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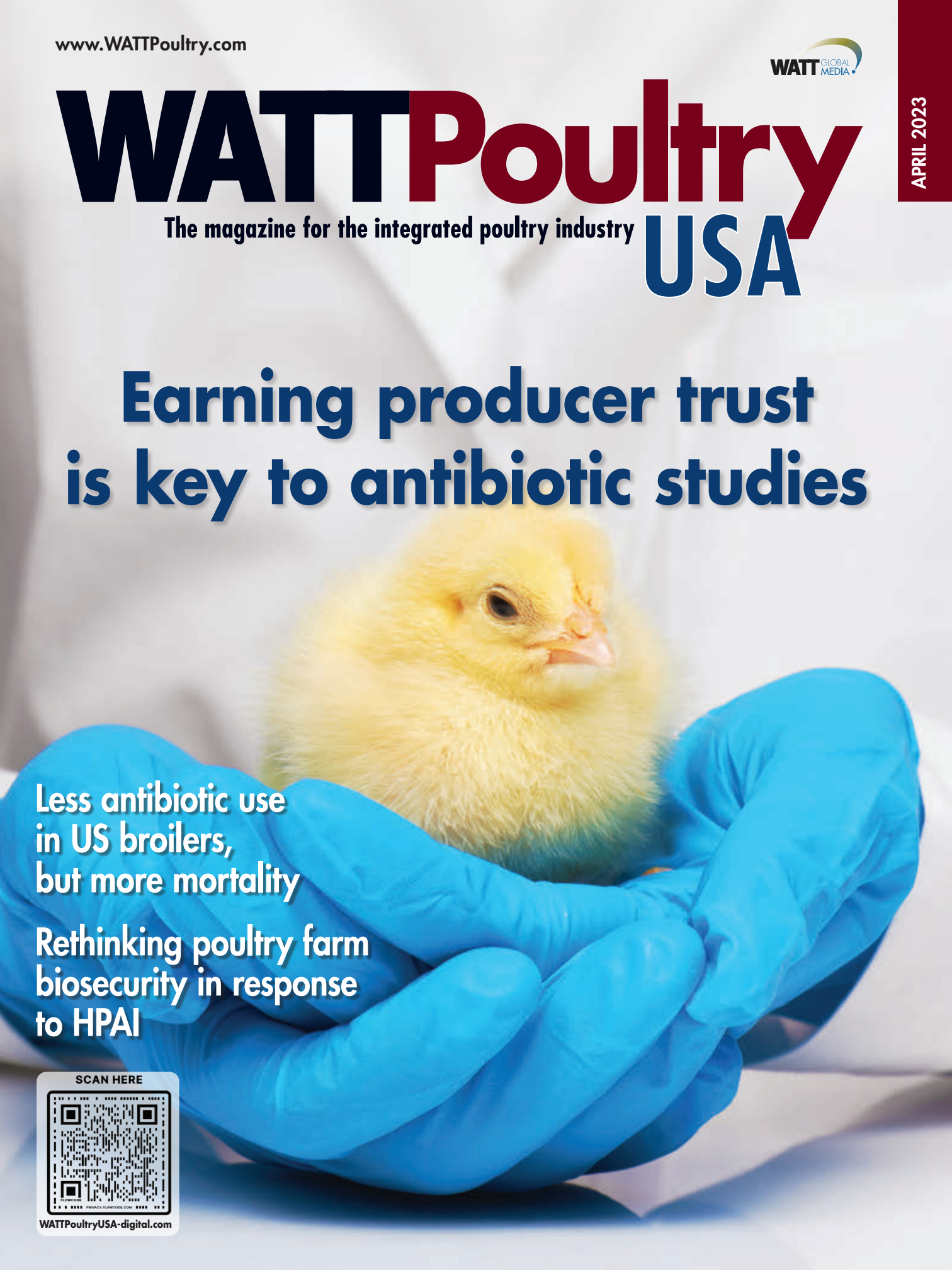
APRIL 2023

WATT Poultry USA

The magazine for the integrated poultry industry

Earning producer trust is key to antibiotic studies



Less antibiotic use in US broilers, but more mortality

Rethinking poultry farm biosecurity in response to HPAI

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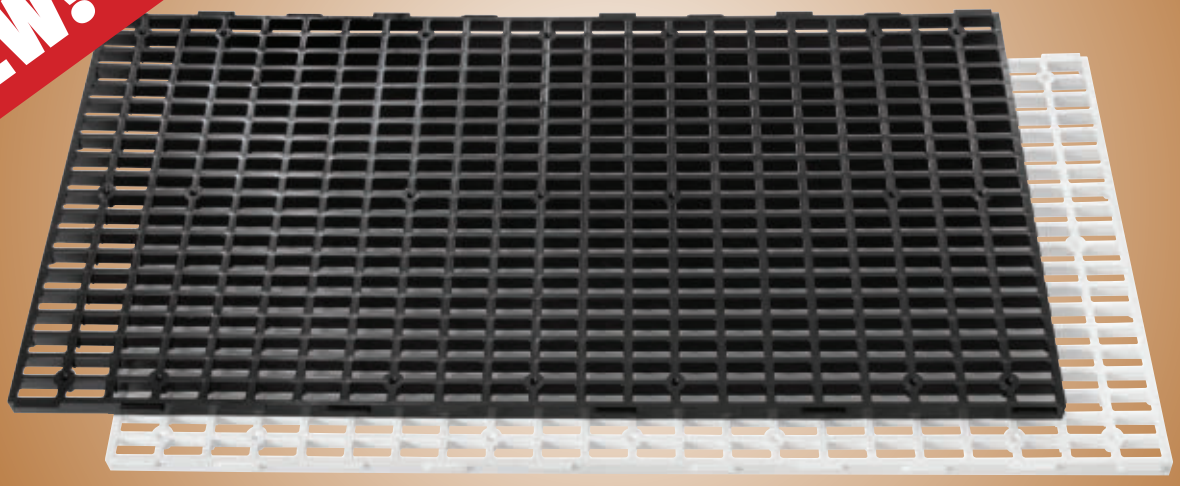

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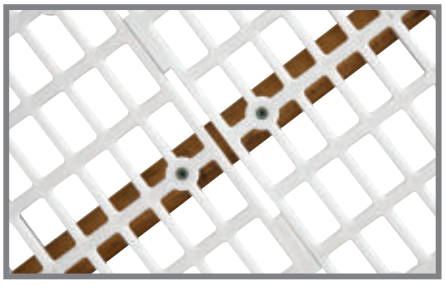

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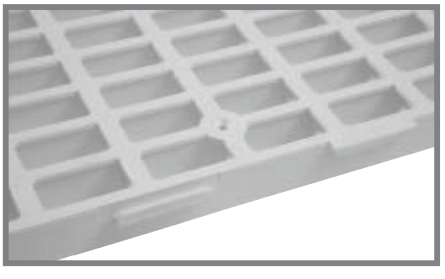
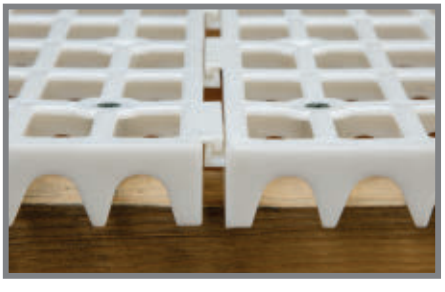


Interlocking tabs

Multiple interlocking edge tabs reduce flexing to promote a flat, stable walking surface. Arch latitudinal ribs furnish greater support to the longitudinal ribs.



