Furthermore, EU countries are urged to carry out vaccination trials, and to share the results with others within the region. *Click here for full article* ◘

USAPEEC Responding to Challenges of HPAI

May 3, 2022 from Chick-News.com

Over the past eight weeks, the USA Poultry and Egg Export Council (USAPEEC) has performed tirelessly to communicate with importing nations to convince them of the eligibility of the U.S. to supply eggs, broiler and turkey meat free of avian influenza virus. Following the 2015 highly pathogenic avian influenza (HPAI) epornitic, USAPEEC recognized the vulnerability of the U.S. if importing nations imposed national or statewide bans following an isolated case of Avian Influenza, irrespective of pathogenicity. The benefits of the diplomacy and negotiations are now evident as the U.S. has apparently maintained export volume during March and April, albeit with some selection of plants of origin routes of transport and ports of loading.

Acceptance of regionalization as accepted by the World Organization of Animal Health has been the key to the ability of the U.S. to continue shipping products. Convincing potential customers of the validity of regionalization and assuring them of the ability of the U.S. to diagnose and contain outbreaks and maintain an effective program of surveillance has been the responsibility of the USAPEEC. Dr. John Clifford, in his previous role as Chief Veterinary Officer represented the USDA-APHIS in international venues and gained the confidence of his then counterparts in importing nations. It is fortuitous that his experience and credibility are now applied as Veterinary Trade Policy Advisor to the USPEEC to assist CEO Jim Sumner and his team to maintain export volume.

USAPEEC has served as an important link among USDA-APHIS, producers and shippers. The Council has responded with effective communication as the HPAI situation has developed. ◘

Avian influenza detected in bald eagles

April 21, 2022 from ThePoultrySite.com by Global Ag Media

Highly pathogenic avian influenza (HPAI) has been detected in bald eagles in Georgia. The pathogen's presence has likely undercut nesting success for eagles in the state's coastal counties, according to the Georgia Department of Natural Resources.

HPAI has been detected in wild birds in more than 30 states this year, the US Agriculture Department (USDA) reports. Those cases list 11 wild birds in Georgia, including lesser scaup, gadwall, American wigeon and now bald eagle.

Samples from three bald eagles found dead, one each, in Chatham, Glynn and Liberty counties tested as suspected positive last month at the Southeastern Cooperative Wildlife Disease Study in Athens. Those results were recently confirmed as HPAI (H5N1 2.3.4.4b Eurasian strain) by the USDA National Veterinary Services Laboratories in Ames, Iowa. Other eagle carcasses are also being checked.

About a third of the eagle nests in Georgia are in the coastal counties. HPAI is typically carried by waterfowl and shorebirds. Eagles could have contracted the virus by preying or scavenging on dead or sick waterbirds (ducks often gather in large rafts in coastal waters during winter). Dead bald eagles have been confirmed with HPAI in other Southeastern states, including Florida, South Carolina and North Carolina [and TN in Cocke Co.] ◘

Trends In Ingredient Availability

May 31, 2022 at Egg-News.com by Simon M. Shane

On May 24th, a webinar on availability and prices of raw materials exemplified the uncertainty that exists with regard to 2022. The invasion of Ukraine by the Russian Federation has created considerable uncertainty on future prices and availability with worldwide repercussions. The webinar highlighted the following trends:

- Russia will, in all probability, export more grain than in 2021.
- Ukraine will be unable to produce or export wheat and sunflower products at the high levels recorded in 2021 due to disruption following the invasion. Wheat prices will remain high until shipments of Canadian and Southern Hemisphere commence during the 2022/2023 market year.
- Demand for wheat and soybeans by China have decreased as a result of the slowdown of the economy.
- Planting progress in the U.S. was markedly behind the 2021 season at the beginning of May but compensatory progress has been made in recent weeks, although there may be a negative impact on yield. Greater clarity will be obtained following release of the June 2022 World Agriculture Supply and Demand Estimates.
- Ongoing drought in Brazil and neighboring nations will reduce supplies of grains and soybeans.
- Yields may be impacted by lower levels of application of fertilizer that has increased sharply in price for the Northern Hemisphere 2022 planting season.
- Corn supply from the U.S. will be limited by the four percent shift to planting soybeans, late sowing and the Renewable Fuel Standard diverting corn to ethanol.
- Shortages in North African and Middle East nations reliant on wheat from Ukraine may be reversed if ports in the southeast of the nation remain open. This will require NATO action to lift the current blockade imposed by the Russian Federation.

It was the consensus of the participants representing international ingredient trading organizations and media that prices for feed ingredients will remain high through the third quarter of 2022. □

Drought in California Reducing Acreage Farmed

May 31, 2022 at Egg-News.com by Simon M. Shane

According to the California Farm Water Coalition, a sharp reduction in available water has resulted in up to 700,000 acres being fallowed in 2022. Almost 40 percent of irrigated crop-land in California will be denied surface water in 2020 impacting fresh fruit, vegetables, orchards and leafy greens. *Click here for full article* □

Labor, Product Shortages Disrupt Chicken Supply Chain

April 12, 2022 at WattAgNet.com by Elizabeth Doughman

In the past year, chicken retailers and foodservice outlets faced supply chain and labor shortages, as well as inflationary pressures. Meanwhile, consumer demand continued to shift as the world emerged from post-pandemic turbulence and uncertainty. *Click here for full article* ◘

Tyson Foods Commits More Than $1 Million to Expand Legal and Citizenship Support for Team Members

April 12, 2022 at ir.tyson.com

Tyson Foods has committed more than $1 million to support its many team members who are immigrants to the United States. The company's U.S. based workforce is comprised of team members from more than 160 countries and collectively speak more than 50 languages. The Tyson Immigration Partnership (TIP) helps provide these team members with legal services and acquire U.S. citizenship. The program, which has been supporting seven Tyson facilities over the past year, will now serve 40 company locations in 14 states. *Click here for full article* ◘

Can augmented reality attract gen Z to poultry processing?

April 29, 2022 at WattAgNet.com by Elizabeth Doughman

It's time for the poultry processing industry to get creative when it comes to hiring, training and retaining younger workers. *Click here for full article* ◘

2022 USPOULTRY Financial Management Seminar to Focus on Cyber Security and Recruiting and Retaining Employees

At USPOULTRY.org

Economic drivers, such as tax laws, technology, labor, consumer behavior and legislation, all present challenges to poultry and egg companies' financial management. When combined with the daily activities required to recruit and retain accounting professionals and implement and maintain cyber security and internal controls, it is crucial that financial managers are provided with the best information to make sound decisions for their company. USPOULTRY's 2022 Financial Management Seminar, developed by poultry and egg industry financial professionals, offers insight and tools to help increase your company's bottom line. This year's seminar will be held June 27 – 29 at the Hilton Clearwater Beach Resort & Spa in Clearwater, FL. *Click here for full article* ◘

Workforce Shortages

June 6, 2022 from the TN Chamber of Commerce e-newsletter:

● In-migration as well as favorable business climate and tax policies, has facilitated the 2.1% growth Tennessee's labor force participation rate has seen since its low of 58% in May of 2020. However, businesses in Tennessee are having difficulties hiring employees because of a nationwide labor shortage initiated by federal pandemic unemployment benefits and a host of other factors.

● The workforce challenge has been made more urgent by COVID 19 pandemic—with Tennessee experiencing a low workforce participation rate of just 60.6%.

● 84% of manufacturers report shortages in skilled professions and 86% of commercial builders struggle to fill open positions.

● Nationwide, half of the labor force participation drop-off (2.1M workers) is due to early retirements. Source: the Kansas City Federal Reserve Bank

● The greatest challenge among Tennessee businesses is the lack of skilled and available workers. The U.S. Department of Education estimates that 60 percent of the new jobs that will be available will require skills held by only 20 percent of the current workforce. It is predicted that in the next ten years, 123 million high-skill, high-demand, and high-wage jobs will be available, but only 50 million Americans will be qualified to take them. ◘

How to control late-stage broiler mortality

March 1, 2022 at WattAgNet.com by Mary Jo Davis

Minimizing mortality toward the end of the grow-out cycle is essential to protect flocks and investment. Learn which are the important steps to follow. *Click here for full article* ◘

4 common poultry leg issues explained

January 6, 2021 at WattAgNet.com by Elizabeth Doughman

Leg problems are a prevalent cause of mortality, production losses and welfare issues in chickens and turkeys. *Click here for full article* ◘

Royal Pas Reform: Analyzing Embryo Mortality

March 15, 2022 at PasReform.com by Maciej Kolanczyk

Only fertile eggs result in chicks. However, the hatchery manager has no direct influence on egg fertility and can only utilize the potential created on a breeder farm. This potential, which can be utilized to a greater or lesser extent, is expressed technically as Hatch of Fertile (HOF). As the identification of infertile eggs by candling is not very precise and removed 'clears' may also include eggs with embryos that died in an early stage, the term Hatch of Transfer (HOT) may be more accurate. This expresses the efficiency of the hatchery process and can vary greatly. *Click here for full article* ◘

Aviagen: Why break out and analyze hatch debris?

At en.Aviagen.com

Learn the procedures for breaking out and analyzing hatch debris and how it can help identify where closer investigation is needed. *Click here for full article* ◘

Comparing NE litter models shows performance impacts

April 6, 2022 at PoultryHealthToday.com

Reused litter from a previous necrotic enteritis (NE) challenge led to more severe subclinical performance impacts but fewer clinical signs of disease than in birds raised on fresh litter, in a study by Southern Poultry Research Group. "Although clinical disease is maybe more striking, the subclinical disease is what causes the economic impact," said Matthew Jones, PhD, who led the work. *Click here for full article* ◘

Sustainability requires high feed efficiency in poultry

May 11, 2022 at AllAboutFeed.net by Dr. Christine Potthast

The global poultry sector is facing various challenges with regard to sustainability and animal welfare and health. Supplementation with wood lignans has many beneficial effects which will help in this transition. *Click here for full article* ◘

Ascites syndrome in broilers: A primer

January 7, 2021 at WattAgNet.com by Elizabeth Doughman

Ascites syndrome is best characterized by the accumulation of fluid in the body cavity of poultry. *Click here for full article* ◘

Overheating soybean meal hurts gut integrity, broiler growth

April 21, 2022 at PoultryHealthToday.com

Improper heat treatment of soybean meal affects the intestinal integrity of broiler chickens and flock performance, according to research at the University of Georgia. Overcooked feed increased intestinal permeability, depressed weight gain and increased feed conversion among broilers in the study. *Click here for full article* ◘

How AI Could Tackle Antibiotic Resistance in Poultry

April 27, 2022 at WattAgNet.com by Elizabeth Doughman

A combination of gene sequencing and artificial intelligence (AI) could identify how antibiotic resistant bacteria is transmitted between humans, poultry and their environment. "We are interested in how antimicrobial resistance emerges and spreads in this environment," said Tania Dottorini from the School of Veterinary Medicine and Science at the University of Nottingham. "If we can gather enough information to understand these hot spots, we could use sophisticated computational tools like machine learning to predict where they are and prevent them from appearing again." *Click here for full article* ◘

On-Site PCR Testing Could Aid Smart Antibiotic Use in Mycoplasmosis Treatment

April 26, 2022 at PoultryHealthToday.com

Timely use of polymerase chain reaction (PCR) testing on chicken farms can help tackle the problem of antibiotic overuse against mycoplasmosis in countries where this treatment approach is prevalent — which in turn may guard against antimicrobial resistance. That is the view taken by Keat Fu, DVM, technical manager from Aviagen, who examined evidence from two research case studies. *Click here for full article* ◘

Live vaccines are key to Salmonella-control programs — here's why

May 2, 2022 at PoultryHealthToday.com

Immune responses to Salmonella infection are complex, but vaccination has become a key component of multi-step control programs. A new review of evidence to date suggests that live vaccines have several advantages over killed vaccines. "The real take home is that if I use a live Salmonella vaccine, I'm going to get protection against multiple Salmonella serovars," Charles Hofacre, DVM, PhD, lead author of the review, told Poultry Health Today. *Click here for full article* ◻

Reducing Antibiotic Use in Broiler Production: Coccidiosis Prevention

May 10, 2022 at PoultryWorld.net

The production of chickens raised without antibiotics (RWA) in the United States has steadily grown during the last decade, surpassing 50% of total chickens produced. Paralleling this increased production, coccidiosis and necrotic enteritis (NE) have risen to the top of disease concerns among poultry veterinarians involved in broiler production. *Click here for full article* ◻

New Insights for Managing Coccidiosis in Broilers

At PoultryHealthToday.com

Despite industry advances, coccidiosis remains the leading intestinal health challenge in broilers. Poultry Health Today asked experts to share their latest insights and recommendations for managing this costly parasitic disease. *Click here for full article* ◻

Getting the Best Out of Bioshuttle Programs

May 1, 2022 at PoultryHealthToday.com by John Schaeffer, DVM, PhD

In many ways, bioshuttle programs are not just about coccidiosis control – they can also address clostridium issues. With a bioshuttle program, a coccidiosis vaccination is administered at the hatchery, usually by spray although in ovo administration is also an option. The vaccine stimulates immunity by delivering live coccidial oocysts. A couple of weeks later, chicks start receiving an in-feed anticoccidial. *Click here for full article* ◻

Is the Poultry Microbiome Key to Salmonella Prevention?

