www.WATTPoultry.com

WATT GLOBAL MEDIA

WATTPoultry® USA

The magazine for the integrated poultry industry

JULY / AUGUST 2025

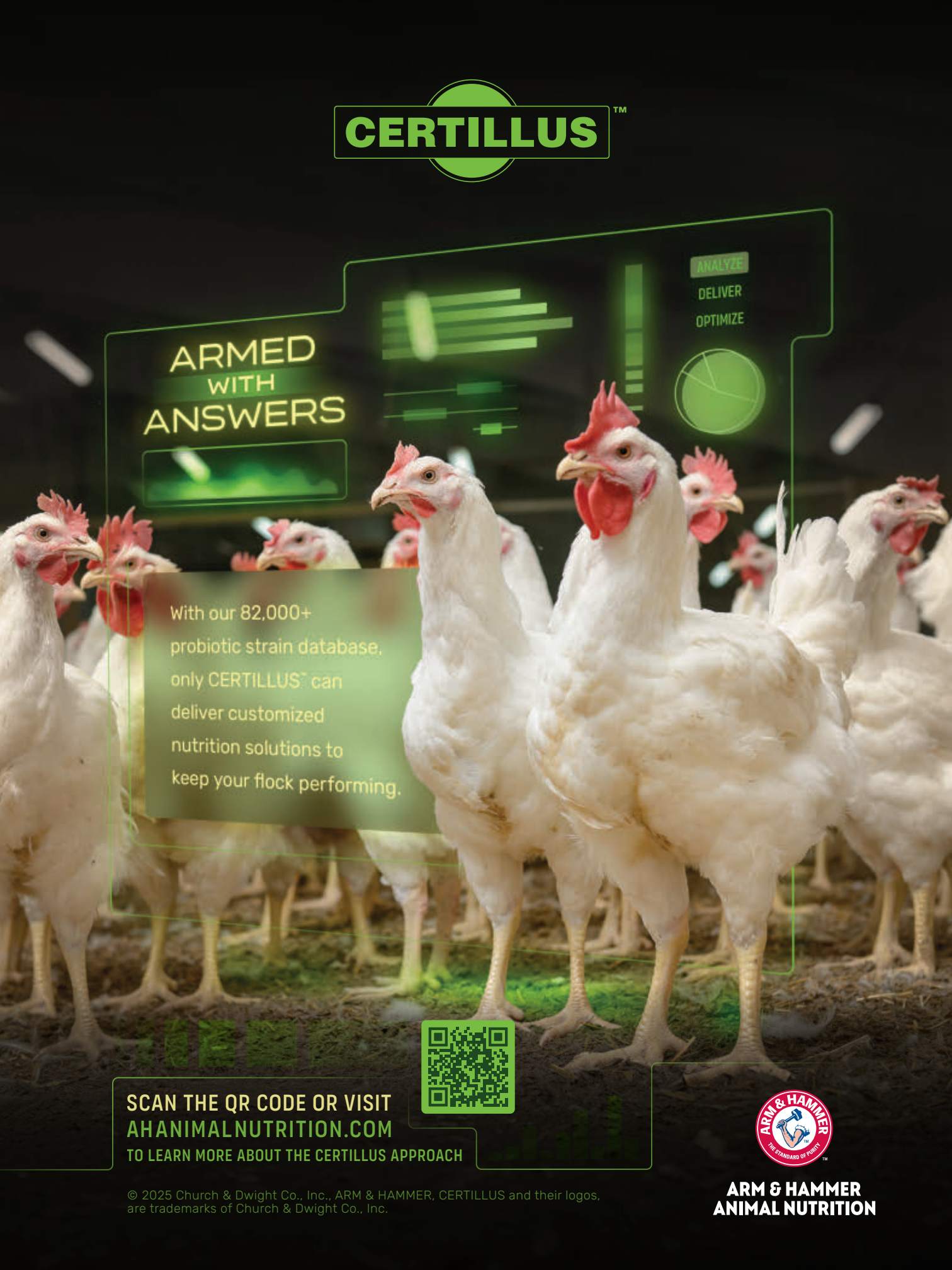
Chicken supply chain shines as demand for convenience grows

Marek's disease continues to challenge broiler producers

4 technologies shaping the future of poultry processing

SCAN HERE

WATTPoultryUSA-digital.com



ARM & HAMMER ANIMAL NUTRITION

VOLUME 26 NUMBER 5

WATTPoultry USA

The magazine for the integrated poultry industry

JULY / AUGUST 2025

Cover Story

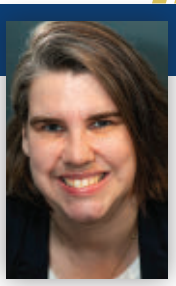
Features

Cover image by: Farknot_Architect I iStock.com

Next on the Plate

Departments

NEXT ON THE PLATE



Editor's Comment

BY ELIZABETH DOUGHMAN

Human drug could counter declining breeder hen fertility

The broiler industry has a new tool that could boost breeder hen fertility: the drug metformin.

Broiler breeder hens experience declining fertility as they age, forcing producers to replace flocks more frequently than ideal. This cycle drives up costs through increased pullet procurement, housing transitions, vaccination programs and the inevitable production gaps during flock changes.

New research from Pennsylvania State University suggests metformin could extend productive laying periods, potentially reducing these turnover costs by keeping hens fertile longer. Metformin is commonly prescribed to treat type 2 and is also used off-label to treat the symptoms of the main cause of infertility in women, polycystic ovary syndrome (PCOS), according to the National Institutes of Health (NIH).

The study, published in the *Biology of Reproduction,* revealed that hens given metformin over a 40-week period laid more fertile eggs, had lower body fat and had healthier reproductive hormone levels than the control group.

Advanced gene sequencing technologies showed that metformin works at the liver level, which is where egg yolk precursors are produced.

"The study found that metformin influences liver gene expression by activating genes involved in yolk precursor production and glucose regulation while suppressing genes associated with fat accumulation. This metabolic shift helps older hens maintain better reproductive health and continue producing eggs beyond their typical decline period," Evelyn Weaver, lead author of the study and postdoctoral fellow at the PSU Department of Animal Science, told me.

Although more work is needed before any official conclusions can be made, the findings of this study become even more exciting once you realize that metformin is inexpensive, quickly metabolized and poses no food safety concerns — addressing potential regulatory and consumer acceptance hurdles before they arise.

According to U.S. Department of Agriculture data, the number of broiler chicks produced has steadily declined over the past several years, so this and other approaches to boosting broiler breeder fertility need to be a priority for the entire industry. ■

WATTPoultry® USA

WATT GLOBAL MEDIA®

WATTPoultry.com

Corporate Headquarters
401 East State Street, 3rd floor
Rockford, IL 61104 USA
Tel: +1.815.966.5574

Contact us at:
www.wattglobalmedia.com/contact

Subscription questions:
+1.855.896.3491
wattpoultryusa@omeda.com

Publisher:
Greg Watt

Director of Content:
Terrence O'Keefe

Editorial Team
Editor-in-Chief: Mark Clements
Editor: Elizabeth Doughman
Digital Content Director: Jim Winter
Managing Editor: Meredith Dawson
Associate Editor: Emma Cottrell
Senior Reporter: Roy Graber
Social Media & SEO Editor: Kathleen McLaughlin

Art/Production Team
Senior Art Director: Tess Stukenberg
Production Manager: Jim Riedl
Senior Production Coordinator: Connie Miller

Sales Team
USA/Canada
Sales Director - Agrifood: Chad Forster, Midwest, West, Canada
Regional Manager: Mary Harris, East, Southeast

Europe, Latin America, Asia, Africa
Tineke van Spanje

China
Dingding Li

Social Media
https://www.facebook.com/WATTPoultry
www.youtube.com/WATTPoultryTV
https://www.linkedin.com/showcase/WATT-Poultry

DECADES OF INNOVATION IN POULTRY PACKAGING SOLUTIONS

Discover Amcor to learn more about packaging that enables consumer trends, drives operational efficiencies and grows share for brands.

Choose better with Amcor.

800-544-4672 | NorthAmericaFlexibles@amcor.com

amcor

WATTPoultry.com® News and analysis for the global integrated poultry industry

Click the links to read **WATTPoultry** news
▶ www.WATTAgNet.com/topics/459

Scoop coop poop for a more sustainable poultry industry

New research encourages chicken producers to share bird feces to better understand the impacts of pastured and free-range housing systems on local ecosystems.
www.WATTAgNet.com/15746692

angintaravichian | iStock.com

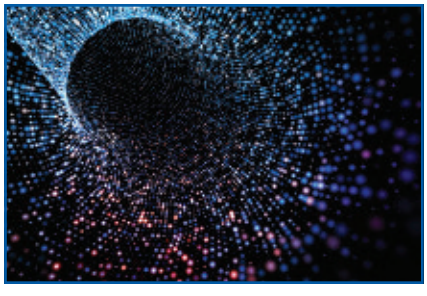
U.S. Senate Committee on Agriculture, Nutrition, and Forestry | LinkedIn

Vaden confirmed as USDA Deputy Secretary

The Tennessee native returns to the agency, having earlier served as general counsel.
www.WATTAgNet.com/15748191

US poultry industry undergoing an automation revolution

Growing consumer demand and high labor costs are making automation in processing more important than ever.
www.WATTAgNet.com/15747001



Marvelous Studio | BigStock.com

davi85 | AdobeStock.com

Omega-3 in broiler breeder diets could improve chick growth

Findings suggest that feedstuffs rich in omega-3 fatty acids could have an impact in all commercial poultry.
www.WATTAgNet.com/15747323

2026 WORLD'S POULTRY CONGRESS

SAVE THE DATE: JULY 13-17, 2026

Toronto, Ontario, Canada

Find more information at: www.wpc2026toronto.com

ABSTRACT SUBMISSION WINDOW OPENS
JUNE 12, 2025 AND CLOSES ON SEPTEMBER 1, 2025

Learn more about abstract submissions:

Sponsor this important meeting:

Brought to you by the North American Branches of the World Poultry Science Association.