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APRIL 2023

WATTPoultry USA

The magazine for the integrated poultry industry

Cover Story

Features

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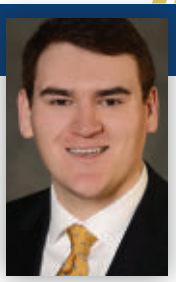
Next on the Plate

NEXT ON THE PLATE

Editor's Comment BY AUSTIN ALONZO



Chicken offers inflation relief to hungry Americans

While the price of nearly everything else at the grocery store is going up, the price of chicken is going down.

In 2022, overall food price inflation reached nearly 10%. The U.S. Department of Agriculture's Economic Research Service (USDA ERS) predicts all food prices will rise by nearly 8% during the year in its 2023 Food Price Outlook.

Poultry prices, on the other hand, fell at the end of the 2022 and are projected to fall in 2023. The ERS estimates wholesale poultry prices will decrease by about 7.5% this year. Competing proteins, the ERS said, will see some price relief but not as much: a 1.2% decline for beef and 1.6% for pork.

Help in hard times

This, provided grocers and retailers pass savings onto consumers, should bolster the already strong demand for chicken in the U.S. Moreover, it demonstrates the value chicken always presents as an affordable protein.

People need to eat and feed their families even if their dollar doesn't go as far as it once did. Despite the price of the most popular cut – boneless, skinless breast meat — coming off a record high, chicken is cheaper.

In January 2023, according to the Federal Reserve's Economic Data (FRED), shoppers in the U.S. paid about $4.30 per pound for breast meat. A pound of ground beef cost about $4.70 and a pound of bacon cost about $6.80. Just a few months prior in September 2022, breast meat exceeded $4.70 per pound, an all time high.

Cheaper still?

The USDA's cost estimates should be accurate based on the current production capacity of the industry.

In March 2023, WATT PoultryUSA reported the top broiler U.S. companies are producing more than a billion pounds of ready-to-cook chicken every week and the industry is still expanding. More product always arriving on the market should keep the price low. ■

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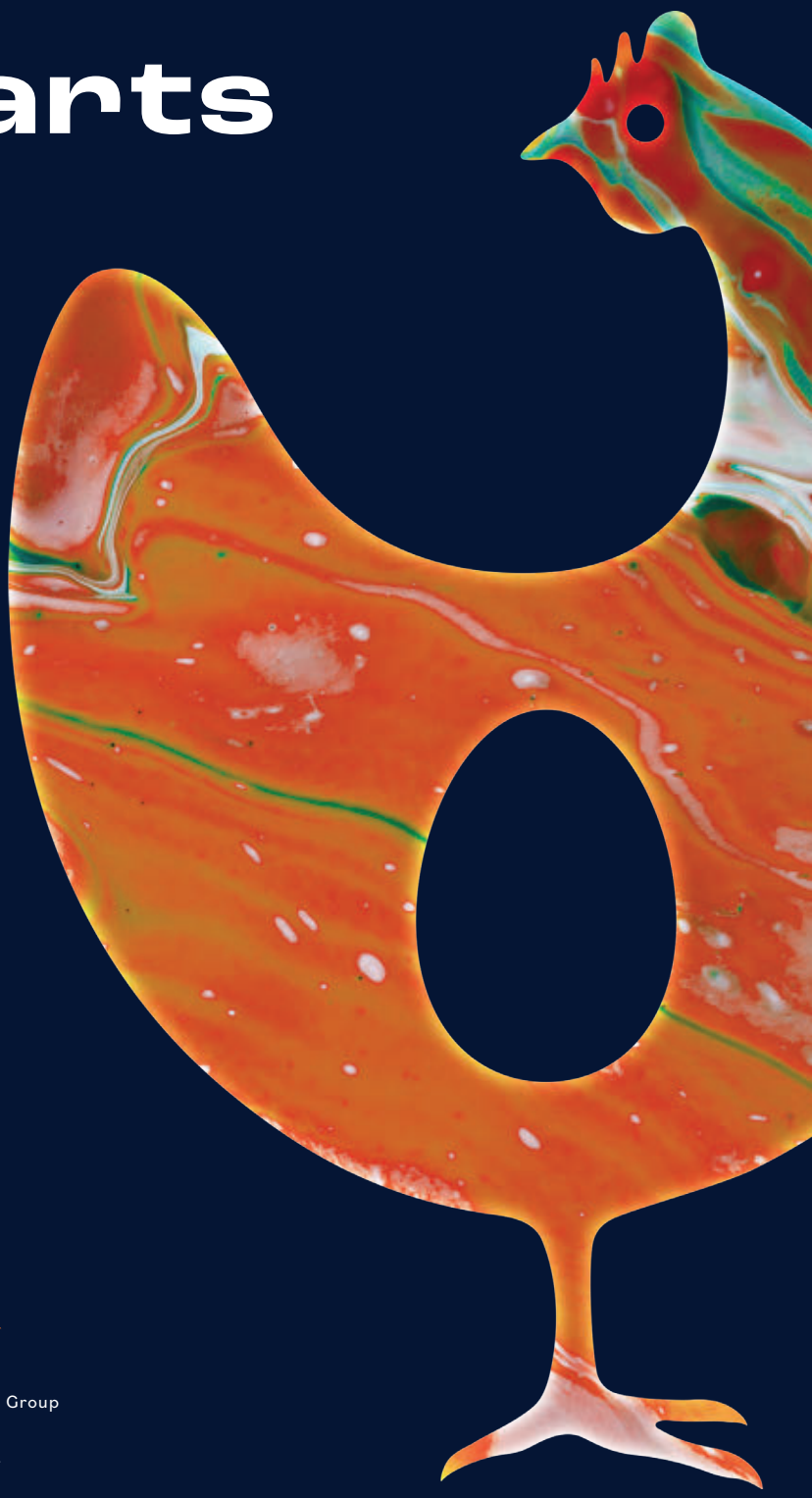

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Tyson Foods launches chicken sandwich, sliders

The launch will kick off with a unique event in Los Angeles

www.WATTAgNet.com/articles/46913

Courtesy Tyson Foods

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Steakholder Foods to launch cultivated poultry meat

Steakholder Foods is following in GOOD Meat's footsteps to obtain regulatory approval in Singapore

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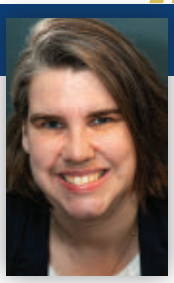
Poultry Future BY ELIZABETH DOUGHMAN



McDonald's 2023 strategy continues to focus on chicken

McDonald's will continue to prioritize chicken over the coming year.