May 23, 2022 at WattAgNet.com by Elizabeth Doughman

The collection of bacteria, viruses, fungal species and other microorganisms living in the poultry gut, known the gut microbiome, could be the next frontier in fighting foodborne illnesses. One of the key functions of the gut microbiome is suppressing pathogenic bacteria populations. Understanding how the microbial makeup of the poultry gut impacts and responds to Salmonella infections, and other pathogens, could lead to more effective treatments and preventative measures. This would benefit poultry production, food safety and human as well as bird health. *Click here for full article* ◻

'Competitive exclusion' is potential benefit of live Salmonella vaccines in young birds

June 2, 2022 at PoultryHealthToday.com

Live Salmonella vaccines can offer protection within a few days of administration, acting "almost as a [form of] competitive exclusion," Chuck Hofacre, president of the Southern Poultry Research Group, told Poultry Health Today. With a normal antibody immune response taking 7 to 14 days, something else is evidently occurring, he explained. *Click here for full article* ◻

Recombinant vaccines boon for industry, but not all are the same

April 10, 2022 at PoultryHealthToday.com

Recombinant vector vaccines have garnered popularity because they are a safe and convenient way to provide protection against more than one disease with a single dose. But producers should be mindful that they are not all the same, nor do they perform the same in the field, Guillermo Zavala, DVM, PhD, founder of Avian Health International, LLC, told Poultry Health Today. *Click here for full article*

Interaction of modified-live and recombinant vaccines shows potential against viral diseases

April 6, 2022 at PoultryHealthToday.com

Field work by Sanderson Farms veterinarians suggests that adding a modified-live vaccine (MLV) to recombinant vaccine programs against three major viral pathogens can have a positive impact on outcomes. "When you have a more rapidly dividing virus in a field challenge, it seems an MLV helps fill in a void that the recombinant cannot cover," explained Phil Stayer, DVM, corporate veterinarian for the company. *Click here for full article*

Replication, coverage vary among MD vaccination programs for long-lived birds

April 10, 2022 at PoultryHealthToday.com

New research shows that Marek's disease vaccination programs for breeders and layers can vary significantly in the replication and coverage they provide. According to Eduardo Muniz, DVM, PhD, Zoetis, this should be taken into consideration when planning MD control strategies for long-lived birds. *Click here for full article*

E. coli implicated in layer gut disease

April 12, 2022 at PoultryHealthToday.com

Escherichia coli (E.coli) may play a key role in focal duodenal necrosis in layer chickens, according to research presented at the 2022 International Poultry Scientific Forum. Using genomic techniques, investigators at the University of Georgia showed that E. coli represents a large proportion of the microbial composition, followed by Enterococcus faecalis and Acinetobacter spp. *Click here for full article*

Limiting E. coli transmission from hen to offspring

April 26, 2022 at PoultryProducer.com

An interview with Henrik Christensen, PhD, DVSc, University of Copenhagen *Click here for full transcript*

California surveillance reveals genetic and seasonal changes in infectious bronchitis virus

May 1, 2022 at PoultryHealthToday.com

Genotypes of infectious bronchitis virus (IBV) found in California between 2012 and 2020 have seen a "major shift," according to a study investigating patterns of IBV in the state. Patrick Montine, an epidemiology PhD student at UC–Davis School of Veterinary Medicine, said understanding the evolution of IBV in any region is critical to vaccination strategy planning. *Click here for full article*

Poultry vaccine technology closes $35 million funding round

June 3, 2022 at WattAgNet.com by Elizabeth Doughman

TARGAN secured $35 million in Series C equity financing to commercialize their poultry vaccine delivery technology and chick sexing systems. *Click here for full article*

WHAT DO YOU WANT TO READ ABOUT?

Email tracy@tnpoultry.org

EU food and agriculture imports [from the US] may have to meet European standards

April 11, 2022 at FoodSafetyNews.com by Dan Flynn

Food and agricultural products imported to the European Union may soon have to meet the E.U.'s health and environmental standards. Food and agricultural products imported to the E.U. come primarily from Argentina, Brazil, China, Switzerland, Turkey, Indonesia, Ukraine, Ivory Coast and the United States. *Click here for full article* ◘

WHO and FAO call for experts and data on pathogens in poultry

April 22, 2022 at FoodSafetyNews.com by News Desk

The World Health Organization and the Food and Agriculture Organization of the United Nations (FAO) are looking for data and experts on Salmonella and Campylobacter in poultry meat. The two agencies are seeking experts to be part of the Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment on the control of Salmonella and Campylobacter at all points along the poultry meat supply chain. *Click here for full article* ◘

Enrichment-free DNA sequencing may aid Salmonella detection

April 18, 2022 at WattAgNet.com by Elizabeth Doughman

Performing DNA sequencing without the enrichment step could enable more accurate quantification of the amount of Salmonella present in poultry, improving food safety. *Click here for full article* ◘

USDA investing $5.1M to address antimicrobial resistance

May 31, 022 at MeatPoultry.com by Joel Crews

Nine projects are being funded at five universities. *Click here for full article* ◘

Rebuttal of a Publication on the Origin and Dissemination of SE

April 18, 2022 at Egg-News.com by Simon M. Shane

Nature Communications published an article in 2021 purporting to show that global dissemination of Salmonella Enteritidis (SE) could be attributed to world trade in chicken breeding stock. The publication was prepared by the Center for Food Safety of the University of Georgia and essentially involved data mining. The authors evaluated 30,000 SE genomes from 98 nations collected over the period 1949 through 2020. From the calculations performed, the article presented a hypothesis that primary breeders of chickens were responsible for the dissemination of the pathogen through sale and export of infected breeding stock. This conclusion was based on their demonstration of "concordant patterns of international trade of breeding stock and a quantitatively established role of the trade in the geographic dispersal of genetically similar strains of SE". The study represented an exercise in desk-top epidemiology conducted in a vacuum but only rising to the level of a hypothesis lacking practical substantiation.

The authors placed undue reliance on data mining and mathematical analysis but failed to appreciate that had the infection been present in primary-level egg and broiler production flocks and their progeny, detection would have been established through the National Poultry Improvement Program developed to eradicate Salmonella pullorum. This Program was established in the late 1920s as a regional New England initiative, then became a national program in 1935 and later passed to the NPIP. The NPIP SE program was initiated in 1989 following recognition of the infection as both a vertically transmitted disease responsible for chick mortality and as a foodborne infection.

Contrary to the authors statement "… the actual prevalence of Salmonella Enteritidis in breeding stocks remains little surveyed or published" ... the authors are apparently unaware of the intensive and on-going testing of primary breeding stock to meet the NPIP SE Clean certification requirements for the sale and distribution of breeding to US and international customers in effect for nearly 30 years. To present a balanced and factual situation the authors could have consulted specialized avian health professionals participating in the NPIP programs, diagnosticians in authorized NPIP diagnostic laboratories, and Federal or State Animal Health officials involved in poultry programs. In addition, the authors were not aware or omitted to acknowledge the long-standing USDA/NPIP SE Clean requirements required for the export all primary breeding stock, and the zero-tolerance policies in place by primary breeders and chick suppliers in the U.S. and around the world. A zero-tolerance policy requires that any shipments of breeding stock testing positive for SE would be destroyed and liabilities would include immediate shipping of clean flock replacements, and reimbursement of all expenses associated with the disposal of infected birds including cleaning and disinfection.

It is also clear that the authors ignored the reality that poultry primary breeding flocks in the US are maintained under the most stringent biosecurity conditions, under the mandated care and supervision of specialized and licensed poultry veterinarians who also are USDA Accredited to ensure compliance with the official certification requirements for domestic and international trade of breeding stock. These biosecurity and surveillance standards provide a very different reality than the one suggested by the Nature Communications report incorporating critical statements suggesting that primary breeding programs are characterized by little surveillance, reporting, and lack of external inspection.

In conducting the study on which the Nature Communications article is based, the authors failed to consider alternative routes of infection and the fact that despite supplying breeding flocks at the great-grandparent and grandparent levels that were free of SE, multipliers in many nations failed to maintain the standards of biosecurity necessary to prevent vertical transmission from parent flocks to commercial progeny. This resulted in outbreaks of egg-borne SE, the most recent having been documented in Poland. Dissemination of SE by flock multipliers cannot be laid at the door of primary breeders.

Concerned over negative reactions to the Nature Communications article that implied lack of transparency and surveillance by primary breeders, a succinct rebuttal was prepared under the authorship of scientists and avian health professional that is reproduced below:

Global spread of Salmonella Enteritidis via centralized sourcing and international trade of poultry breeding stocks" (Nature Communications 12:5109, 2021)

Authors and affiliations:

- *Timothy J. Johnson, PhD, Department of Veterinary and Biomedical Sciences, University of Minnesota, 1971 Commonwealth Ave., 205 Veterinary Science, Saint Paul, MN, USA 55108*
- *Richard K. Gast, PhD, US National Poultry Research Center, USDA-ARS, 950 College Station Road, Athens, GA, USA 30605*
- *Jean Guard, DVM, PhD, US National Poultry Research Center, USDA-ARS, 950 College Station Road, Athens, GA, USA 30605*
- *Gregorio Rosales, DVM, MS, PhD, DACPV, Poultry Health Consultant, Athens, Alabama*
- *Daniel Wilson, DVM, Independent Poultry Veterinarian, Indianapolis, IN*

Summary: A publication in Nature Communications by Li et al. (Li et al., 2021) postulates that observed genetic relatedness among international Salmonella enterica serovar Enteritidis (SE) isolates from poultry is attributable to the dissemination of infected breeding stock, and that it was the fundamental cause of epidemic human illness from consuming contaminated eggs. *(continued on next page)*

Rebuttal of a Publication on the Origin and Dissemination of SE *(continued from previous page)*

As veterinarians and microbiologists who have contributed to the National Poultry Improvement Plan (NPIP), the principal US program for preventing distribution of SE from poultry breeding stock, we believe this paper does not sustain its principal conclusion through evidence.

The NPIP established the US SE Clean control program for egg-type breeding chickens and their participating hatcheries in 1989 to prevent infection of commercial egg layer pullets, and the program was extended to meat-type chickens. For nearly 30 years, there has been zero tolerance for SE in shipments of primary breeding stock, and in many cases this requirement extends to any Salmonella serotype.

In making broad conclusions, the authors do not adequately acknowledge the long-standing NPIP SE Clean requirements. In addition, the authors' implication that SE control and certification programs failed does not account for the possibility that international distribution happened before programs were implemented. Surveillance for SE was not routine before its recognition as a public health problem. Only circumstantial evidence, and not direct evidence, is provided by the authors to support these conclusions.

There are diverse potential sources for introduction of SE into poultry production systems. Numerous studies have established that rodents, wild birds, water sources contaminated with human sewage (Kinde et al., 1996), lack of hygiene in poultry houses and hatcheries, and infected farm workers are all potential sources of SE. Mouse populations have been widely documented as both an intermediate reservoir and as transmission vectors (Guard et al., 2020). The authors do not acknowledge these many potential sources and times of introduction of locally indigenous SE strains into poultry production systems, making the inaccurate assumption that SE-infected broiler or layer flocks are inevitably a consequence of importation of SE-infected breeding stock.

The argument posed by the authors ignores previous documentation that selection by the avian host for strains possessing the ability to infect and persist in poultry results in a genetically narrow range of isolates (Gantois et al., 2009). Algorithms applied to biological issues require controls rooted in biology to avoid mathematical oversimplification of inherently complex phenomena.

We do believe the researchers have used bioinformatics to thoroughly assess genomic diversity of SE and this approach is especially useful for providing information from large datasets. The information generated will advise research for the future that will help all of us protect the consumer. Collaborative efforts should be used between scientists in government, academia, and industry to directly address these questions. Our shared commitment to providing safe food can be improved by application of bioinformatics to identify sources of SE in the environment of poultry that persist to this day.

References:

Gantois, I., Ducatelle, R., Pasmans, F., Haesebrouck, F., Gast, R., Humphrey, T.J., Van Immerseel, F., 2009. Mechanisms of egg contamination by Salmonella Enteritidis. FEMS Microbiol Rev 33, 718-738.

Guard, J., Cao, G., Luo, Y., Baugher, J.D., Davison, S., Yao, K., Hoffmann, M., Zhang, G., Likens, N., Bell, R.L., Zheng, J., Brown, E., Allard, M., 2020. Genome sequence analysis of 91 Salmonella Enteritidis isolates from mice caught on poultry farms in the mid 1990s. Genomics 112, 528-544.

Kinde, H., Read, D.H., Ardans, A., Breitmeyer, R.E., Willoughby, D., Little, H.E., Kerr, D., Gireesh, R., Nagaraja, K.V., 1996. Sewage effluent: likely source of Salmonella enteritidis, phage type 4 infection in a commercial chicken layer flock in southern California. Avian Dis 40, 672-676.

Li, S., He, Y., Mann, D.A., Deng, X., 2021. Global spread of Salmonella Enteritidis via centralized sourcing and international trade of poultry breeding stocks. Nat Commun 12, 5109.

The authors of the Nature Communications paper concluded that "The evidence provided calls for further investigation, and potential intervention into the global spread of Salmonella from centralized origins at the pinnacle of poultry production" The risk of vertical SE transmission with the potential to become a threat to public health was recognized by primary breeders and regulators, and was the reason for the establishment and implementation of the USDA - NPIP SE CLEAN program, and the SE Clean federal certification requirement for primary breeding flocks that has been in place for nearly 30 years. Evidently, the authors were unaware of these programs and when they were established and highlighted the need for an intervention strategy that was initiated by the USDA/NPIP and the primary breeding industry rendering their suggestion moot.

It is this commentator's considered opinion, that given the extent of resources both in equipment and personnel available to primary breeders, that the presence of SE would have been rapidly detected. Every effort would have been made to eradicate the infection in the various generational levels since the competitive nature of breeding and marketing grandparent and higher levels of stock and strict regulatory and customer requirements would have motivated action to prevent introduction and dissemination of the pathogen.

We hope scientists at the UGA's Center Food Service can become a partner with their knowledge and expertise to help identify sources of SE and develop approaches to help ensure food safety for the benefit of the poultry industry and consumers of poultry products.

Li, S. *et al.* Global spread of Salmonella Enteritidis via centralized sourcing and international trade of poultry breeding stocks. *Nature Communications (2021) doi.org/10.1038/s41467-021-25319-7*. □

FSIS Denies Petition Seeking to Declare Salmonella as Meat Adulterants

At MeatingPlace.com

USDA's Food Safety and Inspection Service (FSIS) has denied a petition Marler Clark LLC filed in January 2020 asking the agency to declare 31 serotypes of salmonella as adulterants in meat and poultry products. In a response, Rachel Edelstein, assistant administrator of FSIS's Office of Policy and Program Development, informed the Seattle-based law firm that the agency "does not believe that there is sufficient data available at this time to support the sweeping actions requested in your petition." Edelstein said FSIS is denying the request without prejudice, but noted that the agency is in the process, as announced in October 2021, of reevaluating its approach to controlling salmonella in poultry. *Click here for full article*

Propane prices calming down after new records were set in March

A grower in northern Alabama was found to have been unfortunately paying over $4/gal. for propane this winter and spring, which even greatly exceeds residential rates. Everyone should be monitoring spot prices and futures and seek direction if current prices are not in line with current markets. Verifiable price gouging should always be reported and not be tolerated. Look out for each other, ask and have healthy discussions on this topic with your growers and friends!