FUTURE OF POULTRY PODCAST

SPOTLIGHT ON WHAT'S NEXT FOR THE POULTRY INDUSTRY

Rearing insects for human consumption: Lessons for the poultry industry

Mark Clements, editor-in-chief poultry with Watt Global Media is joined by Dr. Nils Grabowski, head of Insect Hygiene and Technology the University of Veterinary Medicine Hannover, to look at the myths surrounding human consumption of insects and what developments in the area might teach the poultry industry.

www.WATTAgNet.com/15745095

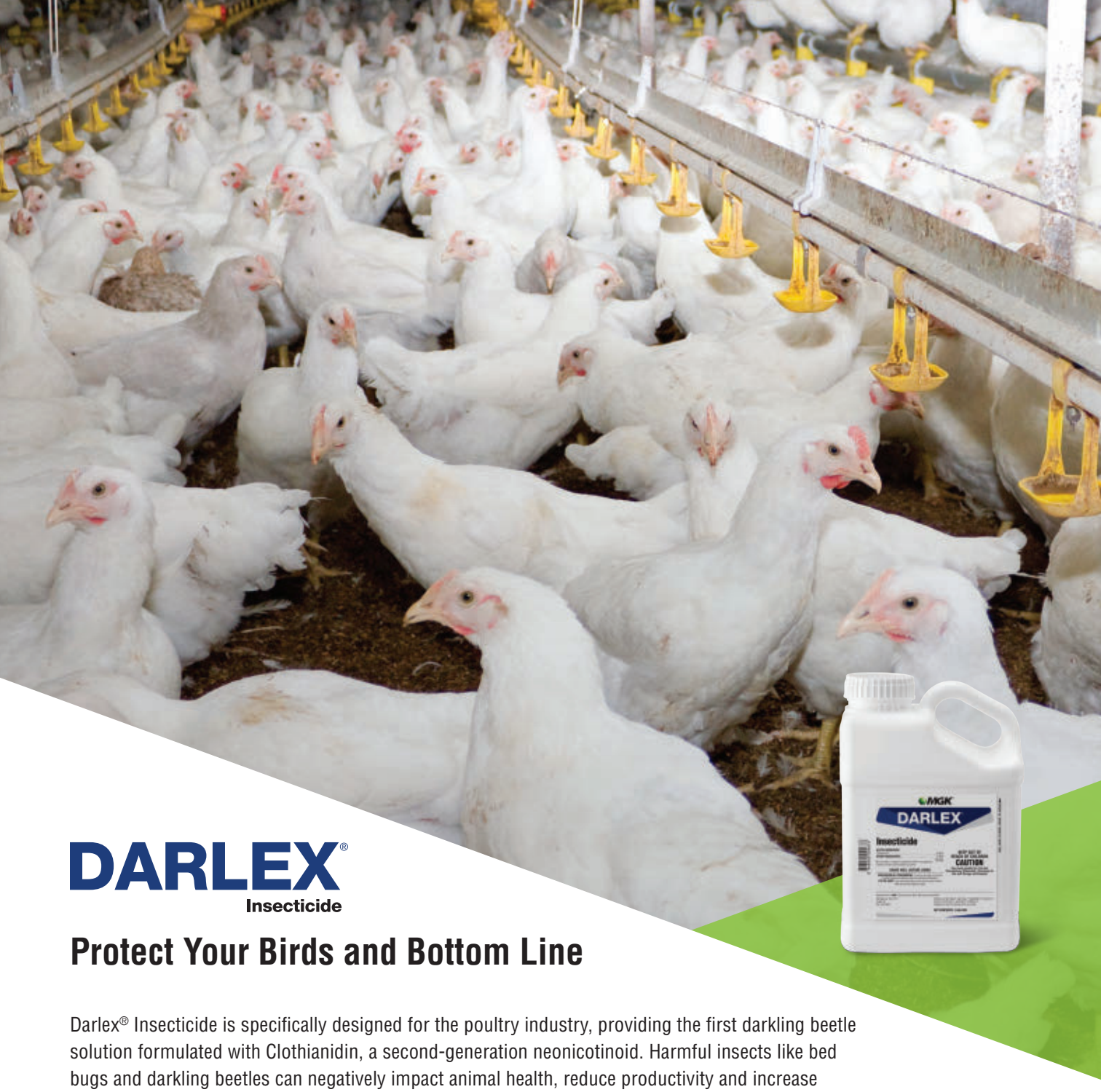
Scan the QR code to listen.

How chicken can win in the relentless pursuit of protein

Nick Fereday, executive director, Rabobank and Christine McCracken, protein analyst, also at Rabobank, share their thoughts on how chicken can benefit from the adoption of GLP-1 weight loss drugs, the Make America Healthy Again movement and other changes to consumer perceptions of health and nutrition.

www.WATTAgNet.com/15746204

Scan the QR code to listen.



DARLEX®
Insecticide

Protect Your Birds and Bottom Line

Darlex® Insecticide is specifically designed for the poultry industry, providing the first darkling beetle solution formulated with Clothianidin, a second-generation neonicotinoid. Harmful insects like bed bugs and darkling beetles can negatively impact animal health, reduce productivity and increase operational costs. Darlex delivers long-lasting, effective control to help protect your operation.

Features & Benefits:

- Premise insecticide for use in and around poultry facilities
- Controls both larvae and adult darkling beetles
- For broadcast and band applications
- Kills bed bugs, darkling beetles and nuisance ants

SCAN HERE

MGK.com/Darlex

MGK®

» NEXT ON THE PLATE

Poultry Market Prospects BY MARK JORDAN

Apparent paradigm shift upends chicken wing market

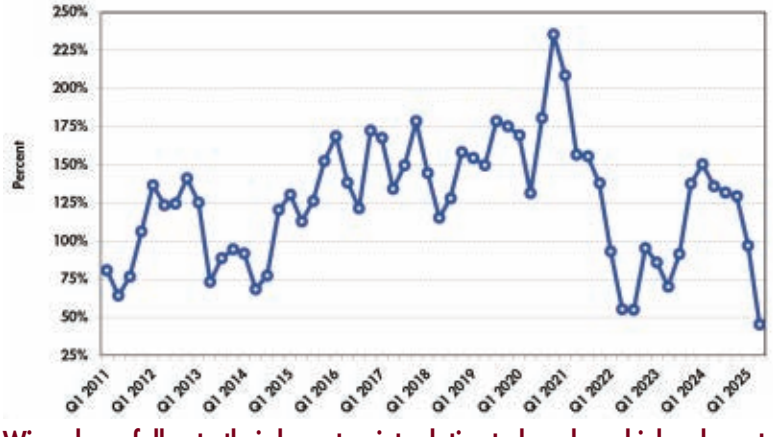
Demand growth for wings has consistently outstripped other chicken parts over the past few decades, but that era may finally be coming to an end.

Most consumers today probably take for granted just how ubiquitous traditional bone-in chicken wings are in the foodservice space, in large part because their popularity has been a long time in the making even though it is a relatively recent phenomenon for that popularity to reach a fever pitch.

While there were no doubt contributing events prior to this, a widely held origin story for flavored chicken wings in a restaurant setting can be traced to 1964 and a dish first offered at the Anchor Bar in Buffalo, New York. The idea behind what became known as "Buffalo-style chicken wings" spread rapidly, although it wasn't until the 1980s or 1990s when the trend arguably went mainstream.

Demand growth in the foodservice space based on the wing concept accelerated coming into the 2000s, not only through store count expansion but also increasingly creative flavors beyond the original hot and spicy Buffalo-style offering to help the category remain trendy.

Whole Wing Price as % of Boneless Skinless Breast Meat Price



Wings have fallen to their lowest point relative to boneless skinless breast meat since 2003. *Sources: USDA, LEAP Market Analytics (Q2 2025 forward forecast)*

Demand growth boosts prices

Because the U.S. broiler industry was also expanding aggressively due to efficiency gains in feed conversion and processing technology while chasing demand growth in other, more prominent, categories like boneless skinless breast meat, during the early phase of this boom period for wing demand, the impact on prices was relatively tame.

With the industry expanding at a slower rate overall after the turn of the century and demand growth for wings still accelerating, upward pressure on the wing market became much more noticeable. That said, it wasn't until 2009 that spot whole wing prices averaged higher than spot boneless skinless breast meat prices over a full calendar year.

While that relationship fluctuated in subsequent years, it became an increasingly common sight for wings to carry a premium to breast meat, and by 2015, it was happening on

a consistent enough basis to where it seemed wings had supplanted breast meat as "price leader" for the complex. That trend culminated in late 2020 with wing prices more than doubling breast meat prices.

Seismic shift in response

With the price imbalance between wings and breast meat reaching historic territory and surveys reflecting a growing tendency among younger consumers, increasingly the decision-makers for household food purchases, to favor boneless chicken products over traditional bone-in wings, it seemed inevitable there would be a reckoning for the wing market.

Sure enough, it crashed hard and spent most of 2022 and 2023 trading at a discount to breast meat. The wing market mounted a valiant comeback last year, but that proved to be a temporary swing, and wing prices remained well short of their previously lofty position relative to breast meat.

It seems like chicken products are as popular as ever, but the focus now is primarily sandwiches, wraps, strips and other similar items incorporating boneless white meat instead of bone-in wings. As a result, the bone-in wing market is languishing again. Bone-in wings aren't just trading at a discount to breast meat; they're on track to average less than 50% of the breast meat market during the second quarter of 2025. Wing prices haven't traded that low relative to breast meat over a full quarter since 2003.

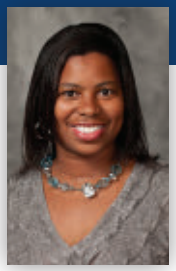
Prices remain important signals for downstream market participants, so the relative affordability of the wing market right now will likely start drawing attention at some point, but it is possible that we have entered a new era where wings no longer dominate the pricing landscape for chicken. ■

Mark Jordan is executive director at LEAP Market Analytics.

NEXT ON THE PLATE

U.S. Poultry & Egg Association

BARBARA JENKINS



Gain poultry industry expertise at USPOULTRY events

Seminars and conferences offered throughout 2025 offer industry knowledge to keep companies operating efficiently.

Courtesy USPOULTRY

Looking for ways to enhance your poultry and egg industry knowledge or to learn innovative ways to help keep your company operating efficiently? Well look no further. U.S. Poultry & Egg Association's (USPOULTRY) 2025 seminar and conference schedule is in full swing.

USPOULTRY's mission is to "progressively serve its poultry and egg members through research, education, communications and technical services," with a vision of "being the leading technical resource and voice for the feather industries."

In keeping with its mission, USPOULTRY offers 11 annual education programs for expertise in nearly every career field in the industry. These programs allow industry professionals to get the continuing education necessary to grow their knowledge to keep their company and the industry moving forward. Others, such as Poultry Wastewater Operators Training, are scheduled upon industry need and request.

Here is the schedule of events for the rest o f 2025. We encourage you to take advantage of these education opportunities and look forward to seeing you there.