"We're also seeing strong growth on our core menu, particularly on chicken, where we've been gaining share quite a bit of share on chicken. We've gained about a point of share on chicken in the last year," McDonald's CEO Chris Kempczinski said during the chain's fourth quarter investor call for 2022.

Kempczinski later called chicken "a good growth opportunity" for the brand, adding that McDonald's "was going to be focused on that with some very specific products as opposed to having that maybe be something in the past that was a little more left to individual markets to kind of chart their course."

No specific details about any planned innovation in chicken were released during the call.

Jonathan Weiss | BigStock.com

Pressure to innovate in chicken space

In recent years, McDonald's has struggled to find a viable competitor for the chicken sandwich wars.

In July 2019, the board of the National Owners Association (NOA), a group of McDonald's franchise owners, called chicken sandwiches a top priority to help bring in more customers and better compete in the chicken sandwich wars, which boosted sales for the entire quick service restaurant chicken market.

In August 2020, Kempczinski promised customers that innovation in chicken would be coming by the end of the year. The chain launched Spicy Chicken McNuggets and Mighty Hot Sauce one month later, the first time McDonald's introduced a new Chicken McNuggets flavor.

The long-awaited launch finally occurred in 2021 with the addition of the Crispy Chicken Sandwiches to menus nationwide.

The Crispy Chicken Sandwich is a white meat chicken filet topped with pickles on a buttered potato roll, while the Spicy Chicken Sandwich is topped with Spicy Pepper Sauce and the Deluxe Chicken Sandwich features additional toppings of lettuce, tomato and mayonnaise. ■

NEXT ON THE PLATE

Poultry Market Prospects BY MARK JORDAN

Chicken consumption continues to grow

In 2022, *per capita* availability of chicken in the U.S. totaled slightly more than 70 pounds on a boneless weight basis. That compares to 56 pounds of beef and 48 pounds of pork.

Top spot

For many who follow protein markets, it is almost taken for granted that chicken is the top choice, by volume, for U.S. consumers. However, it was not until 2010 that the category overtook beef for this distinction.

Over the past decade-plus, chicken's relative position to beef — and pork and turkey, too — grew considerably stronger as it relates to *per capita* availability and consumption.

Efficiency gains

Chicken consumption outpaced its peers on a relative basis largely due to the advantage the category holds in feed efficiency.

It's beneficial when integrators can raise a 6.5 pound bird, the approximate industrywide average, with an average feed conversion rate of around 1.8:1 or slightly better.

Even with feed prices elevated and other input costs increasing much more than usual over the past two years, integrators are still producing market-ready birds with an all-inclusive wholesale cost of around $1 per pound.

Much of the feed efficiency advantages the chicken holds over other species is a simple product of biology. But, it's taken decades of careful research for integrators to fully harness and implement advances in genetics, as well as housing technology, allowing birds to thrive in a controlled environment.

Demand grows, changes

While efficiency and cost optimization are critical to chicken becoming the most widely-consumed protein by volume in the U.S., there is also a demand story.

In the past, consumers always found boneless white meat cuts desirable, but other parts of the bird did not catch on as easily.

The introduction of the buffalo wing was a watershed moment. The phenomenon of marketing wings as a premium product began in the 1980s and 1990s, but it took well into the new century for demand to fully blossom and mature.

The success of this marketing trend is also evident with the rise of so-called boneless wings, another outlet for white meat products. Chicken consumption overall is indisputably boosted by demand growth in this space.

Favorable trend

Even as beef still holds the top spot from a value standpoint, chicken is poised to remain number one in volume *per capita* with U.S. consumers for the foreseeable

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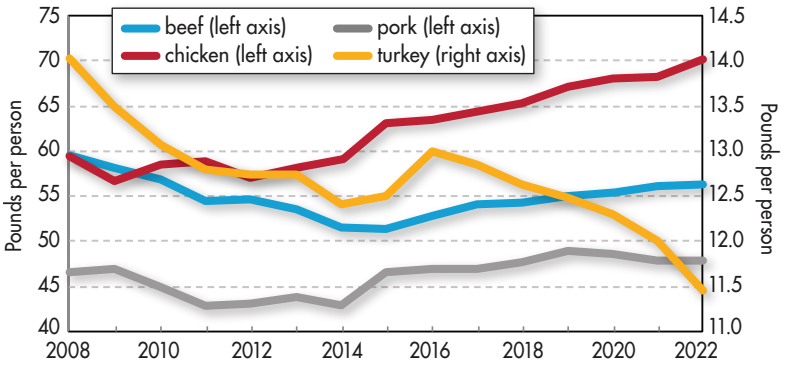
Per Capita Availability of Beef, Pork, Chicken and Turkey in the US, Boneless Weight Basis



Sources: USDA, LEAP Market Analytics

Domestic per capita availability of chicken hit record levels in 2022 at just over 70 pounds (boneless weight basis), 24% larger than beef in the number two slot.

future. The advantage could expand in the coming years.

Soaring inflation in the past couple years made U.S. consumers increasingly cost-conscious, favoring lower-cost protein sources like chicken.

Additionally, if at some point a marketing scheme is developed that creates a more favorable consumer experience with dark meat, similar to what transpired for wings over the past four decades, it would provide an opening for industry stakeholders to extract more value from that part of the bird. Another increase in chicken consumption would be likely to follow. ■

ARE CAMERAS THE FUTURE OF WOODY BREAST DETECTION?

The University of Arkansas's Agricultural Experiment Station is in the research and development stage of a hyperspectral camera that can help make the detection of woody breast myopathies faster and more accurate.

"Woody breast detection by hand can be labor intensive," said Casey Owens, the Novus International Professor of Poultry Science at the experiment station. "If hyperspectral imaging can be used in a poultry processing plant, that labor force could be diverted to another area."

Kylie Philipps

How does the technology work?

Hyperspectral imaging captures the electromagnetic frequencies of objects in an image, which, in the case of poultry, can identify texture differences between normal breast meat and denser woody breast meat.

"What we're trying to do is collect the spectral data, intensities that were reflected, and correlate them with texture properties. These are rated with a texture analyzer initially, and if we find a correlation between this spectral information and the texture properties later, we do not need a texture analyzer," said food science graduate Chaitanya Kumar Reddy Pallerla. "So, we can use this correlation and directly interpret the texture properties from the spectral properties."

How can this technology help the poultry industry?

"The current evaluation procedure is time-consuming and needs a sample tested through cumbersome laboratory tests," said Dongyi Wang, assistant professor of biological and agricultural engineering.

Noninvasive hyperspectral imaging would only take seconds and requires less intervention from employees, freeing them up for other tasks.

According to Wang, woody breast results in an approximate loss of $200 million annually in the U.S., which this new technology could significantly reduce since, at this point, the camera can detect woody breast myopathies with 84% accuracy.

Chicken breasts with woody breast would not be wasted but would be sent to be processed into prepared products like, for example, chicken nuggets. Keeping chicken with woody breast defects out of the supply of chicken cuts can save money and increase customer satisfaction. ■

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TYSON FOODS TO CLOSE FACILITIES IN VIRGINIA, ARKANSAS

Courtesy Tyson Foods

Tyson Foods will cease operations at facilities in Glen Allen, Virginia, and Van Buren, Arkansas, with planned closure dates of May 12.