The Mont Belvieu Propane **Spot Price** on May 31, 2022 was **$1.228/gal.** after setting a new high for the year at $1.615/gal. during the first full week of March 2022. The lowest price experienced in 2022 was $1.123 to start off the new year. The last time propane was $1.615 or higher was during the spring through fall months of 2008.

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 $1.83/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 https://www.eia.gov/dnav/pet/hist/eer_epllpa_pf4_y44mb_dpgD.htm. TPA's allied member propane companies would love to discuss all of this with you to obtain best pricing and service and their contact information is listed at the back of this newsletter in the allied listings.

Quotes for Mont Belvieu **propane futures** are projecting to stay fairly steady from now through this summer, fall and winter, with the lowest forecast to be around $1.07 during the late spring and summer of 2023. The average current retail price therefore is not projected to drop below $1.68/gal over the next year. To follow the futures trading for spot pricing go to https://www.cmegroup.com/trading/energy/petrochemicals/mont-belvieu-propane-5-decimals-swap.html#. *(continued on next page)*

Propane update *(continued from previous page)*

For REAP grant funding for energy retrofit projects go to https://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency. **The next application deadline is October 31, 2022**. For an update on current **FMCSA emergency declarations, HOS waivers, and exemptions** go to https://www.fmcsa.dot.gov/emergency-declarations. ◘

Natural Gas Overview

June 1, 2022 *EIA* *Source: https://www.eia.gov/naturalgas/weekly/*

- Spot prices: Natural gas spot prices fell at most locations this report week (Wednesday, May 25 to Wednesday, June 1). The Henry Hub spot price fell from $9.30 per million British thermal units (MMBtu) last Wednesday to $8.42/MMBtu yesterday.
- International spot prices: International natural gas spot prices increased this report week. Bloomberg Finance, L.P., reports that the swap prices for liquefied natural gas (LNG) cargoes in East Asia rose $1.89/MMBtu to a weekly average of $23.77/MMBtu. At the Title Transfer Facility (TTF) in the Netherlands, the most liquid natural gas spot market in Europe, the day-ahead price rose 59 cents/MMBtu to a weekly average of $26.51/MMBtu. In the same week last year (week ending June 2, 2021), the prices in East Asia and at TTF were $10.54/MMBtu and $9.12/MMBtu, respectively.
- Futures: The June 2022 NYMEX contract expired last Thursday, May 26, at $8.908/MMBtu, down 6 cents from the previous day. The July 2022 NYMEX contract price decreased to $8.696/MMBtu, down 30 cents from last Wednesday to yesterday. The price of the 12-month strip averaging July 2022 through June 2023 futures contracts declined 15 cents to $7.688/MMBtu.
- Storage: The net injections to working gas totaled 90 billion cubic feet (Bcf) for the week ending May 27. Working natural gas stocks totaled 1,902 Bcf, which is 17% lower than the year-ago level and 15% lower than the five-year (2017–2021) average for this week.
- Rigs: According to Baker Hughes, for the week ending Tuesday, May 24, the natural gas rig count increased by 1 rig from a week ago to 151 rigs. One rig was added in the Arkoma Woodford, and the rig count in all other regions remained flat week over week. The number of oil-directed rigs decreased by 2 rigs to 574 rigs. The Cana Woodford, the DJ-Niobrara, the Eagle Ford, and the Mississippi- and each added one rig. One rig each was dropped in the Granite Wash, the Haynesville, and the Permian, and three rigs were dropped in unspecified producing regions. The total rig count now stands at 727 and is 270 rigs more than the same week last year. ◘

Meat/processing

Wearables Could Improve Training for Poultry Processing

April 13, 2022 at WattAgNet.com by Elizabeth Doughman

Monitoring the performance and training of poultry processing workers with wearable technology could help reduce injuries on the job, while improving company culture and labor retention. *Click here for full article* ◘

Labor, product shortages disrupt chicken supply chain

April 12, 2022 at WattAgNet.com by Elizabeth Doughman

In the past year, chicken retailers and foodservice outlets faced supply chain and labor shortages, as well as inflationary pressures. Meanwhile, consumer demand continued to shift as the world emerged from post-pandemic turbulence and uncertainty. *Click here for full article* ◘

Majority of Americans Anticipate Cutting Back on Dining Out Amid High Inflation

April 23, 2022 at The Industry Update Newsletter

According to a new survey from Primerica—a financial services provider—U.S. consumers are feeling the squeeze of inflation and are about to begin cutting back. Nearly 80 percent of respondents say they've mentally noted a spike in menu prices. And among strategies to tighten budgets, 57 percent anticipate ordering takeout or going out to a restaurant less frequently. Read more at *RestaurantBusinessOnline.com* ◘

Project looks at how to modernize meat inspection [in the UK]

June 3, 2022 at FoodSafetyNews.com by Joe Whitworth

New technology could bring benefits to meat inspection in the United Kingdom but there are still issues to overcome, according to a report. A project assessed the feasibility of using sensor technologies and advanced data analytics for poultry inspection. It focused on post-mortem inspection and included technologies such as visual, near-infrared, infrared and hyperspectral, X-ray and ultrasonic as well as IT-enabled benefits. *Click here for full article* ◘

USPOULTRY Provides PAA General Awareness Training Video

June 1, 2022. The poultry industry uses peracetic acid (PAA) to aid in the production of safe and wholesome poultry products, and the diluted PAA must be safely stored, handled, and applied. USPOULTRY is offering a narrated PAA general awareness training video that highlights the use of PAA in the industry, general chemical information, and insights into safe PAA storage, handling, and use.

The video is available in English and Spanish and is free of charge to USPOULTRY members through USPOULTRY's Learning Management System, which can be accessed by clicking here. For more information and to gain access to the Learning Management System, contact Matt Spencer at **mspencer@uspoultry.org**. ◘

Meat/alt protein

Kansas Governor signs fake meat bill

May 9, 2022 in BeefMagazine.com

Kansas Gov. Laura Kelly signed into law last week House Substitute for SB 261, also known as the fake meat labeling bill. The Kansas Livestock Association-supported bill already had been passed by both the House and Senate.

As of July 1, the new law will require producers of alternative meat products that use meat terms to include a disclaimer indicating the product does not contain meat on the label in a prominent and conspicuous font size in close proximity to the meat term.

Disclaimers can include vegetarian, vegan, meatless, meat-free, plant-based or other terms approved by the Kansas secretary of agriculture as appropriate. Without such disclaimers, the product will be considered misbranded.

KLA staff would again like to thank all members for their efforts in helping get this legislation passed.

Source: Kansas Livestock Association, which is solely responsible for the information provided, and wholly owns the information. Informa Business Media and all its subsidiaries are not responsible for any of the content contained in this information asset. ◘

Plant-based meat, dairy and eggs: A game changer or a flash in the pan?

March 31, 2022 at FoodSafetyNews.com by Cookson Beeche

– COMMENTARY – You've probably heard a lot about the new plant-based foods — meatless beef and poultry and dairy-free milk, for example, but most people don't know much, if anything, about them. In fact, the first time you heard about them, you might have said "Forget about that." *Click here for full article* ◘

Federal judge strikes down Louisiana labeling law for plant-based meat

March 31, 2022 at FoodSafetyNews.com by Dan Flynn

The "Truth in Labeling of Food Products Act" passed by the Louisiana Legislature in 2019 violates the commercial free speech rights of Turtle Island Foods, which produces and packages plant-based meat products marketed and sold in the state and nationwide. Turtle Island Foods was founded in 1980 and is headquartered in Hood River, OR. *Click here for full article* ◘

U.S. Plant-Based Food Retail Sales Hit $7.4 Billion, Outpacing Total Retail Sales

March 30, 2022 at FoodMarket.com

Amidst turbulent economic conditions amplified by the pandemic, supply chain issues, and inflation, new data [was] released today by the Plant Based Foods Association (PBFA). *Click here for full article* ◘

FAO wants experts on cell-based food products

April 9, 2022 at FoodSafetyNews.com By News Desk

The Food and Agriculture Organization of the United Nations (FAO) is seeking food safety experts for work on cell-based products. The process involves new technologies, techniques, and production steps so countries need to consider adopting a regulatory process that addresses the relevant issues as such products are becoming available in the market, according to the FAO. *Click here for full article* ◘

Cultivated meat company seeks poultry industry partners

April 10, 2022 at WattAgNet.com by Elizabeth Doughman

For one cultivated meat company, it's not "us vs. them" when it comes to the traditional protein market. *Click here for full article* ◘

SpaceX: Can meat be grown in space?

April 25, 2022 at BBC.com by James Clayton

Jeff Bezos and Elon Musk both want to colonise space. Nasa is also trying to put people on to the dusty surface of Mars. But if humans do want to set up communities on the moon or planets, what will they eat? *Click here for full article* ◘

Plant-based meat might never be cheap enough to offset meat production

April 20, 2022 at Fortune.com by Eamon Barrett

Plant-based meats, like the beef imitators developed by Impossible and Beyond, were once the darlings of ESG investors. Meatless burgers went from a novelty item on a gourmet menu to a premium product in the supermarket freezer. But even that drop in cost hasn't been enough to convince consumers to ditch meat, and sales of plant-based alternatives have hit a slump. *Click here for full article* ◘

De-bunking the industry bias behind plant-based meat

March 30, 2022 at Just-Food.com by Victor Martino

For many years now, there's been an inherent bias in some sectors of the packaged foods industry about plant-based meat. And it's wrong. *Click here for full article* ◘

Tyson Foods joins $400 million investment in Upside Foods

April 22, 2022 at WattAgNet.com by Elizabeth Doughman

Upside Foods has closed a $400 million Series C funding round. The cultivated meat manufacturer plans to use the investment to build a commercial-scale facility. *Click here for full article* ◻

Human milk the next challenge for cellular ag

May 6, 2022 at FoodSafetyNews.com by Cookson Beecher

Why not make human milk in a lab? As improbable and far-fetched — and maybe even blasphemous — as it may seem, scientists are working on doing just that. More than that, some are predicting the final product will be available in three or four years. "Startups are racing to reproduce milk in the lab," said Massachusetts Institute of Technology. *Click here for full article* ◻

Welfare, not sustainability, drives meat alternative interest

May 31, 2022 at WattAgNet.com by Elizabeth Doughman

German consumers that purchase plant-based proteins are more likely to have concerns about animal welfare or health than the environment. *Click here for full article* ◻

The Ag Watchdog

McDonald's Bullish on McPlant

Despite stories of limited consumer interest, McDonald's thinks fake meat will be a cornerstone of its menu going forward—and may include new offerings. Fast Company spoke to McDonald's Chief Marketing Officer and reports: "Flatley confirmed that, despite reports of sluggish sales in the United States, the McPlant is "a product that is here to stay," while suggesting that any market hesitance around the product was less about the flavor and formulation and more an issue of messaging. She went on to tease a "big opportunity" for McDonald's in plant-based chicken, while suggesting that in five years' time, we'll see a "full range" of menu items developed in conjunction with Beyond Meat on the McDonald's menu."

Supreme Court Declines to Consider Undercover Farm Video Case

The Supreme Court has declined to take up an appeal of a lower-court ruling against a Kansas law banning undercover videotaping on farms. It's the latest in a string of legal blows over the years to these kinds of laws. We're not constitutional lawyers, but we have always appreciated an alternative policy requiring activists to report crimes to police within 24 hours (similar to laws on child abuse). When activists oppose such a law, they look like the ones hiding the ball. ◻

Birds of a feather: Aviagen to team with Limestone Co CTC for introductory poultry study

March 12, 2022 at The News Courier

Aviagen will team up with the Limestone County Career Technical Center in Athens to offer an introductory study in Poultry Breeding for students of three local high schools. Beginning in the spring of 2022, the 12-week program will give students invaluable insight into the world of poultry production — a well-established and growing sector in Alabama and across the south-eastern U.S.

Aviagen specialists will teach and engage with students. They will lead them through the care and expertise that go into raising quality breeding stock that poultry producers will use to provide families around the world with affordable and sustainable chicken meat.

Students will explore various areas of poultry breeding, including research and development, planning, the egg depot, the hatchery and the feed mill. They will also learn about animal welfare, biosecurity, health monitoring and diagnostics, and other elements that are vital to health, food safety and food security. And they will be able to work toward developing professional skills, such as interviewing and resume creation.

"It has been said that our future depends on the sustainable work we do today," said Aviagen's Global Marketing Director Marla Robinson, who leads the company's education outreach. "Aviagen is committed to 'breeding sustainability,' and we believe that sustaining the industry in our state and worldwide depends on training our youth and preparing them for a successful career in poultry. This course at LCCTC is designed to set students on a journey of lifelong learning in the proper care that leads to growing healthy, robust birds, and give them a glimpse of the breadth of rewarding careers available in poultry."

An extension of the local high schools, the LCCTC help students make the transition from school to career. The programs feature a variety of authentic hands-on learning programs where students earn industry credentials with a skillset enabling them to be successful in their pursuit of post-secondary endeavors. The center offers 16 career clusters with 40 pathways to 9th through 12th-grade students attending Limestone County Schools and Athens City Schools. *(continued on page 43)*

FSMA PCQI Training

Nashville, Tennessee • July 27–29, 2021

The American Feed Industry Association is hosting a Food Safety Preventive Controls Alliance Preventive Controls (FSPCA) for Animal Food training. Attendees will receive a FSPCA PCQI certificate after completion of the course.

The training was developed by the FSPCA and is the "standardized curriculum" the Food and Drug Administration recognizes as adequate for PCQI training. Successfully completing this course is one way to meet the requirements for a PCQI.

The training will cover

Overview of the Food Safety Modernization Act (FSMA) requirements for animal food;
Current Good Manufacturing Practice requirements;
Animal food safety hazards;
Overview of the food safety plan;
Hazard analysis and preventive controls determination;
Preventive control management components;
Process preventive controls;
Sanitation preventive controls;
Supply chain applied controls; and
Recall plans.

Who Should Attend?

Facility quality and regulatory employees who will be designated PCQIs at the facility or part of a PCQI team should attend as well as anyone seeking to understand more about FSMA animal food rule. Participants should leave the training with a better understanding of how to create a food safety plan specific to their facility. This event has been approved for 12 ARPAS CEU credits.

Program Details

The training will begin at 1 p.m., CDT, on Tuesday, July 27, and end at 5 p.m., CDT, on Thursday, July 29. The training will be held at the Inn at Opryland in Nashville, Tenn.