Hatchery Breeder Clinic
July 8-9, Nashville, Tennessee
Embassy Suites Downtown

National Safety Conference for the Poultry Industry
August 18-20, Destin, Florida
Hilton Sandestin Beach Golf Resort & Spa

Women's Leadership Conference
August 21-22, Destin, Florida
Hilton Sandestin Beach Golf Resort & Spa

Live Production, Welfare & Biosecurity Seminar
September 25-26,
Nashville, Tennessee
Embassy Suites Downtown

Environmental Management Seminar
September 18-19, Destin, Florida
Hilton Sandestin Beach Golf Resort & Spa

National Breeders Roundtable
October 14-16,
Kansas City, Missouri
Kansas City Airport Marriott

Poultry Protein & Fat Seminar
October 15-16,
Nashville, Tennessee
Embassy Suites Downtown

Air Cargo Seminars
Dates and Locations TBD

Poultry Wastewater Operators Training
Scheduled Upon Industry Request

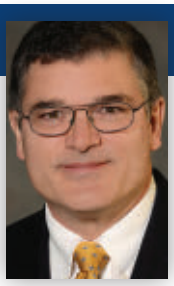
For registration and agenda information, visit https://www.uspoultry.org/programs/education/seminar/. ■

For information about U.S. Poultry & Egg Association and the USPOULTRY Foundation's Youth Outreach Program, contact Barbara Jenkins, vice president, Education and Student Programs, bjenkins@uspoultry.org.


JOIN US
NUTRITION
CONFERENCE
The POULTRY FEDERATION
SEPT. 23-25 / ROGERS, ARKANSAS
The Nutrition Conference hosted by The Poultry Federation is an annual educational event that is focused on bringing in technical experts nationally and internationally to address current topics and concerns in poultry nutrition.
Scan QR Code to learn more and to get registered.
TECHNICAL SYMPOSIUM SPONSORED BY
HUVEPHARMA®

NEXT ON THE PLATE

Food Safety & Processing Perspective BY TERRENCE O'KEEFE



13 innovative solutions for poultry production challenges

Natali_Mis | iStock.com

The 2025 Poultry Tech Summit will feature presentations of technologies and innovations that can provide new opportunities and address challenges.

The Poultry Tech Summit returns to Atlanta, Georgia, November 3-5, 2025, as the in-person gathering for innovators, entrepreneurs and poultry industry professionals. As always, the highlight of the Summit promises to be the "Innovation Presentations," which this year will highlight 13 new products in various stages of development that offer solutions for significant poultry industry challenges. These innovators are looking for partners to help with the further development and successful introduction of their innovations. This help could come from poultry producers partnering with field trials or in the form of financial investment from venture capitalists or other technology companies.

2 poultry product food safety innovations

Poultry meat bird producers are always looking for ways to improve the safety of the products they produce, while at the same time are being challenged to reduce water and chemical usage in processing. The Summit will have two presentations featuring systems for cleaning and reducing bacterial loads on carcasses and parts: one using an electrostatic sprayer, another using high-pressure micro-droplets. Both systems have the potential to reduce bacterial load on ready-to-eat finished poultry meat products while also significantly reducing water and chemical usage.

2 novel poultry health treatments

Poultry producers have been tasked with reducing antibiotic usage while still seeking continuous improvement in flock health. The Summit will feature two nonantibiotic treatments/preventives to help with challenging disease and foodborne pathogen issues. One innovation is a phage-base platform for control of bacteria in poultry. The other innovation presents an endolysin based treatment for controlling *Clostridium septicum*, a causative agent for necrotic dermatitis in turkeys. This system uses the same methodology developed for preventing necrotic enteritis in broilers.

Titles of other innovation presentations:

- The future of poultry is female: Only Lady Layer chicks
- Data driven poultry biosecurity through waste stream analysis
- Plasma-enabled wearable air curtain for personal respiratory protection

BAADER

High-Speed Evisceration & Automatic Giblet Harvesting

- Superior carcas quality and food safety standards
- Real-time data capturing and reporting with Allen Bradly controls
- Performance monitor screen that displays pack transfer percentage of each unit
- Comprehensive preventative maintenance program

Manufactured and Supported in the USA

Scan the code to watch the video or visit us at baader.com for more information.

bfs-us@baader.com | 1-800-288-3434

ADVANCING THE FUTURE OF POULTRY, TOGETHER

POULTRY® TECH SUMMIT

November 3-5, 2025
Atlanta, Georgia

In collaboration with

US-RSPE
U.S. ROUNDTABLE FOR SUSTAINABLE POULTRY & EGGS

November 4-5, 2025
Atlanta, Georgia

Experts will discuss the challenges and present solutions for:

- Animal health
- Welfare
- Biosecurity
- Food safety
- Sustainability
- Technology

REGISTER TODAY for instant savings! **SIGN UP** at: PoultryTechSummit.com

NEXT ON THE PLATE Food Safety & Processing Perspective

- Process monitoring on deboning lines
- Phosphorus absorption optimizer for poultry diets
- Achieving autonomy in harvest planning with AI and computer vision
- Scalable camera-based poultry monitoring
- Utilizing existing farm sensor data to identify triggering of the bird's immune response
- MRI in the hatchery for evaluating embryo sex and other characteristics

Attend the 2025 Poultry Tech Summit

The Poultry Tech Summit will return as an in-person event on November 3-5, 2025, at the Atlanta Airport Marriott in Atlanta, Georgia. The event focuses on the transition of innovative technologies from researchers and entrepreneurs into commercial applications for the benefit of the poultry industry.

NEW in 2025, Poultry Tech Summit will be held in collaboration with the U.S. Roundtable for Sustainable Poultry and Eggs (USRSPE) annual meeting held November 5, 2025.

Registration for the 2025 Poultry Tech Summit is now open.

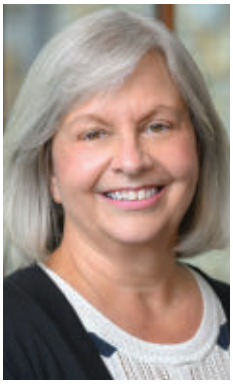
For more information, go to www.poultrytechsummit.com.

Chicken supply chain shines as demand for convenience grows

From air fryer-ready products to single-serving cuts, advances in technology have helped the industry transform whole birds into options that reduce prep time and cooking complexity.

ELIZABETH DOUGHMAN

The chicken industry is rapidly evolving to meet the demands of time-pressed consumers who prioritize convenience and speed in meal preparation. With millennials and younger generations juggling careers and children, the industry is responding with innovative digital solutions and product adaptations that align with modern eating habits.



Joyce Neth
Courtesy WATT Global Media

"Consumers told us that spending less time on meal prep was a high priority," Joyce Neth, vice president and director of audience engagement for WATT Global Media explained.

"Millennials and younger generations are busy with careers and children and want food that is 'easy' as well as fast."

This shift reflects changing household dynamics where family members maintain different schedules and often eat separately rather than gathering for traditional family meals.

Consumer desire for convenience is also driving a technological revolution when it comes to purchasing chicken. Modern consumers now expect chicken products to come with QR codes with recipes, smart labels with information on how the birds were raised as well as recipe ideas, cooking instructions, online recipes that create a shopping list for all ingredients and tell you where those items are on sale and more.

Compared to other proteins, chicken has established itself as a standout for convenience-first eating habits. The ease of preparation represents chicken's most significant competitive advantage in the current market environment.

"Put plainly, chicken is the easiest mainstream protein to cook and yields more consistent outcomes," added Erkin Peksoz, principal at Circana's Protein Practice. Unlike other proteins that require precise timing and temperature control, chicken's forgiving nature reduces the risk of cooking failures that can discourage inexperienced cooks.

Erkin Peksoz
Courtesy Circana

The protein's dominance extends beyond basic preparation simplicity. Chicken offers the widest variety of pre-prepared, refrigerated convenience options compared to other mainstream proteins. Products including nuggets, breaded wings, and other net-weight formats provide ready-to-cook solutions that eliminate preparation time while maintaining quality and flavor.

Broiler industry adapts

The broiler industry's vertical integration structure enables processors to implement innovative solutions that address growing bird sizes, labor shortages and evolving consumer demands, according to CoBank animal protein economist Brian Earnest.

Brian Earnest
Courtesy CoBank

The industry has faced significant headwinds in recent years, with higher capital costs, elevated interest rates and tighter labor availability leading to a pause in new greenfield plant construction over the past four years. In response, processors have shifted focus to upgrading existing facilities with advanced processing equipment rather than expanding capacity.

"With tighter labor supplies, the industry

is looking at replacing some of that labor with processing equipment," Earnest explained. This technological push has become increasingly critical as average bird weights have increased by approximately one pound over the past eight years, creating new challenges in meeting consumer portion size preferences.

One example of how processors have adapted is direct stream injection (DSI) cutting technology, which can portion larger breast meat into uniform sizes that meet retailer and foodservice specifications. This approach enables industry to benefit from the improved feed conversion efficiency of larger birds while still delivering consumer-preferred portion sizes.

In addition, the value-added chicken segment has evolved dramatically over the past 15 years, driven partly by the popularity of appliances like air fryers. Earnest noted that air fryers are now more common in U.S. homes than coffee makers. Several chicken processors have taken advantage of this trend, for example, in 2024, Perdue Foods released Air Fryer Ready Chicken Wings that were designed to cook easily in the appliance.

THE VALUE-ADDED CHICKEN SEGMENT HAS EVOLVED DRAMATICALLY OVER THE PAST 15 YEARS, driven partly by the popularity of appliances like air fryers.

This trend has enabled consumers to recreate restaurant-quality breaded and par-fried chicken products at home, expanding the market for value-added chicken items beyond traditional take-and-bake formats.

Convenience drives demand

Consumer demand for chicken remains exceptionally strong, with 93% of U.S. consumers eating chicken, making it the most widely consumed protein in the country, according to Lynn Dornblaser, principal consultant at Mintel.

The industry has transformed chicken from primarily whole birds and bone-in parts to an array of convenient formats. For example, skinless, boneless options now dominate retail offerings, available in various pack sizes from large family portions to individually frozen pieces that reduce waste and accommodate different household needs.

Lynn Dornblaser

Courtesy Mintel

Single-serving cuts have largely replaced whole birds, making chicken less intimidating and risky to prepare while reducing cooking time. Modern packaging now includes detailed preparation information, specifying cooking times and compatible appliances including air fryers, toaster ovens and microwaves.

In addition, despite increased competition from plant-based alternatives and other protein sources, there is significant untapped potential in the snacking category, said Dornblaser. "We see such a blurring just in the last five or 10 years between snacks and meals," she explained. "There's an opportunity there for products that are high protein, good solid nutrition, but are a smaller size and can be consumed as a snack."

Focus on consumer pain points

Kevin Ryan, founder and CEO of Malachite Strategy and Research, believes that, going forward, the chicken supply chain should focus on technologies that solve specific consumer problems rather than chasing technological trends for their own sake.