According to an email from Tyson Foods spokesperson Derek Burleson, the company will close its processing, broiler and hatching operations in Glen Allen and its poultry processing plant in Van Buren.

Those decisions were based on economic efficiency, according to the company.

"To strengthen our chicken business, we are focused on operational excellence and optimizing our network to reach full capacity in every Tyson Foods facility. With that said, the current scale and inability to economically improve operations has led to the difficult decision to close the facilities," Burleson's email read.

"While the decision was not easy, it reflects our broader strategy to strengthen our poultry business by optimizing operations and utilizing the full available capacity at each plant."

According to news reports, the decision affects about 900 workers in Van Buren and 692 workers in Glen Allen.

Burleson said the company is working directly with impacted team members to help ensure they have the option to apply for open positions and relocation assistance where applicable to other Tyson facilities. Tyson is also working with state and local agencies to provide resources and assistance for affected employees who choose not to relocate. ■

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Earning producer trust is key to antibiotic studies

Finding out how much antibiotic a producer uses, and why they use it, can lead to better disease prevention strategies and further reduction in antibiotic use.

MEREDITH JOHNSON

Overall antibiotic usage in the U.S. poultry industry decreased significantly in the past decade, according to a recent report published by the U.S. Poultry & Egg Association (USPOULTRY).

While USPOULTRY's data findings in the current study are important, they were expected. All medically important antibiotic drug uses for production were withdrawn or transitioned to veterinary oversight, per Food and Drug Administration (FDA) guidances #209, #213 and the FDA Veterinary Feed Directive (VFD) implemented about 10 years ago.

As producers grow more confident in the data, the study's authors expect a higher participation level. *Polawat.klin | BigStock.com*

The purpose of the study was to demonstrate producer commitment to antibiotic stewardship and disease prevention in poultry, according to USPOULTRY President John Starkey, Dr. Denise Heard, USPOULTRY's, vice president of research programs, and Dr. Randall Singer, founder of Mindwalk Consulting Group, LLC.

"Antibiotics are an incredibly valuable resource for human and veterinary medicine. We need to make sure we're using them responsibly and one way to do that is to understand how they're being used on farm," Singer said. "The success of this study is not focused on the large reductions in antibiotic usage that we found, but on the participation level of producers."

The report, released in December 2022, encompasses a nine-year set of data collected from 2013 to 2021 for U.S. broiler chickens and turkeys. An additional six-year set of data set was collected from 2016 to 2021 for layers.

"One of the huge benefits of this project is it allows us to identify the diseases in each of these three commodities that result in the majority of antibiotic use, and that gives us a target," Singer said. "Many

John Starkey, USPOULTRY
Courtesy U.S. Poultry & Egg Association

Denise Heard, USPOULTRY
Courtesy U.S. Poultry & Egg Association

Randall Singer, Mindwalk Consulting
Courtesy Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB)

Broiler chicks receiving antibiotics in the hatchery decreased to 0% in 2021 from 90% in 2013.

kharhan | BigStock.com

people are focused on reducing the use. I say that we should be reducing our need."

Unique framework

After the industry learned about the FDA guidances, USPOULTRY took initiative in demonstrating the industry's responsible antibiotic usage, Heard said.

"The guidances were one of the initial pushes for the research," Heard said "We wanted to be transparent and show that the poultry industry is proactive to the new rules that were coming out."

Due to the sensitivity of poultry producer antibiotic data, USPOULTRY contracted Singer and his team to privately collect medically important antibiotic usage data from broiler, turkey and layer companies. Medically important antibiotics are those that are important for treating human disease.

The antibiotics Singer collected data on include penicillin, lincomycin, tetracycline, sulfonamide and neomycin.

The data covers 85% of U.S. annual chicken production, 70% of turkey and 45% of layer. Key data points from the research include:

- Broiler chickens receiving antibiotics in the hatchery decreased to 0% (2021) from 90% (2013).
- Medically important in-feed antibiotic use in broiler chickens decreased substantially: There was no reported in-feed tetracycline use in 2020 or 2021, and virginiamycin use decreased more than 97% over the nine-year period.
- Turkeys receiving antibiotics in the hatchery decreased to 40% (2021) from 97% (2013).
- Medically important in-feed antibiotic use in turkeys decreased substantially: In-feed tetracycline use decreased more than 80% over the nine-year period.

"We knew that the numbers were going to show dramatic reductions because we collected the data from 2013 to 2021," Singer said. "The increase in no antibiotics ever (NAE) production has increased. Currently our estimates are around 50% of chicken is raised NAE."

According to Starkey, broilers and turkeys were the primary focus, and have the longest timeframes in the study, due to vertical integration making the data collection process easier. Layer production was added to the study later.

Industry trust

A key piece to the success was building trust between producers, USPOULTRY and Singer's data collection and reporting process.

"Even though the industry fears this information can be used against them, it has been open to working with us and providing data, as long as we are able to keep it confidential," Heard said.

In the beginning of the study, producers were concerned if USPOULTRY and Singer's team would be able to collect the data in a protected format and report it in a way that accurately shows how antibiotics are being used on poultry farms.

However, trust has only grown over time as companies become more comfortable with the data collection process, Singer said.

"We have worked hard since the beginning to ensure transparency in the process and that there is oversight by an unrelated agency, like U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), who helps audit some of the data. It's critical that the data is trusted," Singer said.

As producers grow more confident and see the data published in a scientific journal, Starkey expects a higher participation level.

"We have a positive outlook on increasing participation as we continue with the survey," Heard said. "We think that as we move to publishing the survey results annually, we'll have more industry participating in it."

BY UNDERSTANDING HOW ANTIBIOTICS are being used by producers, the industry can find the unnecessary applications, which will reduce its antibiotic usage.

Poultry is a leader

So far, the poultry industry is the only sector with enough participation to publish a report of this nature.

"What we have accomplished could be a model for the other commodities, as the FDA is trying to figure out a system for collecting data at the national level," Singer said "With that said, every industry is different, and every commodity is going to have its own challenges.

"We don't have to work with too many companies to get a majority of poultry production."

By understanding how antibiotics are being used by producers, the industry can find the unnecessary applications, which will reduce its antibiotic usage. This will ensure they are effective when needed.

"We want to make sure that we're using the antibiotics responsibly. We use the antibiotics when they are needed for treating or controlling disease." Singer said. "I want to know that we're using antibiotics when needed and that veterinarians have options for handling diseased birds."

"One reason the poultry industry has grown so much is because we've always been willing to embrace new challenges and learn from science. That has pushed us into a more sustainable and safer food supply," Starkey said. ■

@ US Poultry releases antibiotic stewardship report: **www.WATTAgNet.com/articles/46365**

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Less antibiotic use in US broilers, but more mortality

Industry sources say the no antibiotics ever movement negatively affected livability and bird performance.

MEREDITH JOHNSON

Overall antibiotic usage in the U.S. poultry industry decreased significantly in the past 10 years, according to a recently updated report published by the U.S. Poultry & Egg Association (USPOULTRY).