Hotel Reservations

AFIA is pleased to offer registrants a limited number of hotel rooms at the Inn at Opryland at the preferred rate of $152 (plus tax). Participants are responsible for their own hotel reservation. Reservations can be made by clicking on this link or contacting the reservation line at (800) 901-4211 to reserve under the group name "American Feed Industry Association- PCQI Training." The block is available through July 5 or until it fills up.

How is AFIA preparing for a face-to-face event?

At the American Feed Industry Association, we are eager and looking forward to getting back on the road to see all of our members in-person. Over the past year, the AFIA has been closely monitoring guidance from state and federal health authorities regarding the coronavirus (COVID-19) pandemic. Protecting the health and safety of our attendees and staff has always been of utmost importance and will continue to be. Should you have any questions or concerns before these details are available, please contact AFIA's senior director of meetings and events at **vrovelli@afia.org**.

Safety at PCQI

This year's FSMA PCQI Training will need to be different as we all work together to end this pandemic. We are regularly reviewing the Centers for Disease Control and Prevention's updated recommendations on hosting large gatherings to ensure we are doing all that we can to provide a safe meeting environment. At this time, we expect that attendees who are unvaccinated will be asked to wear a face mask, but we will continue to monitor the situation and make any adjustments as appropriate. Please click here to see what you can expect or check back soon to see what we have planned for July.

Register with Options

We recognize that every member's situation changes day by day—between travel restrictions, company policy changes, state regulations, home changes, etc.—AFIA's goal is to make it easier for you to attend our events. Once you register, if you're still not able to attend the event, full refunds will be available through July 1, 2021. You can cancel your registration, for any reason and with no penalty. If you decide to cancel, you can opt for a full refund or transfer your registration to another AFIA event. AFIA reserves the right to cancel any conference it deems necessary. AFIA will not be responsible for airfare, hotel or other costs incurred by registrants.

Additional Information

Full Program Brochure
PDF Registration Form
Hotel Group Block

If you have any questions on registration, please contact Daisy Rodriguez, AFIA's registrations and events specialist, at (703) 650-0144 or **drodriguez@afia.org**. If you have any questions on the program, please contact Gary Huddleston, AFIA director of feed manufacturing and regulatory affairs, at (703) 666-8854 or **ghuddleston@afia.org.** □

HPAI Response

Permitting Live Poultry into an Infected Zone: Claims for USDA Indemnity Not Considered

April 4, 2022

Please note: These procedures may be revised as the situation develops.

Background Information

During the highly pathogenic avian influenza (HPAI) outbreak in 2015, location of a farm in an existing Control Area was highly associated with becoming an infected farm in a case-control study of poultry farms in Iowa and Nebraska (Garber et al., 2016). Being in an existing Control Area was the most influential variable associated with farm status (infected vs. not known to be infected). Additional HPAI-related guidance can be found at www.aphis.usda.gov/fadprep.

General Guidance

Because proximity to an Infected Premises is identified as a highly significant risk factor for farms to become infected with HPAI during an outbreak, USDA discourages movement of live birds into an Infected Zone and chooses not to subsidize this risk. USDA will not accept claims for indemnity for premises on which birds are placed in an Infected Zone. Movements of birds into a Buffer Zone will be eligible for indemnity provided that an on-site biosecurity audit is performed as a condition of the movement permit. State Animal Health Officials may choose to approve permits for these movements and producers may choose to accept this risk for continuity of a business purposes. The authority under which APHIS conditions claims for indemnity for HPAI is found in 9 CFR 53.2, 9 CFR 53.10, and 7 USC Ch. 109 §8306.

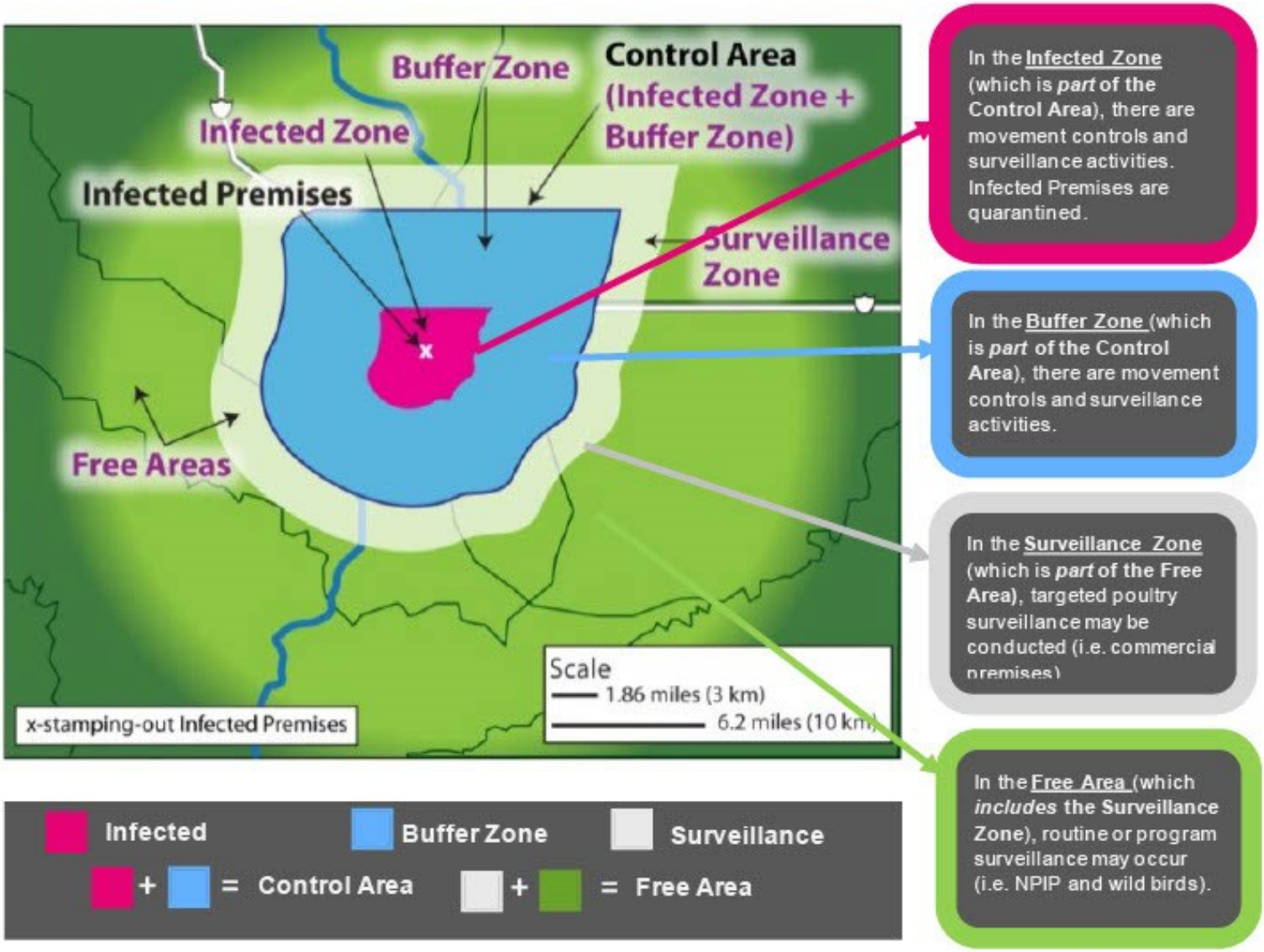
The following should be considered regarding planned movements of live birds into an existing Control Area:

- USDA highly discourages increasing the population of susceptible poultry in an active HPAI Control Area.
- The State Animal Health authority may determine whether they will allow a placement of live poultry into a Control Area, but this movement must be done via a permit. The details of the permitted movement must be shared with USDA prior to the movement of birds.
- A premises within the Infected Zone receiving poultry will not be eligible for USDA indemnity in the event poultry on the premises become infected with HPAI (diagnosed as a presumptive and/or confirmed positive case); this language will be added to the permit and conveyed to the owner as a condition of the permit and movement.
- Once the Control Area is released, any premises containing poultry moved into the Infected Zone under permit as mentioned above will not be eligible for indemnity and compensation until 14 days after the Control Area is released (one incubation period); this language will be added to the permit and conveyed to the owner as a condition of the permit and movement.
- A premises within the Buffer Zone may receive birds and be eligible for indemnity provided that:
    - The farm is not an Infected, Contact, or Suspect Premises, as determined by an epidemiologic questionnaire.
    - Results of an on-site biosecurity audit performed prior to bird movement were satisfactory. This biosecurity audit is a condition of the movement permit.
    - Auditors will be state/federal veterinarians or animal health technicians (or equivalents) with poultry training. Virtual audits (via FaceTime or other video applications) can be utilized for all inspections. Audits will use a pass/fail grading system. Inspected premises will be provided the audit checklist in advance. If inspected premises fail, they will have to take action to mitigate the issue and then request a follow up audit.

- Each house on the premises has been tested for AI by PCR at least twice with negative results in the week preceding bird movement, with the last samples taken within 24 hours of the move.

Figure 1: Overview of Control Areas and Zones during an HPAI Response

This figure is also available in the HPAI Response: Ready Reference Guide – Overview of Zones document.



CONGRATULATIONS TO THE WINNERS AT OUR SCHOLARSHIP FUNDRAISERS!!!

Sporting Clays

1st Place: Shane Joyner - Tyson OBC (90)
2nd Place: Matthew Butler - Cobb Lafayette (89)
3rd Place: Keith Riley - Tyson OBC (88)
Youth: Braxton Miller

Golf 1st Place Team - Farm Credit Shelbyville

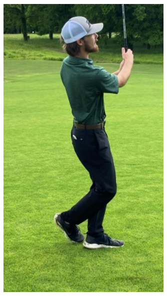
Johnathan Boyce
Greg Sitz
David Davidson
Madden Judkins

SCHOLARSHIP FUNDRAISERS

Thanks so much to everybody who braved the weather to help make our scholarship fundraisers a huge success. We all got a little wet, but made some great memories and raised a lot of money to support the students who are the future of our industry in TN. The scholarships will be awarded on Saturday, August 20 at the TPA Annual Meeting & Summer Getaway banquet.
























Women in Poultry Dr. Kate Hayes *(continued from page 9)*

But what makes life an amazing adventure is that point A to point B is never a straight path, and the curves along the way led me to poultry. I took a job as a small animal veterinarian out of vet school. A few years in, while contemplating my future, my husband persuaded me to apply for a position with a local poultry company, and, fortunately for me, I got the job! I am forever grateful to those who took a chance on this gal because I immediately fell in love with everything about this industry. The rest is history, as they say.

What was the focus of your PhD and how has it shaped your career?
I earned a DVM from the University of Tennessee's College of Veterinary Medicine in 2006, and later went on to pursue a Master's in Avian Health and Medicine from the University of Melbourne (Australia) in 2012. Vet school was an intense experience without question. But in addition to the vast amount of knowledge we were exposed to, the long hours of studying and clinical rotations, a great take-home was how to work with people from different backgrounds and interests, including interactions with my classmates, our clinicians and clientele and their animals. The human-animal bond is real and unquestionably amazing. I earned my master's degree through an online program, which was a different experience that allowed me to sharpen my poultry management and diagnostics skills. Although I was not able to interact with others in person, I walked away from the program having built an amazing relationship with one of my classmates that will be a forever colleague, confidant, and friend.

What individuals or organizations in poultry have you found particularly inspirational?
I consider myself fortunate to have been surrounded by great role models who have inspired me along every step of my journey. When I was young, my parents believed in me and encouraged me to pursue my dreams, and to never give up, even when things were difficult. Later on throughout my studies, I will be forever grateful to the teachers and role models whose influence reached far beyond the classroom to help form the person and professional I am today. And since I've become part of the family that is the poultry industry, I've never been at a loss for a source of inspiration. Here, I'm surrounded by passionate, driven, collaborative, and amazing people whom I learn from and with each day. Even in my current role, there is always someone whose stories and experiences inspire me and put a smile on my face every day.

When did you come to Aviagen and what inspired you to work there?
As I mentioned, I was born with a love for animals and always dreamed of becoming a veterinarian. However, 20 years ago I never imagined that my path would lead to poultry. Before coming on board with Aviagen in 2007, I was an associate veterinarian at a local veterinary hospital. I had recently completed my Doctorate of Veterinary Medicine from the University Of Tennessee College of Veterinary Medicine. Although I loved working with my staff and clients and loved all the animals, something was missing. I kept questioning what I wanted long term and knew I had not yet found it. Nothing like having an open mind, because it led me to make a considerable change in my professional career, to take a chance on a major unknown for me, and for that, I am thankful. What inspired me to keep working in the poultry industry…the passion. It is everywhere. From our farmers, production teams, hatchery experts, veterinarians, scientists…everyone. That passion is unbelievable and contagious.

What's unique about your role?
My role is unique in the diversity and complexity of managing a staff of veterinarians and microbiologists, along with all of our US diagnostics laboratories, all working to strengthen the health and welfare of all Aviagen breeding stock generations. My team and I also provide dedicated support to Aviagen's health monitoring, biosecurity, vaccination, animal welfare, export certification, and education and training programs. Each day brings a new adventure, and I feel grateful for the opportunity to brainstorm and share ideas with the industry's brightest minds.

Describe a typical day for you.
My job offers such variety and excitement that I can truly say no day is typical, and that's why I love my job, my company, and my profession. On any given day, my team and I may be in the field with our poultry producers and production experts, inside hatcheries overseeing the process that enables healthy chicks delivered around the world to our customers, teaching students of all ages, or working alongside Aviagen personnel, our customers, our allied industry or regulatory teams. I am passionate about upholding our company's robust health, biosecurity and welfare standards as they serve to strengthen the safety, biosecurity and wellbeing of our birds.

What are the main challenges you face?
Early on in my career, I learned to see "challenges" as opportunities for improvement, problem-solving, and growth. Every day I work toward this growth and am proud to work for a company that has continuous improvement as a core value. *(continued on next page)*

Women in Poultry Dr. Kate Hayes *(continued from previous page)*

One challenge that our industry continually faces is avian disease, and, more recently, we have all been confronted hurdles caused by the Covid-19 pandemic. As a company and as a team, we follow the industry's most rigorous standards for biosecurity and hygiene to protect our people and the birds in our care. Our people are all thoroughly trained in how to effectively implement these standards, and a team of compliance experts routinely conduct biosecurity audits of all of our facilities. And, each day we look for ways to further strengthen our excellent biosecurity and training programs to extend our reach and ensure we protect the health of the birds to ultimately ensure our role in feeding the world.