"We must see technology as a means to an end, and not just the thing itself," Ryan said. "Does this technology deliver on a consumer pain point? Does it provide a differentiating benefit for consumers compared to your competition?"

Kevin Ryan
Courtesy Malachite Strategy and Research

Today's consumers expect technology to cut through market noise and deliver personalized experiences in retail and foodservice. With value being a primary concern for many shoppers, technology can help highlight meal deals, sales or budget-friendly chicken recipes.

"I think that's one of the things that technology does. It helps people get what they want," Ryan explained. "Personalization is exciting for consumers. We talk a lot about artificial intelligence (AI), but for the consumer, that has to be translated into something."

When asked about the most exciting food technology innovations in chicken foodservice and retail, Ryan pointed to less flashy but potentially more impactful developments:

- Data integration systems connecting point-of-sale systems with social media sentiment
- Smart inventory systems that improve back-of-house efficiency
- Smart surfaces that reduce contamination
- In-store consumer decision-making tools and apps guiding nutritional purchases
- Health-focused wearable technology that monitors metrics like blood glucose

"The things that really excite me are probably the most mundane," Ryan noted. "There's going to be technologies out there that right now they're not getting a lot of attention, but in aggregate, I think they're going to have a huge impact." ■

SPONSOR SPOTLIGHT

CHICKEN MARKETING SUMMIT®

A.C. LEGG

- A.C. Legg has over 100 years of seasoning experience.
- Our Signature Line offers both established and innovative flavor profiles that are ready for immediate use.
- The majority of our business is custom blending that meets the individual needs and preferences of our customers.
- Our Technical Services and R&D team is equipped with the skills to work with our customers from innovation through commercialization.
- A.C. Legg products fit all your poultry flavor needs from seasonings, rubs, glazes and marinades.

www.WATTAgNet.com/15499675

DELONG'S AUTOMATIC GIZZARD PEELER

- Peels up to 140 chicken gizzards per minute.
- 90% efficiency with minimal gizzard damage.
- Built-in safety switches to protect your team.
- Easy to set up, fits nearly any space.

www.WATTAgNet.com/15747002

ONCE BY SIGNIFY

- We are a global leader in agricultural lighting, dedicated to advancing productivity, animal welfare and energy efficiency through innovative lighting technology.
- With a deep understanding of farming environments, we design and manufacture high-performance lights tailored specifically for animal husbandry applications.
- We are the leader in smart and connected lighting for barns and animal husbandry operations.

www.WATTAgNet.com/15504647

CRYOVAC BRAND COMPOSTABLE OVERWRAP TRAY

- Certified as home and industrial compostable and free of PFAS.
- Approximately 50% lighter than PET trays.
- Lower GHG emissions vs. conventional rigid technologies.
- Pair with CRYOVAC SES overwrap film for the ultimate, sustainable poultry package.
- Runs on existing overwrap equipment, requiring no additional capital costs.

www.WATTAgNet.com/15676617

AVIAGEN

- At Aviagen, Breeding Success Together is our promise to customers and the poultry industry.
- Through innovation, expertise and a focus on sustainability, we drive continuous improvement in bird health, welfare and productivity – supporting operational excellence and a stronger future.
- Our focus areas: Welfare – steady, balanced improvements in bird health and well-being; Sustainability – innovating for a responsible, long-term future; Customer success – expert support to enhance welfare, efficiency and performance; Choice – a diverse portfolio to meet every market need; Innovation – research-driven progress in productivity and sustainability; Future – developing talent to lead the next generation; and Security of supply – reliable delivery of quality breeding stock.

www.WATTAgNet.com/15494626

Novela®

HEALTHY GUT. HEALTHY BIRD.

A healthy and balanced digestive system is the first line of defense between poultry and their environment. An impaired digestive system makes poultry less able to absorb nutrients needed to grow and protect themselves from disease-which compromises the welfare of your flock. Are you looking to populate the digestive system with beneficial bacteria to help restore and maintain a healthy digestive balance?

Don't let unseen microbial pressures draw you down.

THE NOVELA PLATFORM

- **Bacillus strains selected from high performing monogastrics**
- **Performs in the presence or absence of pathogens**
- **Performs in conventional & Antibiotic Free flocks**
- **Available in dry & water-soluble formulations**

UNITED® ANIMAL HEALTH

UnitedAnH.com/Novela

SPONSOR SPOTLIGHT

CHICKEN MARKETING SUMMIT®

CONTINUED

AMCOR GRAB-N-GO HANDLE SHRINK BAG

- Amcor's Grab-n-Go handle comes in 3-hole and single-hole designs to best fit product type.
- Reduces packaging and labor requirements by replacing the need for traditional netting.
- Material and process technology enable an easy and safe way for consumers to carry up to a 22lb product in the 3-hole design and a 5lb product in the single-hole design.
- Grab-n-Go handle technology can be added to a suite of Amcor Shrink Bag products, including barrier and non-barrier applications.
- Amcor's shrink bags offer best-in-class optical features: higher shrink and better gloss than competitor's bags.

www.WATTAgNet.com/15747004

ELANCO MAXIBAN

- Elanco's dual-action Maxiban is a potentiated chemical that's a 1:1 mixture of an ionophore (narasin) and a chemical (nicarbazin) to prevent coccidiosis throughout the bird's life. This combination delivers multiple benefits.
- By combining an ionophore and a chemical at lower doses, Maxiban allows for a wider dose range and extended use with minimal resistance concerns and maximized results.
- Attack cocci in two ways with Maxiban's dual mode of action.
- Coccidiosis prevention also helps protect birds from enteritis and proliferation of the secondary pathogen *Clostridium perfringens.*
- Maxiban is among the most powerful ionophores. Get high performance that fits within animal-use-only antibiotic policies to meet consumer demands.

www.WATTAgNet.com/15667532

MOUNTAIRE FARMS NOOR AL-JABAL FRESH HALAL CHICKEN

- Minimally processed, 100% all-natural.
- Blessed in person by practicing Muslims.
- Third-party certified by Halal Food Council USA.
- Available at scale to meet the growing diverse market demand.

www.WATTAgNet.com/15747006

KEMIN ANIMAL NUTRITION AND HEALTH KEMTRACE CHROMIUM

- KemTRACE Chromium is a water soluble, highly bioavailable, organic source of chromium that helps improve glucose utilization and reduce the negative impacts of stress for increased cellular energy and function.
- Available for use in broiler and growing turkey diets, as well as swine, dairy and beef cattle, and horses.
- KemTRACE Chromium is the only U.S. Food and Drug Administration-reviewed form of chromium propionate.
- KemTRACE Chromium and KemTRACE Chromium-OR (organic-compliant and OMRI Listed) are manufactured in the U.S., sourced from U.S.-based raw materials.

www.WATTAgNet.com/15671457

COBB-VANTRESS

➤ A leading global genetics company specializing in the development, production, and sale of broiler breeding stock.

➤ Genetic excellence – harnessing technology and innovation to help responsibly accelerate genetic progress.

➤ Balanced performance – balancing breeder and broiler performance traits to meet global customer needs.

➤ Global impact – with over 50 generations of genetic progress, Cobb products help contribute to global food security and affordable protein supply.

➤ Technical service – world-class technical experts across the globe helping support our customers from hatchery to processing.

www.WATTAgNet.com/15473228

CANTRELL MECHANICAL SOLUTIONS DAVINCI DPM600

➤ Cantrell Mechanical Solutions DaVinci DPM600 has a simple and affordable design utilizing advanced sensors for cutting precision.

➤ Lowest maintenance cost in the industry.

➤ Unmatched yields vs. competition.

➤ Provides significant labor savings.

➤ Processing speeds of up to 6,400 legs per hour.

www.WATTAgNet.com/15747041

CHORE-TIME CATALYST WHOLE HOUSE CONTROL

➤ Take full control of your poultry house climate, feeding and drinking systems with Chore-Time's CATALYST Whole House Control combined with the CHORE-TRONICS Mobile App and BROADCASTER Alert System.

➤ Stay informed with real-time reporting and a sleek new interface featuring dark mode and intuitive icons.

➤ Remote software and server updates ensure your system is always up to date.

➤ Achieve precise control of your whole house ventilation system with variable speed control.

➤ Designed for ease of use, delivering full house control right at your fingertips.

www.WATTAgNet.com/15747008

PHIBRO

➤ Phibro offers newly acquired solutions for your medicated feed additive needs to equip yourself with the full toolbox of Phibro solutions and services for poultry production.

➤ Phibro offers proven solutions for the prevention of coccidiosis in poultry.

➤ For aid in control and prevention of necrotic enteritis.

➤ Natural solutions that are proven to help support intestinal health and pathogen control.

➤ Solutions that help to reduce mortality rate due to bacterial infections in chickens.

www.WATTAgNet.com/15446229

SMART TECH, SMARTER SUPPLY

Join the industry – REGISTER TODAY!

SIGN UP AT: ChickenMarketingSummit.com

Featuring TWO session tracks:

Chicken at the center of the plate: Who is eating what and why

- Lynn Dornblaser, Mintel

Current efforts to detect, control and mitigate HPAI in the US

- Brian McCluskey, DVM, Ph.D., Lonestar Epidemiology Consulting

Salmonella reduction: A continuous improvement journey

- Bill Potter, Ph.D., University of Arkansas

Winning with chicken foodservice

- Katie Belflower, Technomi

2 thought-provoking panel discussions

Featuring top poultry business leaders and influencers

- Casey Hilder, Starbird
- Shawn Lalehzarian, The Red Chickz
- Rob Levine, Marriner Marketing
- Brian Earnest, CoBank

CHICKEN MARKETING SUMMIT®

July 28-30, 2025

DeSoto Savannah
Savannah, Georgia

How poultry producers can build a strong sanitation program

Effective sanitation and environmental monitoring programs are necessary to prevent food safety issues.

MEREDITH DAWSON

A comprehensive environmental monitoring program should include different types of data collection to drive improvements in sanitation.

ggw | BigStock.com

Operative sanitation and environmental monitoring programs are fundamental to food safety and the reduction of biological, chemical and physical hazards in poultry processing plants.

While a poultry producer's sanitation routine should incorporate both routine and nonroutine procedures, mastering the basics of routine sanitation is essential, according to OSI group senior director, global sanitation, James Davis.

"You can't get into a comprehensive non-routine master sanitation schedule until you get the basic, routine sanitation done," Davis said during the 2025 Food Safety Summit.