Reduction in antibiotic use is driven by a combination of new regulations, voluntary actions by poultry companies and purchasing decisions by some large retail and foodservice outlets.

The greatest reduction in antibiotic use was seen in the U.S. broiler industry. There, the production of birds raised without antibiotics quickly grew from a small niche market to more than half of all production.

According to industry sources, when broiler producers started to transition to no antibiotics ever (NAE) production, mortality rates increased, particularly first week mortality. In addition, feed conversion ratios (FCR) and growth rates were negatively impacted.

@ Could broiler mortality be reduced by feeding egg yolks?: **www.WATTAgNet.com/articles/46104**

Some broiler complexes adapted growing programs to yield field performance which comes close to that of operations still utilizing antibiotics. But total production costs tend to be higher for birds raised without antibiotics.

This is due to increased downtime between flocks, reduced bird density in the broiler house and use of nonantibiotic feed additives even if mortality and FCR are comparable to flocks raised using antibiotics.

Since approximately 2018, the percentage of broilers in the U.S. raised without antibiotics remained relatively constant, at around 58%. This allowed annual improvements in bird performance the industry expects from genetic selection to once again be evident.

Standard improvements in FCR, or calorie conversion, and growth rates resumed in the past five years. However, industry sources indicate that mortality continued to increase.

USPOULTRY's findings

USPOULTRY's data findings were expected, given that all medically important antibiotic drug uses for production were withdrawn or transitioned to veterinary oversight. The antibiotics referenced in the study include penicillin, lincomycin, tetracycline, sulfonamide and neomycin. The data covers 85% of U.S. annual chicken production, 70% of turkey and 45% of layers.

Key data points identified in the study between 2013 and 2021 include:

- Broilers receiving antibiotics in the hatchery decreased to 0% from 90%.
- Turkeys receiving antibiotics in the hatchery decreased to 40% from 97% .
- Medically important in-feed antibiotic use in broilers and turkeys decreased substantially.

Poultry, feed producers navigate HPAI, ingredient costs

Annual survey reveals how macro trends will influence poultry production and feed formulations this year.

JACKIE ROEMBKE

WATT Global Media's annual Poultry Nutrition & Feed Survey offers insight into the trends impacting the poultry industry worldwide, and reveals how poultry producers, nutritionists and feed manufacturers are adapting to new and evergreen production challenges.

In 2023, Russia's invasion of Ukraine, high inflation, recession fears, and animal diseases have made survey respondents slightly less optimistic than they were in 2022. While 44% of respondents believe their company's profitability will improve in 2023, 30% feel it will remain flat and 26% predict it will deteriorate. Regardless, 37% of survey respondents forecast increased feed production in the next 12 months and 36% think it will stay the same as their 2022 volume.

The 2023 edition of the global survey includes feedback from 328 respondents, with more than half of those responding serving as nutritionists, consultants and veterinarians; 16% work in live production management or own a poultry farm.

2023 profitability challenged by HPAI, Ukraine

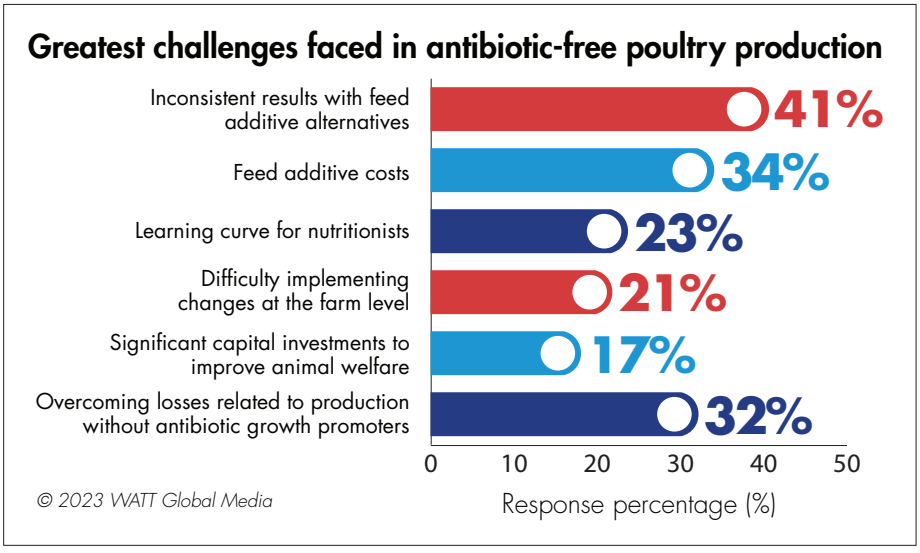
In 2023, respondents will be grappling with the effects of two crises not reflected in last year's report: the war in Ukraine and the devastating highly pathogenic avian influenza (HPAI) outbreak.

According to 84% of respondents, HPAI has greatly or moderately decreased their feed production and will continue to challenge their poultry operations and

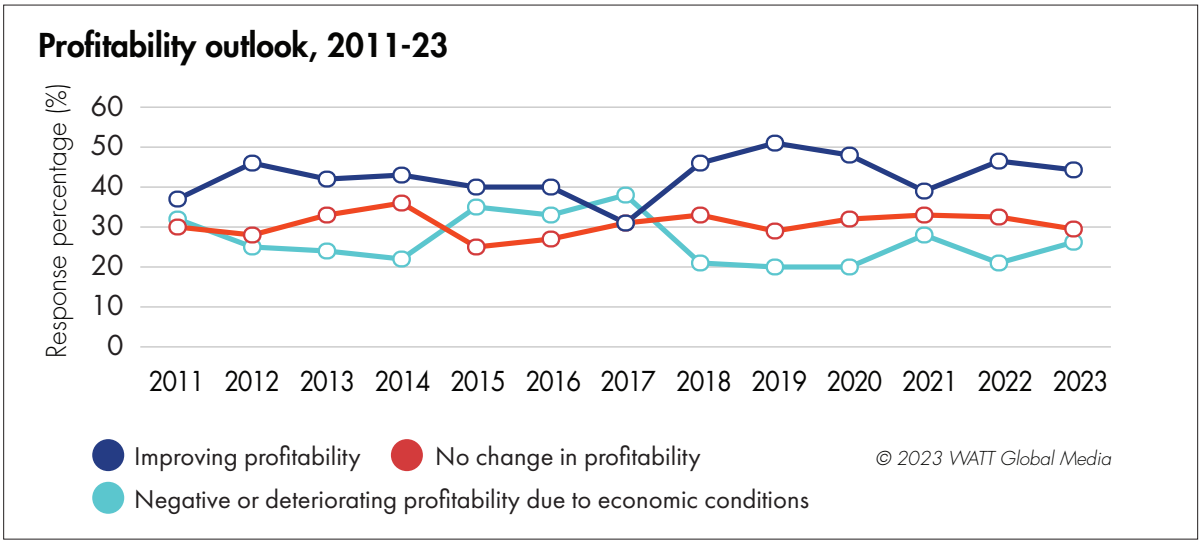
Expectations for 2023 raw material costs

16% Increase by 5%
29% Increase by 5% to 10%
30% Increase by more than 10%
8% Decrease
12% Stay the same
5% Other

Input price volatility carries into 2023, with respondents estimating their costs to increase by between 5% to 10% (29%) or to exceed 10% (30%).