What outstanding challenge facing the poultry industry would you most like to solve?
Strengthening communication and collaboration is vital to our industry. Not just amongst ourselves but with consumers. We need to continue to engage in the conversations that surround the poultry industry and animal agriculture in general. I am hopeful that together, we can make substantial improvements on this front.

How have you overcome any challenges as a woman in your field?
Many roles in my life have involved being the minority, like working on a dairy farm in college, or being the only women in the room on several company discussions. Rather than feeling isolated as the only woman, I see my position as one of inspiration. I have the influence to be an example and encouragement to other women of the rewarding career opportunities and leadership roles available in the poultry industry. And through the years I've seen a change, as more and more women discover how exciting it is to make a career of making a difference. What could be more rewarding than helping to feed current and future generations with a nutritious and sustainable source of protein?

What advice would you give to women looking to start a career in your field?
Go for it! Being a poultry veterinarian is incredibly rewarding. "Feeding the world" …the chills I get when I think about how we play an amazing role in ensuring the world's people have food on their tables. It does not get much more satisfying than that!

What does the future of poultry genetics look like?
The story of poultry genetics is one of ongoing advancement, and I believe the bird of the future will continue to improve in health, welfare, efficiency, liveability and productivity. At the same time, changing market needs will drive the development of new breeds. At Aviagen, we maintain a large and diverse genetic pool, and we keep our finger on the pulse of the market to stay ahead of changing consumer preferences. That way we can supply our customers with the right bird for the right market at the right time.

What are you most excited about in the next 5-10 years regarding the poultry industry?
Our industry sets the bar high and continues to push it higher all the time. We've come so far in the past decade regarding animal health, welfare and sustainability, and I can't wait to see what innovations will be in place in the next 10 years. I am also eager to see all the changes to ensure we continue to drive sustainability across our industry. We are in for an exciting future.

What keeps you entertained when you're not on the job?
My fellas and our barrage of critters. I am a mother of two amazing boys and time with my family completes me. They have my heart, and together we enjoy many pastimes such as our beekeeping hobby. They really enjoy harvesting the honey to give to friends and family. I also love going horseback riding as a family on our farm on the weekend. I also love embracing nature by gardening, planting flowers or just adventuring outside. My family is my priority, and I am passionate about maintaining a work-life balance.

What's next for you?
I am focused on supporting and continuing to develop my amazing team. But I am also committed to collaboration. Collaboration can look like so many different things -- brainstorming with our internal teams, exchanging ideas with our colleagues around the globe, and working hand-in-hand with customers, with our allied industry, and with our regulatory teams. While I'm not sure where my journey will lead, I look forward to the future and all the opportunities it will bring. □

USDA: Grain consumption will exceed production in 2022-23

May 17, 2022 at FeedStragety.com by Emma Penrod

Further cuts to US corn crop likely as wet spring weather delays planting, experts say
The U.S. Department of Agriculture (USDA) is projecting record corn prices this season after slashing corn production estimates in the U.S. and Ukraine, causing global corn production to fall below anticipated consumption.

On-farm corn prices for the 2022-23 crop are expected to reach US$6.75 per bushel, the highest seen since the last record set in 2012-13, according to the USDA's monthly world markets and trade report. The May report, the first to issue projections for the coming fall's crop, cut this year's likely production in Ukraine by half compared with last year's figures — resulting in estimates analysts said may still be generous.

But the projected cuts to production in the U.S. also took analysts by surprise. While planting surveys released earlier this year anticipated a decline in U.S. corn production in favor of greater soybean acreage, the USDA is now projecting an average corn yield of 177 bushels per acre — the same figure it used in 2021. Favorable conditions could have supported an estimate of 179 bushels per acre, according to Michael Langemeier, associated director of Purdue's Center for Commercial Agriculture. But a slow start to planting throughout much of the U.S. likely justified the USDA's less optimistic take, he said during a webinar presentation on May 16. (*continued on page 51)*

Aviagen North America Cuts Ribbon on New Feed Processing Facility in Pikeville, Tenn.

(continued from page 9)

Other chamber members, dignitaries and representatives from state and local economic development were also in attendance at this momentous event.

High-capacity feed mill to meet growing demand

Pikeville marks the company's 3rd feed processing facility in the U.S., and is now home to the country's most advanced feed mill.

With a capacity of 3,000 tons per week (156,000 tons annually), the new facility will supply Aviagen's internal flocks with nutritious, biosecure feed that is specially formulated for their unique dietary needs.

Aviagen was the first poultry breeding company in the United States to design and build its own feed processing facilities to eliminate contamination and ensure high levels of biosecurity. Adding to the company's extensive biosecurity measures in and around the facility, the location in Pikeville was chosen for its physical isolation.

High-capacity feed mill to meet growing demand

Pikeville marks the company's 3rd feed processing facility in the U.S., and is now home to the country's most advanced feed mill.

With a capacity of 3,000 tons per week (156,000 tons annually), the new facility will supply Aviagen's internal flocks with nutritious, biosecure feed that is specially formulated for their unique dietary needs.

Aviagen was the first poultry breeding company in the United States to design and build its own feed processing facilities to eliminate contamination and ensure high levels of biosecurity. Adding to the company's extensive biosecurity measures in and around the facility, the location in Pikeville was chosen for its physical isolation.

Richard Obermeyer, Director of Feed Production for Aviagen North America, who was also present at the ceremony, commented, "Protecting the health and welfare of our birds and keeping pathogens out of the food chain are our foremost priorities. This all begins with biosecure, high-quality feed. Pikeville joins our Sallisaw, Okla., and Athens, Ala., fleet of high-capacity, state-of-the-art feed processing facilities to keep our birds nourished with a healthy supply of nutritionally balanced feed."

Win-win for Tennessee and Aviagen

The new mill will benefit the state's economy and agriculture, eventually bringing 260 new jobs to the area, including up to 36 positions at the feed mill. Because it is Aviagen's goal to source locally, the grain supplying the mill will be purchased from local farmers as much as possible. Obermeyer estimates close to 1-1.5 million bushels of grain will be needed in the first year alone.

Part of greater investment

Just 26 miles north of Pikeville in southeastern Tennessee is the small community of Crossville, the location of Aviagen's current veterinary laboratory, hatchery, office, vehicle maintenance facility, and a number of pedigree farms. The $35.3 million investment in the Pikeville feed mill is part of a broader development project for the Pikeville and Crossville area that will include the expansion of production farms and the Pikeville hatchery.

Video tour of Pikeville feed mill

Due to high interest in the event, Aviagen has created a video tour of the Pikeville feed mill, which you may view here.

"I would like to thank Mayors Cagle and Ridley and all who worked with us to make this project a success," commented Aviagen CEO Jan Henriksen. "We are committed to the people of Tennessee, and are happy to expand our footprint there. It is a state with an impressive workforce, and one that understands agriculture – in particular primary breeding companies and the role we play in helping farmers feed the world."

"We are excited that Aviagen chose Bledsoe County as the location of this strategic investment, which will benefit our citizens and our state," said Mayor Cagle.

Mayor Ridley added, "As an agricultural community, we share Aviagen's commitment to provide a sustainable and affordable food source for our local families and people around the world. We look forward to a long and mutually beneficial relationship for many years to come."

Birds of a feather: Aviagen to team with Limestone Co CTC for introductory poultry study

(continued from page 36)

"Aviagen and the LCCTC share a dedication to training and encouraging our youth. They are our future, and it is on us to provide them with a quality education and teach them valuable skills, while instilling in them the confidence and passion to make a difference for our community, our state and our world," said John Wilson, director, Limestone County Career Technical Center.

How and why evaporative cooling systems work

May 2022 at Extension.Tennessee.edu by Tom Tabler, Yi Liang, Jorge Urrutia, Shawn Hawkins, Pramir Maharjan, Yang Zhao

Modern poultry houses are equipped with summertime cooling systems that include an arrangement of large exhaust fans at one end (Figure 1) and evaporative cool cell pads (Figure 2) at the other end of the house. To master operation of their tunnel and evaporative cooling systems, poultry growers should understand the relationship between temperature and humidity and how this relationship impacts chickens. On the part of the grower, it requires both common sense and an understanding of the First Law of Thermodynamics because the relationship is simple and complex at the same time.

Figure 1

Figure 2

Relationship between temperature and humidity

As temperature goes up, humidity goes down, and vice versa. That's the simple part of how nature works and explains the use of the phrase "it's a dry heat" when it may be 120 degrees F. There is almost no humidity in the air at that temperature. As a result, evaporative cooling worksgreat in the Southwest. Consider the weather of the average Tennessee poultry farm on a summer morning at sunrise. It's around 70 degrees F with humidity at or near 100 percent. The temperature dropped overnight, the air became saturated, and condensation formed on surfaces.

Evaporative cooling is practically useless under these conditions because the outside humidity is too high. However, it's a different story when cool cells run on a hot summer afternoon.

Evaporation alters temperature and humidity

Evaporation of water from cool cell pads has a cooling effect on hot air passing through the wet pad material. This is the complex part that includes the First Law of Thermodynamics. To evaporate water, heat (energy) is required. The heat comes from whatever object the water is in contact with; in this case, that object is the hot air as it passes through the wet pads. The First Law of Thermodynamics states that energy can be changed from one form to another, but it can't be created or destroyed. We do not destroy the heat in the air as it passes through the wet cool cell pads, instead the heat is used to change water from liquid to vapor. In return, temperature is lowered but humidity is raised (from high temperature to high humidity).

We convert sensible heat to latent heat. For every gallon of water evaporated, 8,700 Btu of sensible heat is taken out of the air to decrease temperature (Donald, 2000) and converted to latent heat which increases humidity. Again, energy can't be destroyed, but its form can be changed. Growers may wonder if cooler water trickling through the pads would make a difference in the cooling potential, but it does not matter. Most of the energy comes from the phase change of liquid to vapor. A gallon of water at 50 degrees F has a cooling potential of 8,900 Btu, while a gallon of water at 90 degrees F has a cooling potential of 8,700 Btu. The cooling potential is essentially the same (Simmons and Lott, 1996), so the water temperature doesn't matter.

The 80-80 rule

Something that does matter is the condition of the outside air. The higher the temperature, the drier the air. And the drier the air, the higher potential/force that water can be vaporized, hence the more efficient the pads. The way nature works is that, in most cases during the summer, if the air temperature is 80 degrees F, the relative humidity is roughly 80 percent, hence, the 80-80 rule. If the air temperature is above 80 degrees F, in most cases, running cool cell pads will likely be beneficial. If air temperature is below 80 degrees F, the cooling effect of running the pads is minimal at best. If the relative humidity is above 80 percent with air temperature below 80 degrees F, let's say from 9 p.m. to 9 a.m., running cool cell pads offers little or no benefit. Why? Because it is difficult to evaporate water into air that is already 80 percent saturated with moisture and get much cooling benefit (Czarick and Lacy, 2000). Although, there are those few exceptions each summer when nighttime temperatures stay above 80 degrees F until after midnight when it may be beneficial to run pads longer.

However, pads should not stay wet 24 hours a day. They are called evaporative cool cell pads for a reason. Pads must be allowed to dry out at least once per day (Campbell et al., 2006). Failure to do so can increase the risk of algae growth and reduce life expectancy of the pads by keeping them wet for extended periods of time. Pump life will also be shortened by using it during periods when little cooling benefit is possible such as overnight or during periods of high outside humidity. In addition, high in-house humidity created by running the pads overnight increases wet litter potential which is detrimental to paw quality and affects flock performance. *(continued on next page)*

How and why evaporative cooling systems work *(continued from previous page)*

Growers often ask, "When should water start to run over the pads?" Many growers tend to run water over the pads too soon (at too low a house temperature) to stay ahead of heat stress. Little if any benefit can be gained by running water over the pads before temperatures reach 82-85 degrees F with larger birds. This assumes the house has adequate air speed, such as 500 feet per minute in a 500-foot house (600-700 feet per minute is preferred for this size though). Running pads at 80 degrees F or less is counterproductive and may do more harm than good in terms of humidity and litter condition.

Windchill is more important than cool cells

Remember the cool cells are only one part of the overall cooling system in a poultry house. Tunnel fans are the most important part, with cool cells working to enhance the tunnel fans, not the other way around. The first requirement for successful chicken cooling is airflow. Sufficient air velocity to provide a good windchill effect is more important than any other item in a hot weather broiler house (Donald, 2000). Pad cooling is complimentary to tunnel ventilation and relies on the large volume of airflow created by the tunnel fans to improve sensible heat loss from the birds (Donald et al., 2000; Donald, 2000). It is windchill created by the fans that serves as the primary cooling mechanism.

Evaporative cooling increases the cooling effect produced through air movement, but the increased humidity reduces the bird's ability to cool itself through respiratory evaporation. Evaporative cooling is successful only when the ventilation system is adequate (Donald, 2000). Why can high air speed offset a high humidity issue? Air speed increases the amount of heat loss to the air surrounding a bird, reducing its need to depend on respiratory evaporation for cooling (Czarick and Fairchild, 2009). High in-house humidity is less of a problem for the bird if it does not depend as much on respiratory evaporation (panting) as a cooling mechanism. However, air speed down the house should exchange the air at least once per minute, even with cool cells, to prevent a temperature rise from one end of the house to the other. A faster air speed is better – 600-700 feet per minute in a 500-foot house is better than 500 feet per minute (Dozier et al., 2005).

On extremely hot days, the fans and cool cells work together to keep the birds alive. Depending on how the house controller is programmed, there are multiple combinations between the fans and cool cell pads. However, for maximum cooling on older birds, all tunnel fans should be on before water is allowed to the cool cell pads. This provides maximum airflow down the house and produces the greatest windchill effect. It is vital that none of the fans shut off when water is allowed to the cool cell pads and house temperature starts to drop. If fans shut off, air speed down the house decreases at the same time house humidity is increasing, which increases heat stress on the birds. If fans shut off when cool cells come on, set points on those fans that shut off and the cool cell set point are too close together. Increase the range between the set points on the fans that shut off and the cool cells to prevent fans from shutting off when the cool cells run.

Use sensors correctly

Do not use the temperature sensors near the pads to base temperature settings for the pads. Exclude the first couple of sensors nearest the pads when programming the cool cells. Litter in front of the pads tends to be wetter because of the slow air speed and very high humidity in front of the pads. The higher the cool cell temperature settings are, the drier the litter will stay.