Seven steps to routine sanitation in processing plants

According to Davis, a routine wet sanitation process involves seven steps:

1. **Prepare the area and dry clean** – This initial stage, considered one of the most important steps, involves equipment lockout/tagout, proper disassembly and debris removal.
2. **Pre-rinse** – Remove remaining soils with hot water, working from top to bottom. Davis stressed the importance of proper water pressure to prevent spreading debris. "The higher the pressure, the more likely you're going to be pushing debris, soils and water into harborage points."
3. **Apply detergent and scrub** – Use appropriate chemistry for soil types and ensure that the foam adheres to surfaces. "Foam the entire room, not just the equipment," Davis stated.
4. **Post-rinse and self-inspect** – Use flood rinsing at the proper temperature to remove soap and dissolved soils while minimizing condensation. Workers should thoroughly check their work at this step.
5. **Prepare for pre-operational inspection** – Workers should change into clean outerwear and remove standing water.
6. **Pre-operational inspection** – Equipment should be cycled to inspect all surfaces. During visual inspections, adenosine triphosphate (ATP) bioluminescence tests should be used to detect nonvisible soils.
7. **Sanitize** – Use a flood method on equipment to ensure sanitizer reaches cracks and crevices. A foam application should be used for infrastructure surfaces.

Effective sanitation extends beyond routine cleaning

Once routine cleaning procedures are successfully implemented, producers should start to focus on cleaning activities that occur on a nondaily basis, known as a master sanitation program.

According to Davis, developing an effective master sanitation schedule requires understanding both equipment design and risk assessment. To do so, Davis recommends that producers:

1. Determine the food safety risk of their process, such as the relationship between cooked and raw areas.
2. Evaluate processing equipment for hygienic design noncompliances.
3. Analyze each noncompliance for food safety risk level.
4. Determine the appropriate periodic equipment cleaning (PEC) requirements.
5. Update the master sanitation schedule with detailed procedures.

"The frequency of nonroutine cleaning tasks should be determined by data, not solely by production schedules or personnel availability," Davis added.

The importance of hygienic design

Davis emphasized that hygienic design evaluations will help producers identify areas that require special attention during cleaning. For older equipment with design flaws, more extensive disassembly may be necessary during cleaning.

"The better the hygienic design, the fewer master sanitation schedule tasks you need," Davis stated.

Additionally, sampling of normally inaccessible surfaces before and after cleaning helps determine the appropriate cleaning frequencies. Total bacterial count (TBC) targets should be based on finished product micro limits, shelf-life restrictions and historical pre-operational outcomes, Davis continued.

To help ease the sanitation process, Davis urged processors to maintain cleanliness during operations and have special control procedures for unexpected situations such as overhead leaks or drain backups.

Environmental monitoring is verification, not control

According to Eric Ewert, food safety and quality zone lead, lab and technical services department, Kraft Heinz, a comprehensive environmental monitoring program should include different types of data collection to drive improvements in sanitation across three main categories:

1. Pre-operational monitoring – Verifying sanitation effectiveness through ATP swabs, visual inspection, indicator organisms and pathogen testing.
2. Utilities monitoring – Ensuring water, compressed air, environmental air and steam are not sources of contamination.
3. Operational monitoring – Confirming hygienic conditions are maintained throughout production runs.

Ewert added, "Commonly, you'll see aerobic plate count (APC) or some type of spoilage indicator (swab) in zones one and two (food contact and near food contact surfaces), typically four hours into a run and toward the end of the run to evaluate differences in microbial load over time."

While environmental monitoring programs are essential for verifying sanitation practices and preventing product contamination, Ewert stressed that they should not be used as direct control against food safety pathogens.

Ewert stated, "environmental monitoring verifies the effectiveness of overall hygienic practices in a facility and provides information to protect your product from contamination.

"Environmental monitoring is not a control. It's there to verify that your cleanliness is being maintained, whether from a sanitation perspective or during operations," Ewert continued. "The act of collecting a swab doesn't protect your product - other prerequisite programs and sanitation effectiveness prevent contamination."

Investigating positives using "seek and destroy"

When producers get a positive indicator for a type of bacteria or pathogen, Scott Oakland, corporate staff engineer, food safety and quality, Hormel Foods, recommends that poultry producers follow the "seek and destroy" method, which involves stopping production, if necessary, and not immediately cleaning.

"The first reaction should be not to clean – treat it like a crime scene. Don't scrub it," Oakland emphasized. "The goal is to identify the root cause for effective corrective action."

The "seek and destroy" methodology includes:

1. Aggressive sampling with intent to find the harbor areas.
2. Identifying vectors and sources of organisms, such as drains, floors or ceiling leaks.
3. Implementing effective and sustainable corrective actions by determining what caused the issue. This may involve team member interviews, work order reviews, examining equipment or evaluating compressed air systems.

Additionally, Oakland said that these investigations should involve a cross-functional team that involves maintenance, sanitation, operations, food safety and quality, corporate representatives, and even chemical providers.

Scott Oakland, corporate staff engineer, food safety and quality, Hormel Foods.

Courtesy Hormel Foods

"Seek and destroy is a team sport," Scott continued. "I've seen events where people pull that lever and say it was sanitation's fault, walk out the door and have them clean. That's the wrong answer."

After identifying the root cause, Oakland suggested corrective actions such as shock sanitizing, implementing deep cleaning protocols and updating the master sanitation schedule to prevent recurrence. ■

No Need to Count Your Chickens.

Our **Ultimate Bulk Bin** was carefully engineered to prevent foreign material contamination by removing the need for antiquated belly bands or straps. The signature poly-woven sleeve eliminates disastrous bulging and bursting, saving you time and money throughout the supply chain.

ProBin

ProBin is the premier, affordable bulk bin in the protein market.

probinglobal.com | 256-507-9879 | sales@probinglobal.com

Contact us today, and *protect your poultry*.

CELEBRATING 5 YEARS 5 YEARS OF PROBIN

PROUDLY SERVING THE POULTRY INDUSTRY FOR 5 YEARS

How feed additives advance **sustainable poultry production**

chayakorn lotongkum I iStock.com

The strategic use of feed additives can help the industry reduce its environmental footprint while maintaining high productivity levels.

IOANNIS MAVROMICHALIS

Sustainability has become a guiding principle in modern agriculture, with poultry production being no exception. As the industry faces increasing pressure to reduce its environmental footprint while maintaining high productivity levels, the strategic use of feed additives has emerged as a key component in achieving these goals.

This article explores 20 feed additives that can play a critical role in enhancing the sustainability of poultry production.

Understanding sustainability in poultry production

Sustainability in poultry production involves adopting practices that ensure the long-term viability of the industry across environmental, economic and social dimensions. The primary objectives include minimizing environmental impact, improving feed efficiency and bolstering animal health. Feed additives can be a powerful tool in the sustainability toolbox. By strategically incorporating these additives, poultry producers can significantly contribute to a more sustainable future.

Methodology for assessing feed additives

The evaluation of feed additives in terms of their contribution to sustainability involves the following index markers:

Feed conversion ratio (FCR): Evaluating improvements in FCR provides insight into the efficiency of feed utilization. Additives that improve FCR directly contribute to reducing the amount of feed required for optimal growth, thereby minimizing resource use and waste.

Nutrient excretion: Measuring reductions in nutrient excretion, such as phosphorus or nitrogen, helps assess the environmental impact of feed additives. Additives that lower nutrient excretion reduce the potential for water and soil pollution.

Greenhouse gas emissions: Some additives can lower greenhouse gas emissions associated with feed production and digestion. Quantifying these reductions supports efforts to mitigate climate change.

Health benefits: Assessing improvements in animal health, such as reduced disease incidence and enhanced immune function, indicates the effectiveness of additives in promoting overall well-being and reducing the need for medical interventions.

Economic impact: Analyzing cost savings from reduced feed use, lower disease rates and improved feed efficiency helps quantify the economic benefits of additives. These savings contribute to the overall economic sustainability of poultry production.

1 Probiotics

Probiotics enhance gut health by promoting the growth of beneficial bacteria, improving nutrient absorption, and reducing the need for antibiotics. Their use can lead to a 2% to 5% improvement in FCR and a reduction in antibiotic use by up to 50%. This improves animal health and contributes to a decrease in antimicrobial resistance, which is crucial for public health.

2 Prebiotics

Prebiotics support the growth of beneficial gut bacteria, leading to a healthier microbiome. Their inclusion in poultry diets can improve FCR by 1% to 3% and reduce the need for antibiotics by 20% to 40%. This enhances gut health and supports the overall well-being of the birds, leading to more sustainable production practices.

3 Organic acids

Organic acids lower gut pH, inhibiting the growth of pathogenic bacteria and enhancing nutrient absorption. They can reduce pathogen load by up to 90% and improve FCR by 2% to 4%. By creating a healthier gut environment, organic acids help decrease the need for antibiotics and contribute to more efficient feed utilization.

4 Phytase

Phytase increases the bioavailability of phosphorus in feed, reducing the need for inorganic phosphorus supplements. This enzyme can reduce phosphorus excretion by 30% to

50% and decrease feed costs by 3% to 6%. By minimizing phosphorus waste, phytase plays a critical role in reducing the environmental impact of poultry production.

5 Enzymes (e.g., xylanase, beta-glucanase)

Enzymes such as xylanase and beta-glucanase improve the energy digestibility of feed ingredients, leading to better nutrient absorption. These enzymes can enhance FCR by 3% to 8% and reduce energy use by up to 5%. By improving feed efficiency, these enzymes contribute to the sustainability of poultry production by reducing the amount of feed required for growth.

6 Functional fibers

Functional fiber improves gut motility and overall digestion, leading to better nutrient absorption and health. Their inclusion can improve FCR by 3% to 5% and enhance gut health by 15% to 25%. By promoting efficient digestion, functional fibers contribute to the sustainability of poultry production through better feed utilization and reduced waste.

7 Essential oils

Essential oils possess natural antimicrobial and antioxidant properties, reducing the need for synthetic antibiotics. They can decrease antibiotic use by 20% to 30% and reduce pathogen load by up to 60%. By offering a natural alternative to antibiotics, essential oils support the sustainable management of poultry health.

8 Algae-derived additives

Algae-based additives are a sustainable source of omega-3 fatty acids, reducing reliance on fishmeal. These additives can increase the omega-3 content in poultry products by 50% to 70% and completely replace fishmeal in some cases. By using algae, poultry producers can lower the environmental impact associated with traditional omega-3 sources.

9 Insect meal

Insect meal provides a sustainable and highly digestible protein source, reducing the dependency on traditional feed ingredients. Its use can lead to an 80% reduction in greenhouse gas emissions and fully replace traditional protein sources. Insect meal represents a significant advancement in sustainable feed practices, addressing environmental and resource use concerns.

10 Phytochemicals (e.g., curcumin, resveratrol)

Phytochemicals such as curcumin and resveratrol reduce oxidative stress and enhance immune function, contributing to better growth performance. Their use can decrease oxidative stress by 20% to 40% and improve growth performance by 5% to 10%. Phytochemicals offer a natural approach to enhancing poultry health and productivity, supporting sustainable production practices.