Inconsistent results, high additive costs and the losses related to production without antibiotic growth promoters challenge poultry producers who have reduced or eliminated their antibiotic usage.



Forty-four percent of survey respondents are optimistic about their company's 2022 profitability, down slightly from 2022.

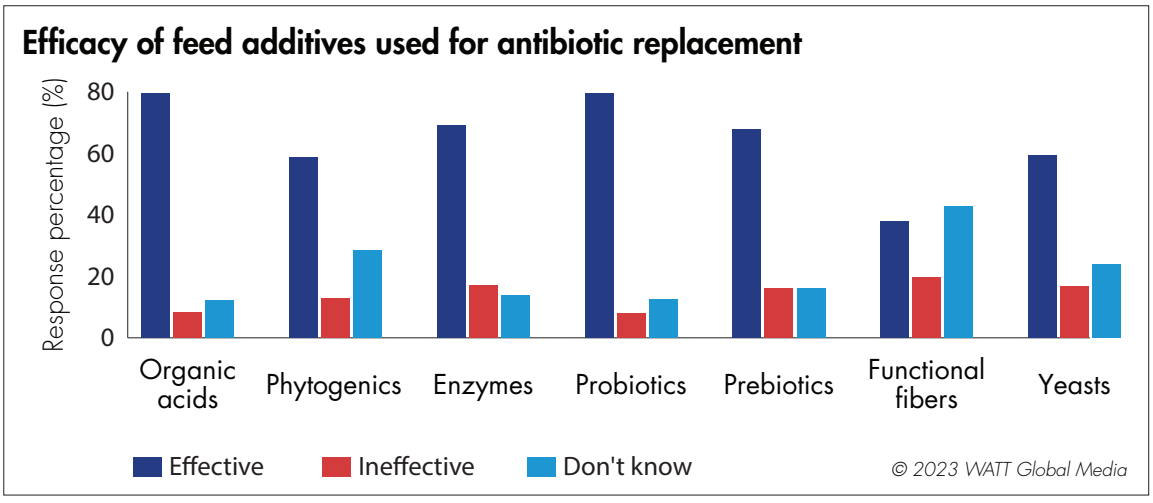
biosecurity protocols into 2023.

One year after Russia's invasion of Ukraine, 88% note that the conflict has impacted their business, with 51% stating that it has had very significant effects by further heightening market volatility and economic uncertainty.

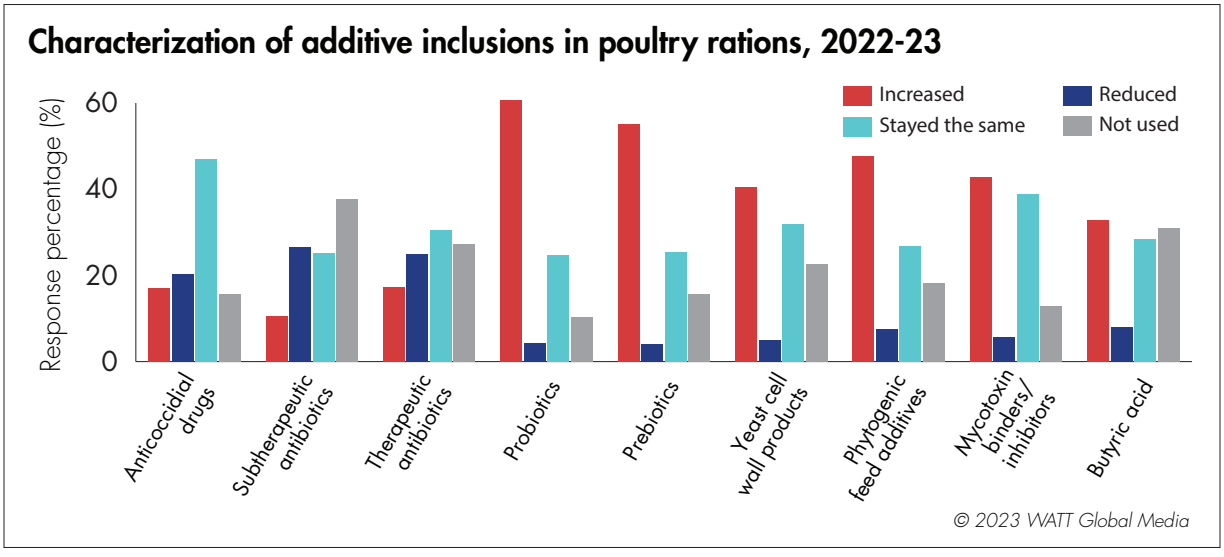
When asked to weigh in on the primary challenges facing their business, 86% cited raw material costs as their No. 1 challenge — with at least 30% bracing for increases of more than 10%. Twenty-nine percent of survey respondents anticipate their grain costs will rise by between 5% to 10%; 15% of respondents anticipate costs increasing by 5% or less. Meanwhile, 12% are optimistic they will stay the same as 2022, and only 8% believe their ingredient costs will decrease.

High energy and transportation costs (75%) ranked among producers' top concerns. Respondents also believe rising feed additive and micro-ingredient prices (61%) and availability (60%) will further increase their feed costs. Sixty-four percent report tight or deteriorated margins causing concern.

Despite high interest rates, some poultry and feed companies are making capital investments in 2023. Thirty-five percent of survey respondents report their company is



Organic acids and probiotics — when used alone or combination with other additives — rank highly as effective solutions in antibiotic-free diets.



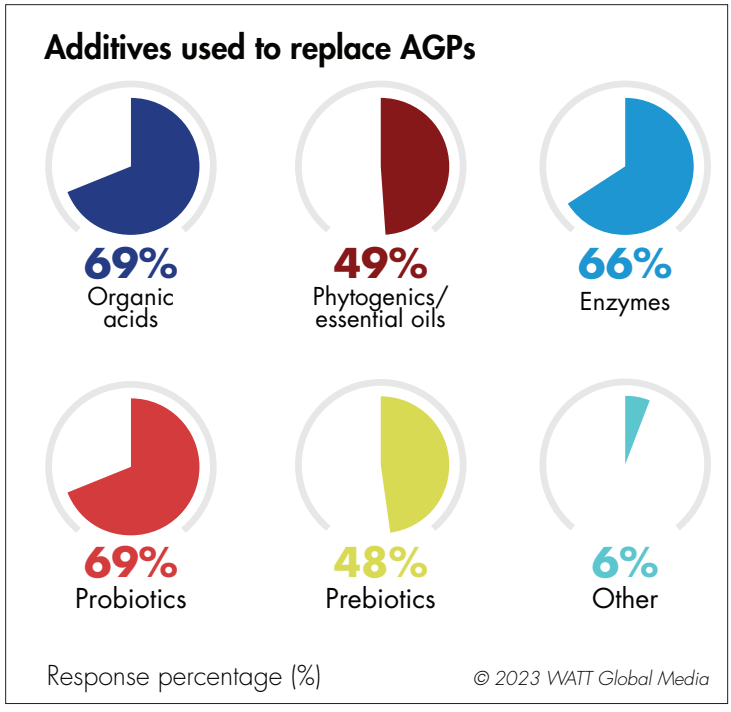
Survey respondents report plans to increase their use of probiotics (61%) and prebiotics (55%) in 2023.

investing in biosecurity; 30% plan to upgrade their feed mills and another 30% will purchase new manufacturing or processing equipment this year. Eleven percent of respondents share that their company will be undertaking greenfield facility construction. However, 28% report no major or notable financial investments on the horizon this year.