The coolest and most humid air in the house is directly in front of the pads. As the air moves down the house, its temperature increases as it picks up bird heat along the way (often 3-5 degrees F) and humidity decreases. The lower humidity allows it to pick up more moisture from the litter than was possible in front of the pads. Therefore, litter down the house may be drier than litter near the pads.

Foggers: Use or don't use?

In summers past, many growers have indicated that they did not lose birds on hot afternoons until after they turned on the foggers. This is because foggers increase the humidity further in air that is already highly saturated. Once the air becomes too humid, birds can no longer cool themselves through respiratory evaporation and will succumb to heat prostration, even with air movement from the fans around them. Operating foggers in a cool cell house may increase the heat stress load on the birds if the humidity level is already high from the cool cells. Often, growers that turn foggers on at 3 or 4 p.m. are picking up dead chickens by 6 or 7 p.m. This is because the in-house humidity became too high, preventing the birds from using respiratory evaporation as a heat dissipation method. In addition, operating foggers may decrease air movement over the birds. When foggers are running, tunnel fans often pull some of the fog outside. This fog wets the shutters, pulleys, motors, fan belts and blades. Wet shutters also collect dust which turns to mud and weighs down the shutter, forcing the fan to work harder. Wet blades collect mud and wet fan belts slip on the pulleys reducing the fan's air moving capacity.

With reduced air movement, birds become heat stressed at lower temperatures. If wind speed goes from 500 feet per minute to 300 feet per minute due to poor fan maintenance, wet equipment, etc., a significant amount of windchill is lost (Czarick and Fairchild, 2003), resulting in heat stress at temperatures as low as 78 degrees F. In such a situation, birds dealing with severe heat stress will likely not survive the loss of a significant amount of windchill. If we lose wind speed, we lose chickens. Moisture from foggers may also wet feed line motors and electrical connections, causing circuit breakers to trip, melting connections, or starting electrical fires. Foggers may also rapidly deteriorate litter conditions leading to increased paw quality problems and a decrease in animal welfare conditions. As a result, if you have a well-functioning cool cell system, you may not need foggers. Use migration fences throughout the house to prevent too many birds migrating to the cool cell area.

Evaporative cooling can be beneficial for keeping broilers alive during hot weather. However, it requires an understanding of the relationship between temperature and humidity. It's vital to understand that the job of a cool cell system is to assist the tunnel fans and manage the house accordingly. □

Management of nipple drinker watering systems

June 2022 at Extension.Tennessee.edu by Tom Tabler, Pramir Maharjan, Shawn Hawkins, Jorge Urrutia

Nipple drinker systems have become the standard for most of the poultry industry. When managed properly, bird performance and litter quality are excellent with nipple systems, and they save labor by eliminating the chore of cleaning open-type drinker systems of the past. Although labor is greatly reduced with nipple drinker systems, that does not mean they require less management. If anything, nipple systems require more management and attention to detail than systems of the past. Improper management resulting from mistakes in water line height and regulator pressure can have a detrimental impact on broiler performance and litter quality. Birds consume approximately twice as much water as feed (on a pound for pound basis), and both feed and water consumption steadily increase as a flock ages.

Water consumption

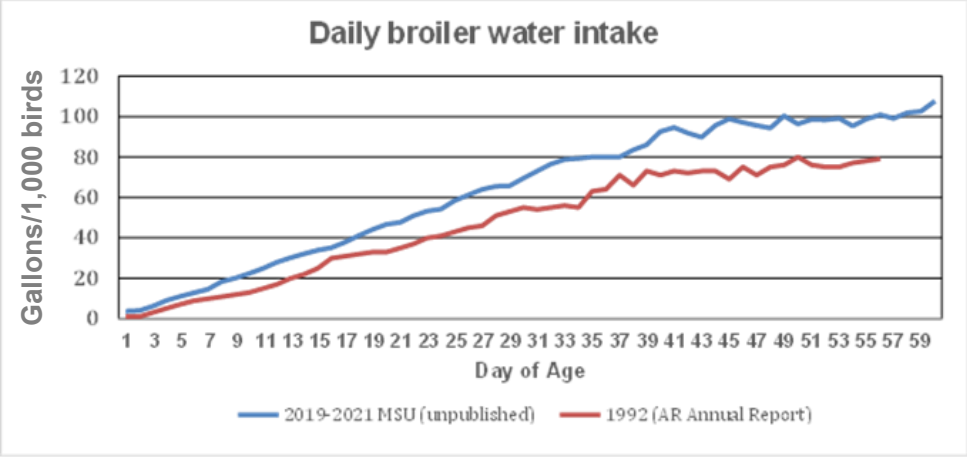
Water is the most important nutrient consumed by an animal. A bird can survive several weeks without food but only a few days without water. The purpose of the broiler drinker system is to provide sufficient water for optimum performance while maintaining dry litter. It is important to know how much water broilers consume on a given day. Water is sometimes used to provide medications, vaccines, vitamins and electrolytes to broilers. It is essential to be able to predict consumption to ensure that each bird receives the proper amount of such substances. In addition, growers that monitor daily water consumption can compare current consumption rates with past flocks to identify potential disease or management issues indicated by a drastic change in consumption.

Water consumption continues to be one of the simplest and most effective tools a grower can use to monitor flock performance. It should gradually and continuously increase as the flock ages but don't be alarmed if usage remains unchanged for a day every now and then. However, if water usage remains unchanged or decreases for more than a day or two, growers should attempt to identify the culprit because, most likely, something is wrong. A checklist of possible issues include:

- Drinker line height is too high or too low
- Pressure at the regulator is incorrect for the age of the birds
- Air locks in the drinker system
- Clogged water filters reducing water flow
- Nipples clogged or not triggering because of scaling or contaminants in the water supply
- Feed changes (grower to finisher or finisher to withdrawal) or birds out of feed
- Water treatments/additives that may have changed the taste of the water
- Dramatic change in light intensity in the house
- Diseased or ill birds
- Too many birds per nipple drinker (resulting from migration or high bird placement numbers)

Bird genetics have changed dramatically over the last few decades. As a result, broilers drink considerably more water today than broilers of 30 years ago. Compare broiler water intake from 30 years ago to broiler water intake today (Figure 1). Water intake of 56-day-old broilers in 1992 was roughly 80 gallons per 1,000 birds. Water intake of 56-day-old broilers today is roughly 100 gallons per 1,000 birds. This puts extra demand on the drinker system to deliver the increased water supply that modern broilers require to meet their genetic potential. And it must be delivered in a manner that does not waste water or put excess moisture in the litter which can cause footpad dermatitis.

Figure 1. Comparison of broiler water intake today and 30 years ago (1992).



Nipple drinker management

What aspects of drinker management should growers pay close attention to in order to avoid wasting water? The three most common problems are: 1) Nipple leakage, 2) Improper drinker line height, and 3) Improper drinker line regulator pressure. (*continued on next page)*

Management of nipple drinker watering systems *(continued from previous page)*

Nipple systems rely on pressure regulators to control the amount of water birds receive when the nipple mechanisms are activated. Pressure on the regulator must be adjusted regularly as the flock ages. Pressure is low when the chicks are small so that water will flow easily from the nipples at the slightest touch. As the birds grow, pressure is gradually increased so that more water will flow upon nipple activation. Adjusting the pressure once per week is usually sufficient. However, pay special attention to line pressure as the birds approach market age. Too much pressure often leads to wasted water and leaky nipples and can make it more difficult for the nipple to properly shut off the water flow. On the other hand, too little pressure may limit water consumption by the birds at the far end of the line for water. Carefully monitor sight tubes at each end of the line and be sure the pressure is near equal at each end. If the water column in the tubes is not approximately equal at each end, this could indicate a pressure issue, levelness issue or an obstruction in the water line.

Nipple height must be adjusted as often as needed. At chick placement, the nipple pin should be at eye level. At day two and beyond, adjust the height so that the bird's head is at a 45-degree angle to the nipple. This may mean a few clicks on the water line winch handle daily. There are a variety of different nipple drinker systems in use in the poultry industry today and nipples from different systems may trigger differently, changing the height the nipples need to be in relation to flock age. Growers should check with their service technician or drinker manufacturer to learn how their drinker system's nipples operate and how to match that to flock age.

Drinker lines that are too high or too low will impact how much water a bird consumes and how much is wasted in the litter. The most common problem growers make is failing to make proper adjustments to water line height at the appropriate time. Modern-day broilers grow extremely fast and height adjustments must be made daily to maintain optimal conditions. Birds should never be able to drink while sitting down, yet this is often the case. In such a situation, much of the water the bird triggers from the nipple ends up on the floor and contributes to wet litter and poor paw quality. Having drinker lines too low not only results in water wastage into the litter but will impact bird performance as well because wet litter leads to higher ammonia volatilization.

Drinker lines that are too high can also have serious negative effects on bird performance. Reaching too high for water will cause the birds to peck at the nipple instead of activating it as intended, resulting in increased water wastage. Large height adjustments (2-3 inches all at once) instead of a few clicks on the winch handle each day will result in stress on the birds as they attempt to adjust to the large height increase. Monitor water intake each day on the controller. Intake should gradually increase each day. If it plateaus or goes down after lines are raised, the lines may have been raised too much.

Common issues

Air locks can be a serious problem, especially when chicks first arrive and water pressure is set low. Air locks occur in high spots along the drinker line. Adjust the cable drops as needed to maintain a level line. Using a yard stick to assist with leveling may be beneficial. To help reduce air locks, raise the regulator end of the drinker line slightly so that any air in the system can escape through the riser tube. It may be beneficial to raise the regulator end of the line a foot or so for a few seconds when you walk the chickens to allow locked air to escape. Use the support pipe or bar above the drinker line to raise the system and not the regulator itself. This will lessen the risk of breaking the water line.

Be sure the water supply is filtered at the control room before entering the drinker lines. Check the filters at least weekly for issues such as iron precipitation, sand or sediment build up, mineral deposition, and bacterial contamination. Poor water supply quality may require chlorine treatment, pH adjustment or sand filter installation. Poultry drinking water supplies should be analyzed to determine mineral content, pH and possibly bacterial load, especially if performance issues recur flock after flock.

It is not uncommon to see caked litter accumulate under drinker lines. Often the problem is leaking nipples, improper pressure or improper drinker line height. Better management may fix improper pressure and line height issues, but leaking nipples may need to be replaced. Nipples will not last forever and wear on the metering pin and rubber gasket or O-ring will eventually take its toll and the nipples will start to leak. Harsh chemicals used to clean the water lines and remove biofilms may also damage the nipples. Consult your nipple manufacturer as to what cleaning products are safe to use. If certain lines are prone to caking, winch those lines to roughly 4 feet and shut off the water supply to that line. Mark the level of water in the riser tube at each end of the line and wait 30 minutes. Keep the riser tubes clean so that the level of water in the tube can always be assessed. After 30 minutes, if the level of water in the riser tubes has not changed, the problem is likely associated with improper line height or pressure. Try decreasing the pressure slightly and raising the line slightly more than the others. If the water level in the riser tubes is lower after 30 minutes, the problem is likely related to leaking nipples. Seek out the troublemakers and repair or replace as needed.

Acids, sanitizers and biofilms

A strong acid cleaner capable of dropping the pH of the water to below 6 and that is also safe for nipple drinkers will be needed to cut scale buildup out of the water lines. However, acids sometimes seem to allow scale buildup in lines to break loose in chunks, partially clogging the system and preventing nipple drinkers from working properly. Check with your drinker manufacturer and local poultry supply store for the best options. But remember that acids are not sanitizers. Acids are only part of a larger, overall sanitation program, not the entire program. For example, if a biofilm problem is suspected, a good sanitizing cleaner that can dissolve the biofilm will need to be run before the acid. The acid will not be able to cut through the biofilm and, therefore, will be unable to remove any scale buildup that may exist. (*continued on next page)*

Management of nipple drinker watering systems *(continued from previous page)*

Like acids, there are several sanitizing products available but some of the best appear to be the concentrated, stabilized hydrogen peroxide products. The stabilizer prevents the hydrogen peroxide from losing its strength as quickly by preventing it from converting to water and oxygen before its work is finished. Stabilizers also allow the product to last longer in stock solutions. Stabilized hydrogen peroxide works well on biofilms because it is a very good oxidizer and can hydrolyze (or dissolve) the biofilm. In addition, it is non-corrosive to the drinker system; quite effective on bacteria, fungi, and viruses; and can break down algae to a degree that it passes through nipple drinkers without causing nipple clogging or sticking issues. However, the stabilized hydrogen peroxide products are not as user friendly as some less effective products and are somewhat harder to find at the local grocery store. Local poultry or animal health supply stores will likely be the only place that carries these products.

Biofilms are a difficult problem to address. A biofilm is a complex community of bacteria, fungi and algae encased in an extracellular polysaccharide that often harbors organic contaminants. Put in less complicated terminology, biofilm is slime, a breeding ground for microorganisms that physically protects the microorganisms from antibacterial agents. Biofilm development is rapid in slow-flowing water systems where adequate nutrients are present (such as nipple drinker systems in poultry houses). Also, some hard water supplies contain minerals that can form scale, an attachment point for sediment and biofilms inside of drinker lines. In any case, biofilm growth can be stimulated when poultry growers run organic additives in poultry drinking water lines (Jell-O, Kool-Aid, Gatorade, vitamins, electrolytes, sugar water, stabilizers, antibiotics and so forth).

It must be emphasized that many organic drinking water additives are a biofilm food source. This food supply promotes microbial growth that can decrease the effectiveness of medications and vaccines dispensed through the drinker lines. Consequently, this results in poor feed conversion and increased mortality, carcass downgrades and condemnations. Once established, a biofilm makes the water system much more difficult to clean and keep clean. Even when the biofilm is removed, it can quickly return in as little as two to three days unless an adequate clean water program is in place or if you 1) do a poor initial cleaning job, 2) don't keep the water supply sanitized, or 3) run an additive through the water system that serves as a biofilm food supply.

Water line sanitation

Household bleach is likely the most used water sanitizer on poultry farms. However, simply using bleach does not mean it is being used effectively or that the water supply is sanitized. You must have the proper concentration of chlorine at the end of the water line farthest from the water source to ensure that bleach is effective. Many growers use chlorine test kits to measure parts per million (ppm) of chlorine at the end of the line. You should have 3 to 5 ppm of free chlorine at the end of the line for your sanitation program to be effective. More than 5 ppm may be too strong and could cause the birds to decrease water intake and possibly damage the drinker system. Less than 3 ppm chlorine is too weak to properly sanitize the water supply.