11 Organic selenium

Organic selenium enhances antioxidant defense and immune function, leading to better overall health in poultry. Its use can improve immune function by 10% to 30% and increase antioxidant activity by up to 20%. By improving the birds' resilience to stress and disease, organic selenium supports a more sustainable approach to poultry health management.

12 Yeast cultures

Yeast cultures support gut health by promoting microbial balance and improving nutrient absorption. They can enhance FCR by 2% to 5% and improve gut health by 10% to 20%. By fostering a healthy digestive system, yeast cultures help poultry producers achieve better feed efficiency and reduce the need for medical interventions.

13 Herbal extracts (e.g., turmeric, garlic)

Herbal extracts such as turmeric and garlic offer natural antioxidant and antimicrobial benefits, improving feed palatability and reducing oxidative stress. These extracts can reduce oxidative stress by 20% to 30% and improve FCR by 1% to 3%. The use of herbal extracts provides a natural, sustainable way to enhance poultry health and productivity.

14 Amino acid supplements (e.g., methionine, lysine)

Amino acid supplements improve protein utilization and reduce nitrogen excretion, contributing to more efficient feed use. These supplements can improve protein utilization by 5% to 10% and reduce nitrogen excretion by up to 30%. By optimizing protein intake, amino acid supplements minimize the environmental impact of poultry production.

15 Trace mineral chelates

Trace mineral chelates enhance the bioavailability of minerals, reducing mineral excretion and environmental pollution. They can decrease mineral excretion by 20% to 40% and improve FCR by 2% to 4%. By ensuring efficient mineral absorption, chelates play a crucial role in reducing the environmental footprint of poultry farming.

16 Beta-glucans

Beta-glucans boost the immune system and reduce disease incidence, leading to healthier birds. Their use can improve immune response by 15% to 25% and reduce disease incidence by up to 30%. By strengthening the immune system, beta-glucans contribute to a more sustainable approach to managing poultry health.

17 Mannan oligosaccharides (MOS)

Mannan oligosaccharides (MOS) improve gut health by preventing pathogen colonization and enhancing nutrient absorption. They can improve FCR by 2% to 5% and reduce pathogen load by 20% to 30%. By promoting a healthy gut environment, MOS supports the sustainability of poultry production by reducing the need for antibiotics.

18 Electrolytes

Electrolytes maintain hydration and support the electrolyte balance in poultry, especially under heat stress conditions. Their inclusion can reduce heat stress by 10% to 20% and improve FCR by 1% to 3%. By helping birds cope with environmental stressors, electrolytes contribute to a more resilient and sustainable production system.

19 Sodium bicarbonate

Sodium bicarbonate helps alkalinize feed and water, reducing acidosis and improving feed intake during heat stress. Its use can reduce acidosis by up to 30% and improve FCR by 2% to 4%. By maintaining optimal pH levels, sodium bicarbonate supports better digestion and feed efficiency, contributing to more sustainable poultry production.

20 Betaine

Betaine is a naturally occurring compound found in plants such as sugar beets. It acts as an osmolyte, stabilizing cellular structures and protecting cells from stress. In poultry diets, betaine enhances growth performance and reduces heat stress impact. It can improve FCR by approximately 2% to 4%, reduce heat stress effects by up to 20% and lower mortality rates associated with heat stress by 10% to 15%. By improving feed conversion and minimizing stress impacts, betaine contributes to more efficient resource use and better overall health in poultry.

Embracing innovation for a sustainable future

The poultry industry is at a pivotal juncture where innovation and sustainability must go hand in hand. The integration of advanced feed additives into poultry diets represents a proactive approach to meeting these dual objectives.

Each of the additives discussed offers unique benefits, contributing to improved feed efficiency, reduced environmental impact and enhanced animal health. By adopting these solutions in a strategic manner, specific for each farm operation, poultry producers can achieve significant strides toward a more sustainable future. ■

Ioannis Mavromichalis, Ph.D., is an animal nutrition industry consultant. He may be contacted at imavromichalis@icloud.com.

Marek's disease continues to challenge broiler producers

Vaccination may be the best way to win against the costly mutation game of this virally induced cancer.

ELIZABETH DOUGHMAN

USDA | Flickr

Marek's disease is a serious concern in broiler production that can lead to significant economic losses. Taking preventive measures against the viral disease, like vaccination, are crucial to maintaining a healthy and productive flock.

The disease is highly contagious and can lead to several severe health problems for the birds, including paralysis, tumors, blindness and death. Marek's disease is most prevalent in chickens, although it is also found in turkeys. The virus is spread through bird feed, bedding material, bird droppings, feathers and dead skin. There is currently no effective treatment and infected birds are condemned. The disease costs the poultry industry an estimated $1 billion each year.

To effectively prevent Marek's disease in commercial poultry, the most important practices are vaccination, rigorous hygiene and strict biosecurity measures. In unvaccinated flocks, mortality rates can reach up to 50%.

Understanding how Marek's disease mutates

One of the major challenges of controlling Marek's disease is how quickly the virus can mutate. A vaccine that can prevent one strain of the virus may quickly become ineffective as new strains are constantly emerging.

A new research study published in the journal *Viruses*, could provide insight into the mechanism that allows Marek's disease to become more severe, rendering vaccines ineffective.

Marek's disease in commercial poultry in Nigeria is common, primarily because of challenges in vaccine access and administration. At many operations, chicks are given a strong vaccine against Marek's vaccine *in ovo* and then revaccinated with a weaker vaccine later in life due to unclear vaccination histories and a lack of standardized vaccination programs.

Despite revaccination happening in many cases, the number of outbreaks in the country still increased, resulting in significant losses across all scales of poultry operation.

"If it's in a meat type bird, and a tumor is observed as it goes down the line, the entire bird is just condemned. At that point, a producer has lost every bit of investment," said Mark Parcells, a University of Delaware professor of molecular virology and one of the co-authors of the study.

The results of the study revealed that many of Marek's disease occurrences were caused by a mutation in an oncogene called meq. This oncogene can also mediate resistance to vaccines by overcoming the early immune response of the birds.

Mark Parcells

Courtesy University of Delaware

"In this case, it looks like what happened was that the field strain of the virus that was able to break through the vaccine at the hatchery immediately broke through this weaker vaccine," Parcells explained.

"It did so by gaining mutations in a particular gene that we've seen for the last 20 years in the U.S. wherever there's been vaccine breaks — where even though producers are vaccinating, they're starting to get birds with tumors."

The findings could help producers better understand if a higher virulent strain of Marek's disease is affecting their flocks or if the chickens weren't vaccinated properly in the hatchery, which could ultimately result in better control of Marek's disease.

New concerns about immunosuppression

For the most part, the U.S. poultry industry has successfully controlled the tumor-causing effects of Marek's disease through decades of vaccine development, but a more insidious problem has emerged more recently: immunosuppression that leaves flocks vulnerable to secondary infections without producers realizing the underlying cause.

While current vaccination strategies have dramatically reduced tumor-related condemnations at processing plants, recent research indicates that approximately 30% of field samples in the U.S. test positive for very virulent plus (VV+) strains of the virus that cause significant immunosuppression despite effective tumor prevention.

"The industry thinks they have this under control because the vaccines are working against tumor formation," explained Dr. Rick Phillips, director, Key Account Veterinarians, Boehringer Ingelheim Poultry. "But what they haven't noticed is the immunosuppressive effect that's creating secondary bacterial and viral infections in flocks."

Broiler breeders face greater risks of organ tumors and peripheral nerve damage due to their longer lifespan, while broilers typically present with skin tumors when affected. The immunosuppressive effects impact both sectors, making the new vaccine technology particularly valuable for protecting flock health across all production systems.

Rick Phillips

Courtesy Boehringer Ingelheim

The industry has now introduced chimera vaccine technology that combines four different viruses into a single product designed to protect against both tumor formation and immunosuppressive effects. This new approach represents a significant advancement in addressing the hidden immune system damage that traditional vaccines cannot prevent.

A "biological arms race"

Marek's disease continues to pose a significant threat to the poultry industry. The herpes virus-based disease has evolved into what Eric Shepherd, DVM, MS, MAM, dACPV, Sr. technical services veterinarian, Zoetis, describes as a "biological arms race," constantly adapting to evade vaccines and becoming more pathogenic over time.

Eric Shepherd

Courtesy Zoetis

"Every time we have an issue with Marek's disease, we develop a vaccine and Marek's figures out how to evade it," he added. Even though we have very good vaccines for prevention of this disease, Marek's disease is always looking for an opportunity to circumvent this.

This means handling, mixing and application of your vaccine is crucial to the success of your program."

In ovo vaccination has emerged as the most effective prevention strategy, with timing being critical. Vaccinating during late embryonic development at 18-19 days jump starts the bird's immune system before hatching.

For longer-lived birds like primary breeders, a combination approach using both *in ovo* and day-of-age vaccination creates an even stronger immune response. Some regions require multiple vaccine serotypes to combat particularly aggressive wild-type Marek strains in the field.

A dangerous misconception has emerged that Marek's disease is no longer a significant threat leading some to believe vaccination is no longer necessary. However, the virus remains ubiquitous in commercial poultry environments, and birds are typically exposed immediately upon placement.