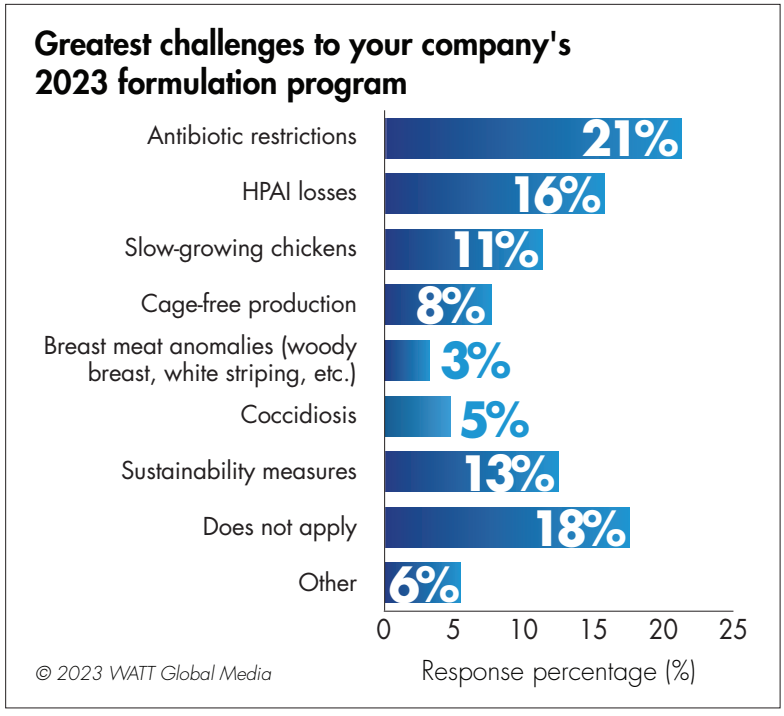
Climate change, sustainability influence feed production

Sustainability will influence poultry and feed producers in 2023. For example, 45% of survey respondents say they have changed their formulations to include additives that draw more nutrients from rations and 31% added emission-reducing feed additives to their feeding programs.

Twenty-six percent of respondents report that their downstream customers have requested proof of sustainable practices and sourcing, and 27% report these customers are making decisions based on the perceived environmental impact of their suppliers. Thirty-three percent of respondents believe that in the future companies will be required to



Survey respondents report utilizing and/or combining probiotics (69%), organic acids (69%) and enzymes (66%) to replace AGPs.



Inconsistent results, high additive costs and the losses related to production without antibiotic growth promoters challenge poultry producers who have reduced or eliminated their antibiotic usage.

Survey highlights

The 2023 Poultry Nutrition & Feed Survey includes input from 328 poultry and feed industry stakeholders worldwide. This WATT Global Media special report seeks to identify the feeding and external trends shaping these sectors during the past 12 months; it was conducted in English and Spanish.

Participants included:

Nutritionists: 28%
Veterinarians: 13.5%
Consultants: 13%
Quality control, purchasing agent, other: 11.5%
Poultry farm owner/grower: 11%
Marketing and sales: 9%
Live production management: 5%
Feed mill/plant operations: 5%
General administration: 4%

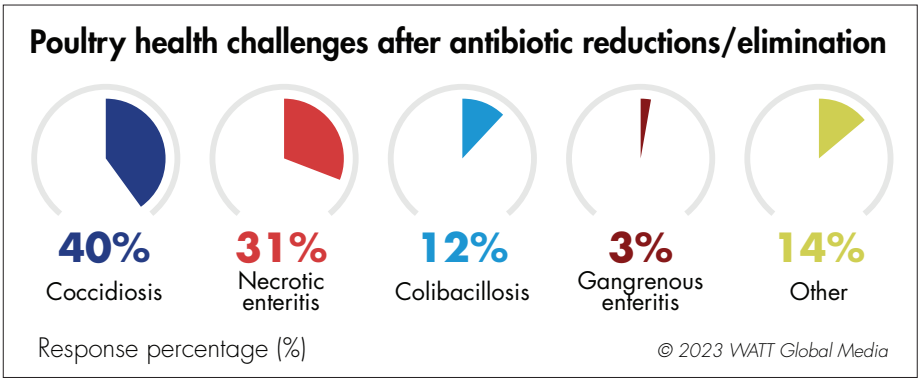
Responses from:

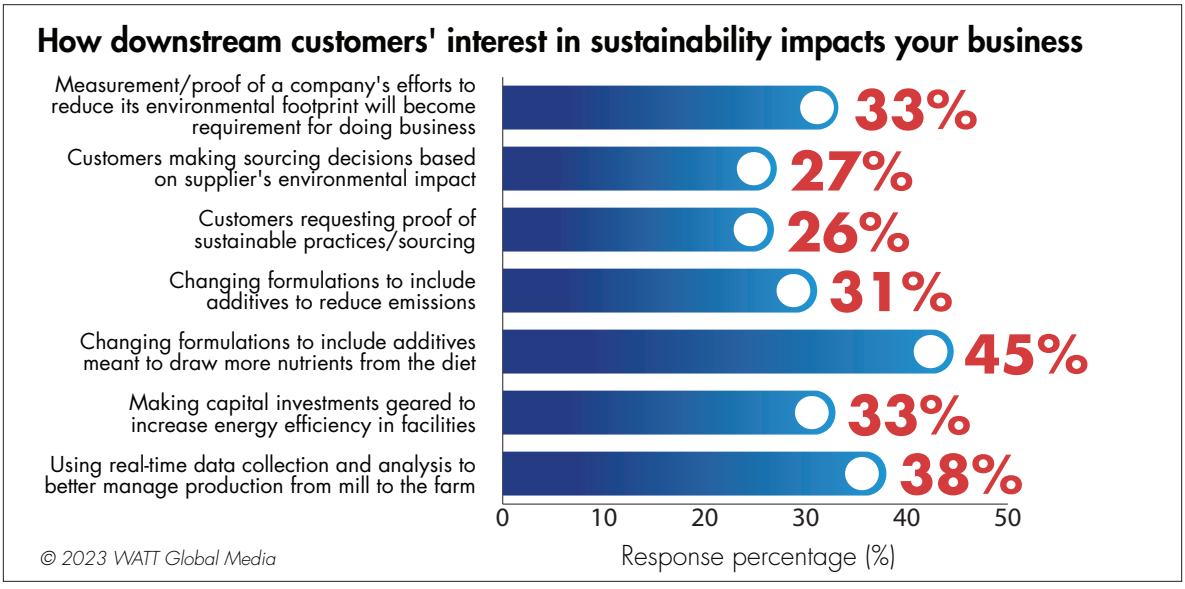
United States/Canada: 27%
Mexico/Latin America: 25%
Asia/Pacific: 21%
Europe: 13%
Africa: 12%
Middle East: 2%

Sectors:

Consultant/veterinarian/ nutritionist: 43%
Feed manufacturing: 13%
Manufacturing/distributing feed additives: 10.5%
Egg production: 9%
Broiler production: 8%
Breeder farm/hatchery: 4.5%
Premix manufacturing: 3%
Turkey/duck production: 2%
Poultry processing: 1%
Other: 6%

Once antibiotics were reduced or eliminated from production, 40% of respondents report heightened incidents of coccidiosis and necrotic enteritis (31%) in their flocks.