Chlorine must have time to dissolve and produce hypochlorous acid for it to be most effective. Hypochlorous acid is 80 times more effective as a sanitizer than the hypochlorite ion present in bleach. Free chlorine is not considered effective unless it is 85 percent hypochlorous acid.

Contact time is important; too short an exposure time and chlorine does not work as well. During periods of high water demand, contact time may be minimal which could impact chlorine's effectiveness. Growers have several alternatives to bleach that are also very good sanitizing agents, including 35 percent hydrogen peroxide, stabilized hydrogen peroxide products and chlorine dioxide.

Don't overlook the pH of your water supply. In general, birds do not like to drink high pH water. High pH water tends to have a bitter taste that birds are able to recognize and this may reduce consumption. A reduction in water intake will mean a reduction in feed intake! A pH above 8 will impact the ability of most sanitizers to perform at their best. A pH below 5 may affect intestinal health, create a bloom of algae or mold that thrives at low pH levels, and damage metal drinker system components. A pH in the range of 6.2 to 6.8 appears to work well. If the pH of your water is above 7.0, lowering the pH may prove beneficial to overall flock performance.

Routine flushing is one of the simplest ways to help keep the water system clean. In addition to regular routine flushing, the system should also be flushed after any use of the medicator to prevent a food source for bacteria or other organisms from accumulating in the lines. Flush long enough to completely purge the lines. A general rule of thumb is to flush one minute for every 100 feet of water line. If you have a 400-foot house with approximately 200-foot water lines in each half, then each line should be flushed for about two minutes. A 500-foot house with 250- foot water lines in each half would require a 2.5- to 3-minute flush per line. In general, when the birds are gone, a higher level of cleaning and sanitizing products should be run into the water lines with a medicator or injector pump. Sweep the lines with a broom to trigger all the nipples and allow the product to sit in the lines for 24 to 72 hours. Then flush all the lines with fresh water and trigger the nipples once again to finish.

Check with your service technician, drinker manufacturer or your local poultry supply store concerning which products to use, at what concentrations and how long to leave the solution in the lines to avoid possible damage to the drinker system. Later, with birds in the house, a continual maintenance program should be followed with solutions at a less concentrated level than was used between flocks. Always follow label instructions on the products you use for protection of the birds and for your own safety. Some cleaning and sanitizing products are quite strong and can be dangerous if mishandled. Use protective clothing as instructed on the label and keep a Material Safety Data Sheet (MSDS) handy for products that you use.

Nipple drinker watering systems are the standard for the poultry industry today. Water consumption continues to be one of the simplest and most effective tools a grower can use to monitor flock performance. Have poultry drinking water analyzed and know what challenges the water supply presents. Water problems can be corrected but not without knowing what the challenges are that need to be addressed. □

Non-starch polysaccharides (NSP) in feed ingredients - know how much NSP is there in poultry feed!

May 2022 at TNState.edu by Pramir Maharjan, Tom Tabler, Samuel Nahashon, and Craig Coon

Non starch polysaccharide are anti-nutritional factors in feed

There exists a negative correlation between carbohydrate digestion and non-starch polysaccharide (NSP) levels in feed due to the indigestible nature of NSP. NSP constitutes 70-90 % of plant cell walls and are a diverse group of molecules with varying degree of water solubility, size and structure. NSP, mainly water-soluble fraction (S-NSP) even though constitute fairly a low proportion of total NSP in feed, bind large quantities of water from digesta and increase the digesta viscosity as it moves from proximal to distal end of small intestine. The increased digesta viscosity is considered to cause a poor interaction of digesta with the intestinal brush border. Thus, it also reduces contact of substrates with the intestinal enzymes and the breakdown products have less access to intestinal microvilli. These phenomena, in turn, lead to reduced digestibility of nutrients in digesta not limiting to carbohydrate fragment of the diet. Sticky droppings is another issue initiated by water holding capacity of soluble fibers. The insoluble fraction of NSP (I-NSP), constituting the significant portion of total NSP, is considered inert and has been associated with nutrient diluent effect for diets fed poultry mainly due to insignificant bacterial fermentation of insoluble fibers.

Know NSP types and levels in your feed to add NSP degrading enzymes

Corn and soybean meal (SBM) are the major poultry feed ingredients utilized in North American poultry diets along with other minor ingredients such as distiller dried grains with solubles (DDGS). Corn contains mainly arabinoxylans, hemicellulose and cellulose as NSP, whereas predominant NSP in SBM comprise of β-mannans, pectins and cellulose. DDGS NSP levels are relatively higher than corn or soybean and mainly contain beta glucans, arabinoxylans, and raffinose. The use of DDGS in poultry diets is typically low due to higher variability reported in major nutrient types and availability. Increased utilization of corn for ethanol biofuel production, has competed with distribution of corn for livestock production, and thus increased the feed price. The byproduct of corn for ethanol production is corn DDGS. Increased inclusion of DDGS through its improved digestibility can potentially help reduce cost associated with feed. DDGS, depending on the ingredient source or processing variations, vary in the nutrient content, and thus its nutrient digestibility. Maximizing NSP digestibility in poultry diets can be achieved by knowing type and amount of NSP levels of ingredients being used in dietary formulations, and then using correct group and inclusion levels of NSP degrading enzymes in feed.

This report characterizes NSP content in the form of non-cellulosic polysaccharides (NCP) at the individual monosaccharide level of commonly used feed ingredients – corn, SBM, and DDGS. These ingredient samples were collected from a poultry feed mill source. NCP content measured for corn samples ranged from 6.73 to 8.67 % for I-NCP fraction, and 0.25 to 0.60 % for S-NCP fraction. For SBM samples, it ranged from 8.41 to 11.38 % for I-NCP fraction and 0.31 to 0.72 % for S-NCP fraction. DDGS samples had NCP content of 12.09 to 16.87 % for I-NCP fraction and 0.19 to 1.76 % for S-NCP fraction. The NCP content in corn had a higher percent of glucose (~3-5 %), whereas galactose was abundant in SBM (~5 %). With DDGS, arabinoxylan (AX) content was the predominant monosaccharide of total NCP portion (~ 9- 12%).

NCP analysis for ingredient samples showed that variation could exist in NCP levels within ingredient samples. Climatic or geographic differences in crop production and genetics can determine the NCP levels in ingredient samples. Therefore, it necessitates the need of ingredient analysis for NCP content for each batch of feed formulated to understand the type and amount of carbohydrases to be included in dietary formulation. There are various types of carbohydrases in the market such as xylanses, mannanases, pectinases, glucanases, *etc*. differing in their activity levels based on products. Appropriate inclusion of NSP degrading enzymes in diets enhance overall metabolizable energy (ME) of diet additionally contributed from degradation of dietary NSP. Digestibility assays performed using exogenously supplied enzymes including NSP degrading carbohydrases in poultry diets have shown the beneficial effects in nutrient digestibility, and overall improvement in bird performance. □

COMMODITY REPORT

June 3, 2022 at Chick-News.com by Simon M. Shane

Over the past four trading days prices for corn and soybeans again fluctuated with a consistent downward trend but with higher intensity compared to the previous week with an inter-day range of three percent in value for corn and soybeans between May 31st and June 1st. The market is still dominated by the consequences of the invasion of Ukraine and reinforced by the effects of drought in Brazil and neighboring producer nations. Prices were also influenced by fluctuations in the Dollar index and by orders placed by China coupled with moderate domestic U.S. demand.

Factors influencing commodity prices in either direction included:

- Geopolitical tensions threatening wheat, corn, oilseeds and oil exports from Ukraine following the invasion together with evident restriction on Black Sea shipping. Russia has allegedly stolen in excess of 400,000 metric tons of grain from the Eastern occupied regions and is destroying agricultural infrastructure including elevators and crushing plants and placing landmines in fields. (upward pressure on corn and wheat and an indirect effect on soybeans)
- Drought affecting Argentina, Paraguay and Brazil especially in that nation's Southern states due to a prolonged La Nina event. The USDA-FAS projects that collectively the three Southern hemisphere nations will be short 8.7 million metric tons of soybeans in 2022. (upward pressure of intermediate intensity). (*continued on next page)*

COMMODITY REPORT *(continued from previous page)*

- Planting is slower than in 2021, although now gaining in momentum. This was due to inclement weather and delays in delivery of fertilizer. (diminishing effect on corn but neutral on soybeans)
- Decreased orders from China for soybeans consistent with projections of reduced domestic demand due to COVID restrictions and economic slowdown. (transitory downward pressure on soybeans)
- Demand for soy oil to be diverted to biodiesel, exacerbated by concerns over shortages of sunflower oil from Ukraine but easing with lifting of restrictions on export of palm oil by Indonesia (variable upward pressure on soybeans and meal)
- Higher weekly ethanol demand coupled with an increase in production. Year-round E-15 has been authorized but with minimal uptake. (moderate pressure on corn)
- The effect of the May 12th WASDE #624 has now faded. Projections for corn and soybean yield, acreage to be planted and production were revised based on the March Prospective Planting Report. Corn ending stocks were reduced 5.5 percent (neutral on corn price) and soybean ending stocks were raised 19.2 percent. (downward pressure on soybeans and meal)
- Volatility of the Dollar Index (DXY) that declined to 101 on June 2nd down from 105 on May 12th predicating additional exports (slight upward pressure on corn and soybeans)
- Purchase of commodities by hedge funds amid speculation in fluctuating equity and bond markets (upward pressure)

Based on CME quotations U.S. farmers are now receiving and conversely livestock producers and ethanol refiners in the Midwest will pay above $7.30 per bushel for corn delivered in July, down 4.8 percent from the May 25th quotation for July delivery. Crushers will pay $17.30 per bushel for soybeans plus transport and basis for July delivery, up 0.1 percent from the May 25th quotation for July delivery. Soybean meal was down 3.0 percent or $13 per ton, for July delivery, reflecting soybean price and current crush volume, responding to both domestic and export demand for soy oil.

The FAS Export Report released on June 3rd for the week ending May 26th reflecting market year 2021-2022, confirmed that outstanding export orders for corn for the new market year amounted to 12.94 million metric tons (509.4 million bushels) with 46.3 million metric tons (1,823 million bushels) actually shipped. During the past week orders for the 2021-2022 market year amounted to 0.19 million metric tons (7.3 million bushels) with 1.58 million metric tons (62.1 million bushels) shipped. For the current market year shipments of corn to date are 10.7 percent lower than at the corresponding week a year ago. For market year 2022-2023 outstanding sales this week amounted to 5.69 million metric tons (223.8 million bushels), with 0.05 million metric tons (1.9 million bushels) ordered for the following market year. (Conversion 39.36 bushels per metric ton)

The FAS Export Report released on June 3rd 2022 for the week ending May 26th reflecting market year 2021-2022, recorded outstanding export orders for soybeans amounting to 9.93 million metric tons (364.8 million bushels) with 46.67 million metric tons (1,825 million bushels) actually shipped. Weekly soybean orders attained 0.11 million metric tons (4.3 million bushels) with 0.41 million metric tons (14.2 million bushels) shipped. For the current market year to date shipments of soybeans are 15.7 percent lower than for the corresponding week a year ago. For market year 2022-2023 outstanding sales amounted to 12.10 million metric tons (444.6 million bushels), with 0.28 million metric tons (10.4 million bushels) ordered this past week) (Conversion 36.74 bushels per metric ton)

For the week ending May 26th 2021, 188,900 metric tons of soybean meal and cake were ordered for the market year 2021-2022, up 18.3 percent from the previous week. During the past week 169,000 metric tons of meal and cake combined was shipped, down 9.9 percent from the previous week and representing 2.1 percent of the total 8,008,400 metric tons shipped during the current marketing year to date. This quantity is 3.2 percent lower than the previous market year.

Projected harvests and ending stocks were documented in the May 12th WASDE #624,retrievable under the Statistics TAB. The anticipated WASDE #625 will be reviewed in the June 25th edition of EGG-NEWS with projections on quantities harvested and the effect of trade and domestic consumption on ending stocks of corn updated from the May report. Data should take into account the late planting of corn in the U.S. and the predicted consequences of the invasion of Ukraine by Russia. These events will affect world trade and the negative effect on spring planting in the Ukraine currently in progress.

The following quotations for delivery for the months of delivery as indicated were posted by the CME at 15H00 on June 2nd 2022, compared with values posted at 14H00 on May 26th 2021 (in parentheses):

COMMODITY		
Corn (cents per bushel)	July 729 (766) .	Sept. 703 (734)
Soybeans (cents per bushel)	July 1,730 (1,728).	Sept. 1,580 (1,584)
Soybean meal ($ per ton)	July 416 (429).	Sept. 402 (417)

Changes in the price of corn, soybeans and soybean meal over four trading days this past week were:

Corn:	July quotation down 37 cents per bushel	(-4.8 percent)
Soybeans:	July quotation up 2 cents per bushel	(+01 percent)
Soybean Meal:	July quotation down $13 per ton	(+0.7 percent)

For each $1 per ton (2.8 cents/bushel) change in corn the cost of egg production would change by 0.11 cent per dozen

For each $10 per ton change in the price of soybean meal the cost of egg production would change by 0.35 cent per dozen

(*continued on next page)*

COMMODITY REPORT *(continued from previous page)*

The respective changes in the prices of corn and soybean meal for June 1st spot prices compared with May 25th would lower nest-run production cost for eggs by 2.1 cents per dozen. *(rounded to 0.1cent)

According to the May 12th WASDE #624, corn harvested in calendar 2022 will attain 14,460 million bushels with ending stocks projected at 1,360 million bushels down 5.5 percent from the April 2022 WASDE Report. Total corn stocks on December 1st 2021 amounted to 11.6 billion bushels up 3 percent from December 1st 2020.

Soybeans continue to be the beneficiary of export demand by China although lower than the previous market year. Exports are maintained by supplying other nations in addition to domestic livestock production and demand for soy oil. The USDA projected a harvest of 4,640 million bushels in the May WASDE #624. Ending stocks were increased 15.4 percent from 260 to 310 million bushels. Total soybean stock on December 1st 2021 amounted to 3.15 billion bushels down 14 percent from December 1st 2020 indicating the extent of exports during the 2020-2021 market year.