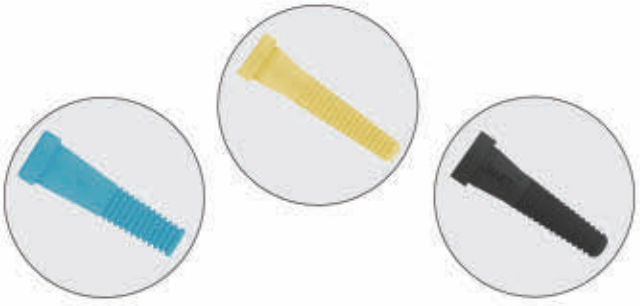
"Since Marek's is everywhere and birds will be infected, it is paramount to have a solid vaccination program to prevent clinical disease and to routinely monitor the effectiveness of that program," Shepherd said. ■

Understanding Marek's disease origin could improve control
www.WATTAgNet.com/15660957

roibu | BigStock.com

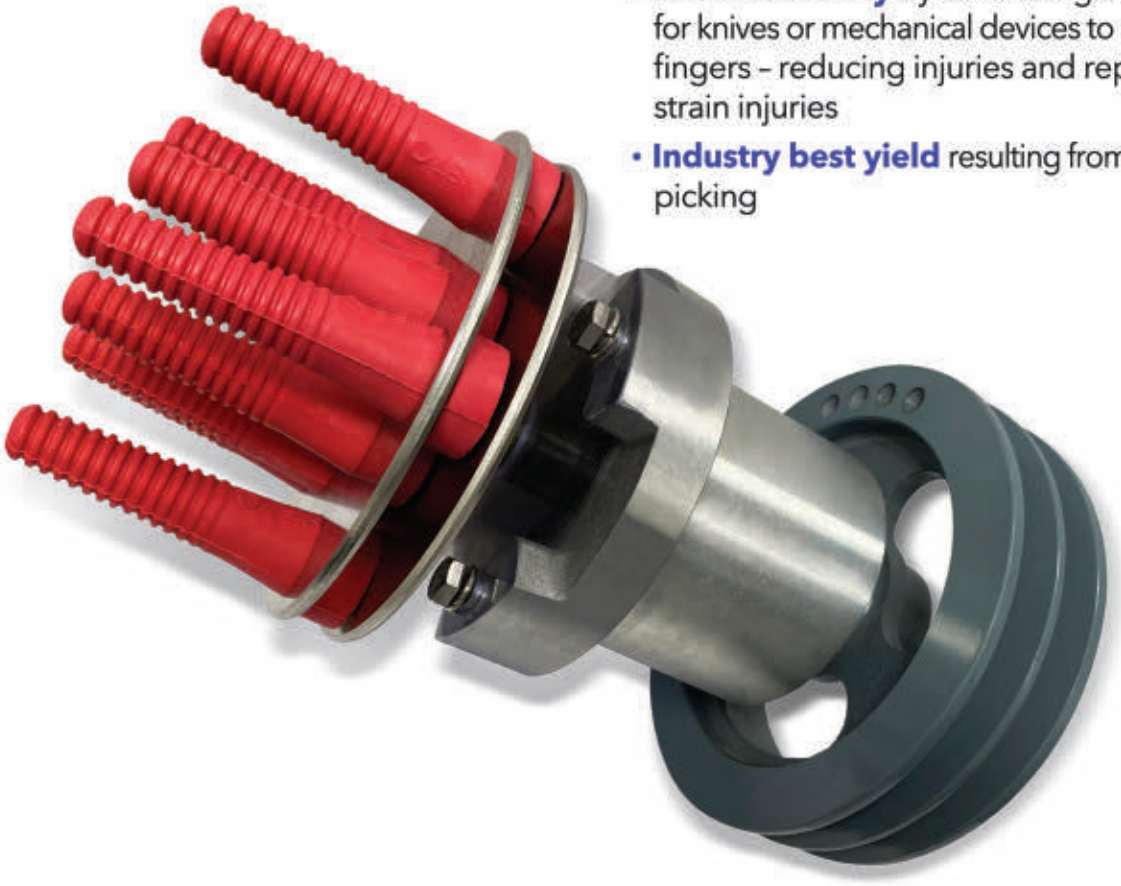
Safe, Easy Change Picking System

Easy Change Picking System is compatible with picking lines using Gina, Bella, and KOP fingers



Experience the latest defeathering technology with the Easy Change Picking System. Equipped with a patented two-plate design, the Easy Change Picking System:

- **Increases product lifespan** and **decreases costs** by virtually eliminating breakage through a stabilizing finger base without lock-in groove
- **Saves time** by enabling fast, manual finger replacement
- **Increases safety** by eliminating the need for knives or mechanical devices to replace fingers – reducing injuries and repetitive strain injuries
- **Industry best yield** resulting from quality picking



Mattco Industrial Products

Meyhen

DURAM Rubber Products

MeyhenFingers.com

4 technologies shaping the future of poultry processing

The next frontier in keeping workers safe, deboning lines, disinfection and industry 4.0.

ELIZABETH DOUGHMAN

PicsFive | BigStock.com

As poultry processing continues to deal with persistent labor shortages, tightening margins, and mounting consumer demands for transparency and sustainability, a new generation of intelligent technologies and innovative ideas are emerging to address these challenges head-on.

1 Wearable air curtain to protect workers

A helmet mask with a curved air curtain could protect poultry processing workers against airborne diseases.

"Instead of trying to wear a mask to protect yourself from viruses and bacteria, we can take the air that is treated by our nonthermal plasma, then direct that air down your face like an air curtain," explained Herek L. Clack, Ph.D., co-founder and chief scientific officer, Taza Aya, and associate professor of civil and environmental engineering at the University of Michigan.

The electrical and mechanical components that produce the air curtain, including a nonthermal plasma treatment process to neutralize airborne viruses, are contained within a lightweight backpack that weighs less than 10 pounds. Each battery runs for four hours before it needs to be recharged, and batteries can be easily replaced throughout a shift.

The wearable air curtain has several advantages over traditional face masks, including the ability to provide protection without facial irritation or ear loop pain and no increase in breathing resistance. One unexpected benefit of the wearable air curtain is that it offers clear visibility of the worker's face for uncompromised verbal and nonverbal communication.

2 Process monitoring on poultry deboning lines

Manual and automated deboning lines for white meat operate at approximately 70 birds per minute. Automated lines for dark meat operate at greater than 90 birds per minute. There is currently no system that monitors these processes in real time.

This system, designed by Wayne Daley, Ph.D., CEO, WDDLY Associates, introduces a vision-based approach for monitoring deboning operations and providing actionable, real-time data for control and decision-making.

This vision-based monitoring approach uses a combination of 2D imaging and 3D depth data to estimate residual meat after processing steps for leg or breast deboning using traditional and machine learning approaches. The system provides flexibility to add sensors as required for particular applications. The key benefit of this approach is the ability to continuously assess process performance.

The technology could enhance automation in protein processing by delivering consistent, high-resolution feedback. It supports improved yield, reduces waste and provides real-time operational control, making it a powerful tool for modern food processing facilities.

3 Microdroplets to eliminate chemicals in carcass cleaning

Microdroplet cleaning technology could represent a paradigm shift for poultry processing by eliminating reliance on chemical processing aids like Peracetic Acid or chlorine. Using solely potable water, it aligns seamlessly with the EU's stringent "potable water-only" processing standards, setting a new global benchmark.

"A lot of the time, we see contaminations and the cleaning step is at the end of the process," said Twan Koenen, undine process expert, Innovative Water Concepts. "But with water microdroplets, we can do the same with a lot less water."

This technology harnesses the power of compressed air and potable water, generating high-velocity microdroplets that deliver 50-100 times greater kinetic cleaning energy per gallon

compared to conventional methods.

Microdroplets are just 5-25 µm, compared to the size of a regular water droplet that is 250-500 µm. When combined with compressed air, flow is increased so microdroplets can travel up to 560 mph, much faster than water alone, which can only move at 75 mph. The microscopic size of these microdroplets means that it can reach much deeper into microcavities on the bird carcass, such as skin pores or feather follicles.

4 The sustainable poultry industry 4.0 framework

The Sustainable Poultry Industry 4.0 (SPI 4.0) framework, created by Amit Morey, Ph.D., associate professor, poultry science, Auburn University, represents a next-generation, technology-integrated vision for modernizing poultry processing.

Harnessing the power of industry 4.0 tools — including artificial intelligence (AI), machine learning, internet of things (IoT), robotics and cloud-based platforms — SPI 4.0 addresses persistent inefficiencies and data silos within the vertically integrated poultry supply chain.

At the heart of SPI 4.0 are cutting-edge sensing technologies such as microwave-based meat quality assessment, multimodal sorting systems, hyperspectral imaging for biofilm detection and Raman spectroscopy for rapid pathogen detection from farm to fork. These innovations are connected through real-time, AI-powered analytics and interactive dashboards, enabling processors to make timely, informed decisions on quality, safety and throughput. ■

PRODUCT SPOTLIGHT Poultry Housing Equipment

J&D MANUFACTURING FILTERS BY AAF

- J&D Manufacturing Filters by AAF trap particles before they enter the barn.
- Improve biosecurity.
- Custom-size filter frames.
- Optimized for airflow, efficiency and ease of maintenance.
- Pre-filters + HEPA/ULPA-level main filters.

www.WATTAgNet.com/15747398

DIVERSIFIED AGRICULTURE ROTEM TRIO CONTROLLER

- Diversified Agriculture's Rotem Trio Controller automates temp, humidity, CO_2 and ammonia for optimal conditions.
- Integrates feeding, lighting, watering and weighing systems.
- IP65-rated enclosure is waterproof, dust-tight and protected against surges – built to endure harsh farm conditions.
- 10" touchscreen with simple, intuitive interface.
- Cloud-based access allows control from anywhere using a smartphone or computer, with real-time alerts to prevent downtime.

www.WATTAgNet.com/15747396

BIG DUTCHMAN DUOCHAIN FEMALE CHAIN FEEDING SYSTEM

- Big Dutchman DuoChain Female Chain Feeding System has patented straight-line chain feeding system designed for extra feed space for your breeder hens.
- Increases feeding space for improved access, especially for more aggressive birds.
- Encourages uniform feed intake and better flock performance.
- Simple, reliable design ideal for both new construction and retrofit projects.
- Compatible with a variety of breeder housing layouts.

www.WATTAgNet.com/15747399

CUMBERLAND AGRI-ALERT

- Use existing internet or subscribe to Agri-Alert's multicarrier cellular service to ensure barns have a connection you can count on.

- Remotely monitor your barns from your phone, tablet or PC.
- Be alerted if the power goes out. So, you can stay where you are and know your animals are protected.
- Use your existing wired sensors for accurate readings and lower start-up costs.
- Never worry about battery life.

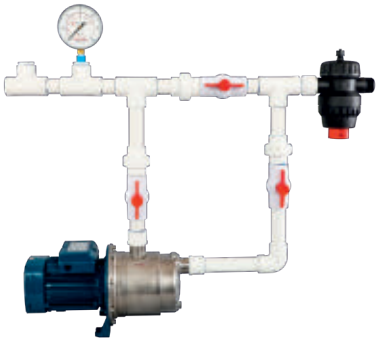
www.WATTAgNet.com/15747400

DIVERSIFIED

DiversifiedAg.com

The **Plasson Red Nipple** provides superior longevity and an unmatched flow range to maximize broiler growth. Its dual sealing technology and excellent side action sensitivity enable your day old chicks to start strong and stay healthy.

To optimize management and performance, pair with the **Plasson Water on Demand Pro**



Controllers & Communication

Heating

Ventilation

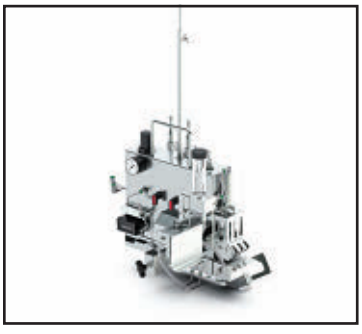
Feeding & Watering

ALWAYS THE RIGHT FIT

Diversified's complete solutions enhance performance and maximize results.

»PRODUCT REVIEW

GIORDANO VACCINATOR MARK II



- Giordano's Vaccinator Mark II delivers up to three different vaccines at once – eye drop, pox in the wing, and single or double breast injections – for comprehensive coverage.
- Customizable dosage (0.1 to 1 ml), breast and wing size adjustments allow precision across bird types and vaccination needs.
- One operator can vaccinate up to 700 birds per hour with all three administrations, optimizing efficiency in the field.
- Made entirely of stainless steel and powered pneumatically, ensuring durability, hygiene and ease of use in demanding environments.

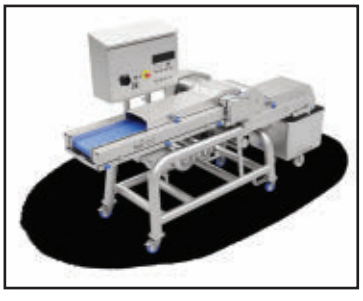
https://giordanoglobal.com/

CARGILL'S BIOSTRONG C-PROTECT

- Cargill's Biostrong C-Protect combines a postbiotic (XPC) and a phytogenic to support immunity and gut health in layers, helping birds become more resilient to Avian pathogenic *E. coli* (APEC).
- In Cargill trials, APEC-challenged hens fed Biostrong C-Protect laid significantly more eggs (82.9% vs. 65.5%) and broilers saw a 26% drop in mortality compared to control groups.
- One product tackles two major issues – APEC resilience and foodborne pathogen reduction – while saving micro bin space in the feed mill.
- Biostrong C-Protect is part of Cargill's Micronutrition & Health Solutions brand, focused on animal performance, health and sustainability.

https://www.cargill.com/

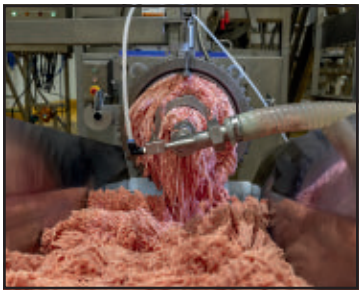
FAM STUMABO YURAN HYTEC 300



- FAM STUMABO's Yuran Hytec 300 enhances the original with an exit conveyor to boost batch processing efficiency and reduce product loss.
- Designed for meat, poultry, alternative proteins and petfood, it delivers precise dicing, shredding and strip-cutting, including "pulled look" cuts ideal for various food and snack applications.
- Features include a 300 mm conveyor for higher capacity, variable-speed motors for customizable cuts and quick-change shafts for fast changeovers.
- Built for easy cleaning and intuitive operation, meeting industry demands for both performance and sanitation.

https://fam-stumabo.com/home-us/

PROVISUR WEILER MIXER GRINDER DOMINATOR 14 360B



- The Provisur Weiler Mixer Grinder Dominator 14 360B combines efficient mixing, grinding and inline reclaim into a single unit – maximizing yield and minimizing waste for meat, poultry, alternative proteins and pet food.
- The integrated Dominator Max system reclaims usable meat from the waste stream, boosting profit and offering ROI in as

WATTPoultry® UPDATE

How can you quickly access breaking news for global poultry professionals?

Gain this information delivered to your inbox five times weekly in a mobile-friendly format that includes:

- Focused industry information
- Exclusive trends and analysis
- Industry professional development

Also, check out the Poultry Future newsletter featuring new technologies and advances in the future supply chain. Subscribe at: www.wattagnet.com/poultry_future

WATT GLOBAL MEDIA

www.WATTGlobalMedia.com

SUBSCRIBE AT:
www.WATTPoultry.com/Poultry_Update

»PRODUCT REVIEW

little as two weeks – no extra drives or equipment needed.

- Balanced Flow Technology, gentle mixing paddles and integrated fat analysis ensure consistent product texture, quality and fat content – batch after batch.
- Built to fit seamlessly into Provisur's fully automated lines like Feed the Former (FTF), it supports high-volume, hygienic and hands-free production – ideal for processors of all sizes.

https://www.provisur.com/en/

MESSER KWIKCHILLER

- The Messer KwikChiller is a continuous, nitrogen chilling solution for fresh poultry.
- The KwikChiller improves yield, offers better temperature control and provides a safer alternative to CO2 pellet chilling with a significant reduction in purge loss.
- This in-line system delivers yield improvement at high production capacity, ensures rapid, uniform chilling, and integrates exhaust to enhance safety.

https://www.messer-us.com/food-beverage/poultry

JBT ADVANTEC NARROW IMPINGEMENT FREEZER

- JBT ADVANTEC Narrow impingement freezer is a compact, high-speed freezing solution designed to lower energy costs and fit into smaller production spaces.
- The ADVANTEC Narrow delivers the same high-capacity, rapid freezing for products like meat, seafood and fish, while occupying 1.2 meters less floor space than the standard model.
- By replacing cryogenic gas freezers, the Narrow model offers longer production hours and significant cost savings through advanced air jet technology.
- The system minimizes dehydration, prevents ice crystal formation and preserves product quality, extending shelf life and maximizing yield.

https://www.jbtc.com/foodtech/

AMN MISTING CERAMIC ALL-IN-ONE NOZZLE

- AMN Misting's ceramic nozzle is meant for better spraying pattern and evaporation.
- Integrated filter reduces clogged nozzles – longer lifespan.
- Integrated anti-drip valve.
- Capacity from 2.3 to 8.5 liter/hour.
- Easy to clean and renew.

https://amn-misting.com/

IFF DANISCO ANIMAL NUTRITION & HEALTH ENVIVA DUO

- IFF Danisco Animal Nutrition & Health Enviva DUO is a direct-fed microbial (DFM) solution designed to support gut health and immune function in poultry, promoting optimal performance.
- This blend of two nonspore-forming bacterial strains enhances beneficial gut bacteria, even during challenging conditions, fostering a balanced nutribiotic state.
- Enviva DUO can be directly dosed through waterlines, ensuring consistent microbiome support even when feed intake drops, providing targeted and efficient delivery.
- Backed by robust research, Enviva DUO is available in the U.S., India and Pakistan, with plans for further international expansion pending regulatory approval.

https://www.iff.com/animal-nutrition/

MARKET PLACE

Rates are $330 per column inch (1x), $295 (6x), or $260 (12x). Ad production is included at no additional cost.

AD INDEX

WATTPoultry® USA

MARKETING AND SALES TEAM

Contact us at:
www.wattglobalmedia.com/contact

US SALES STAFF

Chad Forster,
Sales Director - Agrifood

Mary Harris,
USA Regional Sales Manager

INTERNATIONAL SALES STAFF

Tineke van Spanje,
Regional Sales Manager

Dingding Li,
Regional Sales Manager

SUBSCRIPTIONS: Visit https://www.WATTAgNet.com/product-portfolio or contact Customer Service at +1.855.896.3491, +1.847.400.5960, or wattpoultryusa@omeda.com. Business and occupation information must accompany each subscription order. Single copy price US$25 (plus postage) unless otherwise marked. Change of address: Provide both old and new address when requesting change of address.

ELECTRONIC SERVICE REQUESTED

Volume 26, Number 5 **WATT PoultryUSA** (ISSN 1529-1677) is published 7 times per year (Jan/Feb, Mar/Apr, May/Jun, July Annual Buyer's Guide, July/Aug, Sep/Oct, Nov/Dec). by WATT Global Media, 401 East State Street, 3rd floor, Rockford, IL 61104 USA.

POSTMASTER: Send address changes to WATT Global Media, PO Box 468, Lincolnshire, IL 60069.Periodicals postage paid at Rockford, Illinois, USA and additional post offices.

Better Nutrition

A ***Premium*** Program Appealing to Todays Health-Conscious Consumer

raised OMEGA-3 right®

O&T Farms

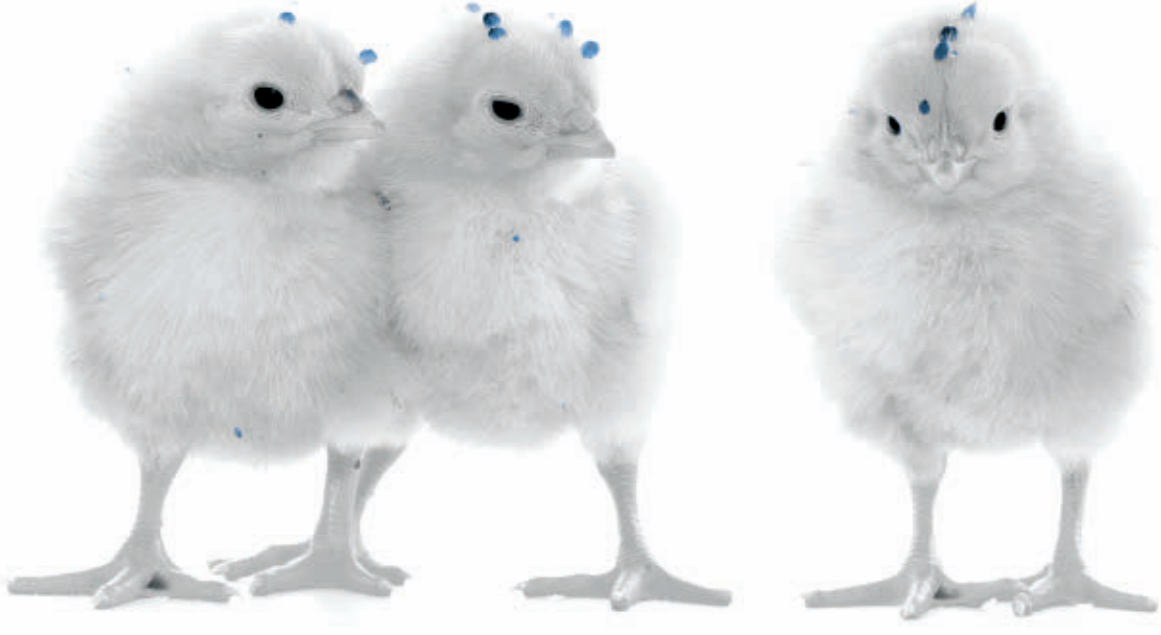
Naturally Better

A Sustainable Solution

Call **306-543-4777** | **www.otfarms.com**

IMMUcox®

Coccidiosis Control in a Gel Droplet



SAFETY • CONSISTENCY • OPTIMAL VACCINE UPTAKE

A unique coccidiosis vaccine that balances the safety and efficacy needed for broilers that are raised without antibiotics, or in management programs to reduce resistance against anticoccidials.

LEARN MORE AT IMMUCOX.COM

Ceva