The CME soybean price for July delivery at 15H00 on June 2nd was higher by 2 cents per bushel to 1,730 cents compared to 1,728 cents per bushel for July delivery quoted last week. The increase in the price of soybeans continues a trend from the previous week and is attributed to the invasion of Ukraine with disruption of the winter harvest and spring planting. Predictions of lower yields in Argentina, Paraguay and Brazil vary but Dan Basse of AgResource recently estimated a 2.9 billion bushel shortfall (116 million metric tons). This is more extreme than the conservative USDA estimate of 0.66 billion bushels (24 million metric tons).

For consecutive calendar years 2017 through 2019 the U.S. supplied 34.4 percent of soybean requirements for China amounting to 95.5 million metric tons. This was followed by a decline to 16.9 percent of 88.5 million metric tons in 2018 and 16.6 percent of 88.0 million metric tons in 2019. The USDA anticipated that soybean imports by China would attain 95.0 million metric tons during the 2020-2021 market year but in reality only 60.3 million tons was shipped through August 2021.

For the 2019/2020 market year China imported 2.1 million metric tons of corn from the U.S., 4.8 percent of total exports of 43.3 million tons, but 12 percent less than in the 2018/2019 market year. The USDA-FAS documented sales of U.S. corn to China through late August 2021 comprising the 2020/2021market year amounting to 73 million metric tons (2,876 million bushels) with 93 percent shipped.

For 2021 the U.S. exported corn to the value of $17,473 million, 112 percent more than in 2020 and comprising 10 percent of the value of all U.S. agricultural exports.

For 2021 the U.S. exported soybeans to the value of $26,476 million 48 percent more than in 2020 and 15 percent of the value all U.S. agricultural exports. □

USDA: Grain consumption will exceed production in 2022-23 *(continued from page 42)*

The rainy weather and shortened growing season are likely to prompt even more farmers to trade corn acreage for soybeans, StoneX chief commodities economist Arlan Suderman told the U.S. Soybean Export Council. And the U.S was already on track to grow its largest soybean crop on record, primarily due to the increased cost of farm inputs such as fertilizer, according to USDA's May reports.

Nathan Thompson, an associate professor of agricultural economics at Purdue University, estimated that the odds of corn prices falling below US$6 per bushel by the end of this year were less than 20%.

In a typical year, with corn prices escalating as fast as they have, one would expect to see more farmers pivot to corn, Suderman said.

"But it's interesting, the overlay with the fertilizer shortages that we have, and the wet spring," he said.

This isn't the only dynamic in play this season, Suderman continued. While Ukraine has succeeded in increasing its export output 20% by shipping more grain by rail, USDA's estimate of "half a crop" from Ukraine this year looks good but may be slightly too rosy, Suderman said.

"I'm hearing reports of chemical shortages — fuel shortages, fertilizer shortages," he said. Other reports, he said, tell of agricultural infrastructure being targeted by Russian soldiers, with grain elevators destroyed and equipment stolen.

And then there's China, which Suderman said seems poised to increase its consumption of soybeans and especially corn this fall.

"They're worried about short corn supplies in the world and want to make sure they get their share of supplies before others do, and they are going to buy it even if they don't need it," he predicted.

Xiaoping Zhang, greater China regional director for the U.S Soybean Export Council, agreed with Suderman's assessment. Chinese farmers have suffered huge financial losses from a combination of rapid cost increases and falling pork prices triggered by African swine fever and COVID-19, he said. But the country is expected to relax COVID restrictions this summer and consumers are eager to resume travel and entertainment.

"If we can get a clue of the demand growth from several factors such as the expected stepping off of the bottom in the pig farming cycle, the expanding poultry industry, and the reopening of economic activities later this year," he said, "even with a 1-1.5% drag on GDP due to major lockdowns for a couple of months this spring, the volume of economic growth will still be enormous." □

CONGRATULATIONS 2022 GRADUATES!!!!

Alexus
Daughter of
Keisha Hooper
Tyson Foods OBC

Mary
Daughter of
Matthew Pitts
Tyson Foods OBC

Kate
Daughter of
Mark Hamby
Cobb-Vantress

Addison
TPA Intern
Tracy's
Granddaughter

4-H BBQ chicken sauce

- 1 cup apple cider vinegar
- 2 tablespoons salt
- 1/3 cup cooking oil
- 4 tablespoons Tabasco hot sauce
- 1 tablespoon Worcestershire sauce

1/4 teaspoon garlic powder

Mix together ingredients, stirring well while heating.

Do not boil.

Turn and baste chicken every 5 minutes.

Note: Favorite hot sauce may be substituted for Tabasco

Allied Members

Ag Lighting Innovations Stanton Lee (615) 378-0108	**Darling Ingredients** Chris Key 270-893-0252
Alltech Sam Bates (229) 225-1212	**Diamond V** Jason McCamy 256-506-7194
Animal Health International Jeff Sims (256) 504-2588	**Distribution International (Silvercote)** Jordan Helms (864) 315-7225
Arm & Hammer Animal Nutrition Barry Fuller (256) 565-6642	**Diversified Ag** Brad Bowen (479) 879-2832 Chris Nelson (270) 499-0315
BankPlus Kenny Williamson (601) 850-7306	**Ecodrum Composters** Byron Irwin (701) 446-6139
Best Veterinary Solutions, Inc. Van Harper (812) 259-9146	**Elanco** Kevin Holt (706) 889-5754
Big Dutchman Jeff Ratledge (616) 283-4527	**Fairmount Poultry** Mark Owens (706) 337-5941
BioSafe Systems Chynette Todd (931) 704-2336	**Farm Credit Mid-America** Devin Gilliam (615) 708-8590
Boehringer Ingelheim Mike Johnson (678) 644-8463 Randy Segars (209) 535-6249	**Farmers Poultry Supply** Andy Ratliff 256-734-5485
Ceva Biomune Todd Grisham (256) 503-5726	**FarMor** Jake Clements 270-864-8828
ChemStation Mid-South Roy Brown (901) 345-5333	**First Financial Bank** Allen Ginn (770) 531-4343
ChemTrade Logistics Kerry Preslar (770) 530-9820	**Frost PLLC** Erica Rachal (229) 516-0398
Chore-Time Poultry Brent Escoe (706) 338-8570	**Georgia Poultry Equipment** Mike Sears (479) 435-4255
Clear View Enterprises Johnny Smith (770) 712-0015	**Goggin Warehousing** Keith Bellenfant (931) 225-1206
Cole Agency Rusty Russell 478-472-2010	**GrassWorx** Larry Dean (314) 997-8659 Serge Traylor (314) 276-0917
CT Consulting Chynette Todd (931) 704-2336	**Huvepharma** Evan Bartley (417) 813-7212 Joe Williams (205) 412-0192
Cumberland Poultry Brian Johnson (217) 820-3530 Randy Stidham (217) 561-6527	**Innovative Poultry Products** Chad Brubaker (803) 571-3345
D & F Equipment Sales Greg Cagle (256) 528-7842	**Integrity Testing & Inspection** Josh Thrash (270) 570-0494
Danisco Animal Health (IFF) Bob Moore 908-433-7989	**International Paper** Russ Bratton (731) 501-9164

Allied Members

J.B. Hunt
Jeannell Goines
(256) 603-2607

JBT Corporation
Jody Howell
(770) 530-1895

Johnson Farm & Agribusiness Insurance
Wes Johnson
(336) 655-9710

Jones-Hamilton Co.
Jonathan Peeples
(706) 255-6201

K Supply Co., Inc.
David Walker
(256) 894-0034

Kemin Animal Nutrition and Health
Wes Sullivan
(870) 403-6991

Lhoist NA
Barry Collins
(931) 368-9057

Live Oak Bank
Michael Imming
(910) 499-4687

Lubing
Chris Hawk
423-595-4160

Marel, Inc.
Brad Powell
(256) 738-5384

Merck Animal Health
Paul Burke
(615) 804-3564

New Holland
Dakotah Walker
(423) 215-3804

Nutra Blend
Randy Holliman
615-218-1420

PeroxyChem
Brandon Cryar
(334) 434-4748

Phileo
George Perigo
(706) 889-5068

Phoenix Sentry
Bob Reeves
936-598-2761 or 936-591-1900

Portacool
Brian Mulkey
(706) 263-0308

Poultry Guard
Clint Lauderdale
(256) 636-3303

Poultry South
Robert King
(256) 252-9239

Premier Generators
Fred Peterson
(931) 265-0138

Proxy-Clean Products
Mary K. Foy
(479) 387-6972

QC Supply
Jerry King (270) 733-4900
Luke Barnes (731) 479-9955

Quality Incentive Company
Peter Krstovic
(404) 431-0792

Rabo AgriFinance
Kurt Baggett
(731) 225-9216

Reliable Poultry
Kendall Proctor (479) 601-2676
Mike Burleson (270) 590-2546

River Valley AgCredit
Bruce Bradford
(423) 240-2954

River Valley Ingredients
Richard Stewart
(770) 886-2250

Silver Bullet Water Treatment
Shannon Woodard
(303) 500-1578

Smith Creek, Inc.
Jeff Roll
(812) 431-1579

Southland Organics
Allen Reynolds
(800) 608-3755 ext 701

Southwestern Sales Co.
David Cook
(479) 427-8005

Sunbelt Rentals, Inc.
Bart Smith
(205) 602-2485

Superior Plus Propane
James Watson
(404) 307-3491

Swallows Insurance Agency
Gabe Colwell or Greg McDonald
(931) 526-4025

TN Corn Promotion Council
Carol Reed
(731) 819-7111

Tennessee Farmers Co-op
Jimmy Ogilvie
(615) 714-3212

Thompson Gas
Dave Bobich
dbobich@thompsongas.com

TriGreen Equipment
https://www.trigreenequipment.com/
marketing@trigreenequipment.com

UT - Extension Rob Holland (865) 974-7112	**Vincit Group** Eric Killen (423) 504-1974
Val-Co Brian Phillips (601) 850-3844	**Weeden Environments** Jake Smith (870) 680-7382
Vaxxinova Greg Hanson (334) 494-6373	**Westan Insurance Group** Portis Tanner (731) 885-5453
Viand Group Maggie Smith (931) 607-4176	**Zoetis** Jason Hicks (706) 768-4088

Hensley Named TFBF Public Policy Division Director

April 14, 2022 at TNFarmBureau.org

Kevin Hensley has been named director of Tennessee Farm Bureau Federation's Public Policy Division announced TFBF Executive Vice President Rhedona Rose. As director, Hensley will lead and oversee Farm Bureau's grassroots policy development and policy implementation activities including working with county farm bureau leadership, state and federal lawmakers, agency personnel and the various agricultural commodity organizations. *Click here for full press release*

TPA Vice President Clint Lauderdale with Poultry Guard showing one of 100 fish caught while night fishing with neighbors!!! 100 FISH!!!

A special thanks to Isaiah Knowles from Tennessee Valley Aerials for sending us photos of the progress at the new Aviagen feed mill !!! We sure do appreciate you.

Tennessee Poultry Association

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

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

Member Services
Tracy Rafferty
(270) 363-2078
tracy@tnpoultry.org

Follow us on Facebook and Twitter

Tennessee
Poultry Association

Youth Art Contest Entry Rules

TPA welcomes participation in our 6th annual art contest for youth. All entries will be displayed and judged during the TPA Annual Meeting & Summer Getaway on August 19-20, 2022, at the Gaylord Opryland Resort & Convention Center in Nashville.

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

Who is eligible: Family members (children, grandchildren, nieces/nephews, step-children, etc.) of TPA grower members, TPA poultry complex employees, or affiliated TPA allied company members are eligible to submit entries. There will be three age categories: 9 and under, 10-14, 15-18 (age as of August 1, 2022).

Our **Eggceptional Friends of Poultry** category is reserved for children up to age 18 who have a diagnosed exceptionality. Those qualified to enter in this category may submit a drawing, painting or other project that fits their individual gifting. Some suggestions could include, but are not limited to poultry related photography, posters with pictures or cutouts, Lego or Popsicle stick buildings, etc.

Awards: Each group will have 1st, 2nd, and 3rd place winners that will be awarded ribbons and will be eligible to receive cash prizes of $100, $50 & $25 respectively for each age division. There will also be an overall *Best of Show* entry awarded as well as a *Best of Show* for the Eggceptional category, which will both subsequently be auctioned off during the TPA fundraiser on Aug. 20 in lieu of the cash prize. All proceeds from the sale of the winning art piece will be awarded to the artist as a scholarship.

Media:

- Art will need to be submitted on 8½ by 11 inch rigid canvas, sketch or cardstock paper
- Framed entries **will not** be accepted, but all entries must be suitable for framing
- Drawings and paintings are the only types of media that can be entered unless entering in the *Eggceptional Friends of Poultry* category
  - Drawings include: pencil, charcoal, colored pencil, ink, markers, etc.
  - Paintings include: acrylic, oils, tempera, watercolors, etc.

Entry: All entries must be received at the TPA Annual Meeting at the Gaylord Nashville no later than 3 p.m. on Friday, August 19, 2022. Mail-in entries are discouraged, so if you are not attending the meeting please send your artwork with someone who is.

Include: Please complete and submit the attached TPA Art Contest Entry Form. Artwork will not be returned unless the attached form and requested information is submitted. ***Please also put your name and age on the back of your art piece.***

Judging: All entries will be judged by a panel of industry representatives during the TPA Annual Meeting on August 19th.

Information:

- The art will stay on display through the evening TPA banquet on August 20th.
- Photo rights of all artwork become property of TPA for use on social media and for promotional efforts.
- TPA is not responsible for lost or damaged entries.
- TPA will auction off the *Best of Show* art pieces. They will not be returned to the artist. Please allow two weeks for remaining entries, ribbons and prize money to be mailed.
- TPA is not responsible for the receiving or condition of mailed in entries.
- Contact tracy@tnpoultry.org or 270-363-2078 for more information.

Tennessee
Poultry Association

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

TPA Art Contest Entry Form

Name: _____

Age: _____ Contact Phone Number: _____
(As of August 1, 2022)

Family member's name: _____

Relationship: _____ Hometown & State: _____

Employer: _____

Or grows for: _____

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

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

_____

_____

_____
City State Zip Code

TPA is <u>not responsible</u> for the condition of artwork or for any losses or damages.

Please include this entry form along with your entry to be received by TPA *no later than* August 19, 2022 at 3 p.m. at the Gaylord Opryland Resort & Conference Center, Nashville.

For more information contact tracy@tnpoultry.org or 270-363-2078