Pressure from downstream customers is influencing feed formulations and the sustainability measures respondents are taking to reduce their environmental footprint.

provide proof and proper documentation of its efforts to reduce its environmental footprint, which will become a requirement for doing business.

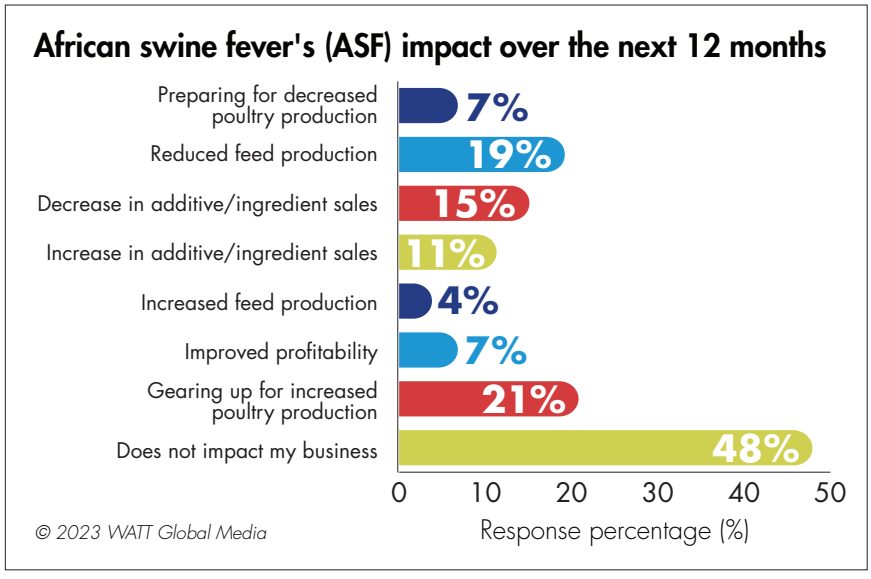
Companies are also investing in equipment to improve energy efficiency in their facilities (33%) and utilizing real-time data collection and analysis to better manage production (38%).

In 2023, most survey respondents acknowledge climate change and its impacts on agriculture. As it relates to feed production, in the future, survey respondents believe climate change will be responsible for impacting raw material availability (53%), high commodity costs (55%), increased instances of mycotoxin contamination (37%) and difficulty maintaining feed quality (35%). Thirty-eight percent of respondents will be exploring new grain sources and alternative ingredients.

Poultry producers feel it will impact animal health and welfare (44%) and pose on-farm production challenges (40%).

Antibiotic reduction, elimination

Asked to identify which poultry production trends will have the greatest impact on their feed costs and formulation programs, 21% of respondents cited antibiotic restrictions as their greatest production challenge in 2023, Next, 16% noted HPAI losses,



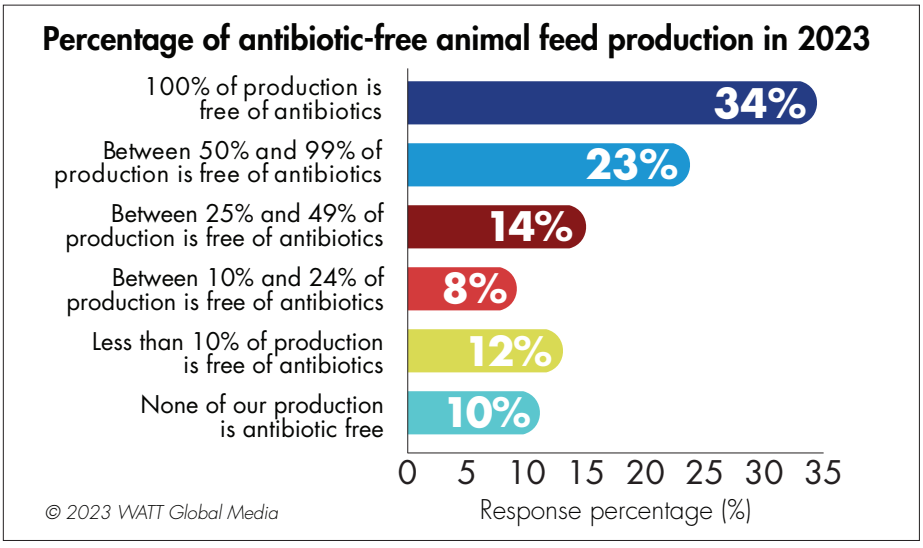
Twenty-one percent of survey respondents are planning for increased poultry production in 2023 due to ongoing effects of African swine fever (ASF) on swine herds. Other respondents expect decreased feed production (19%) and additive/ ingredient sales (15%).

13% sustainability and 11% slow-growing chicken production.

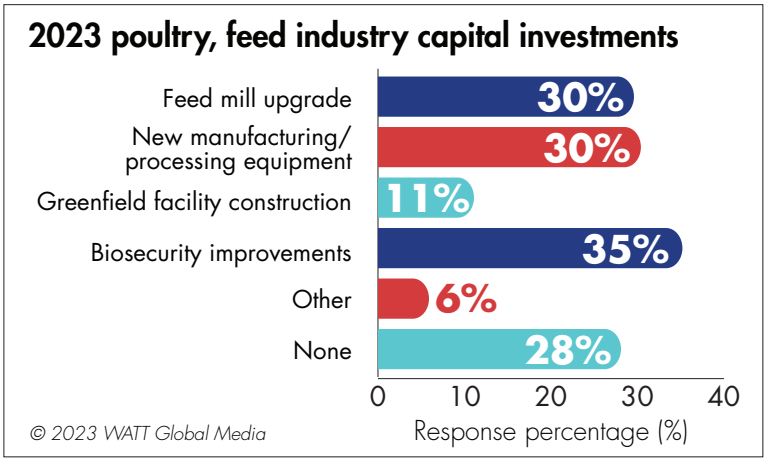
Ninety percent of 2023 survey participants report having some degree of antibiotic-free (ABF) production in their poultry operations — with 34% stating that 100% of their production is ABF.

The greatest challenges respondents cite in the transition to ABF poultry production lie in the inconsistent results they have experienced with feed additives alternatives (41%), the cost of feed additives (34%), the losses related to the elimination of

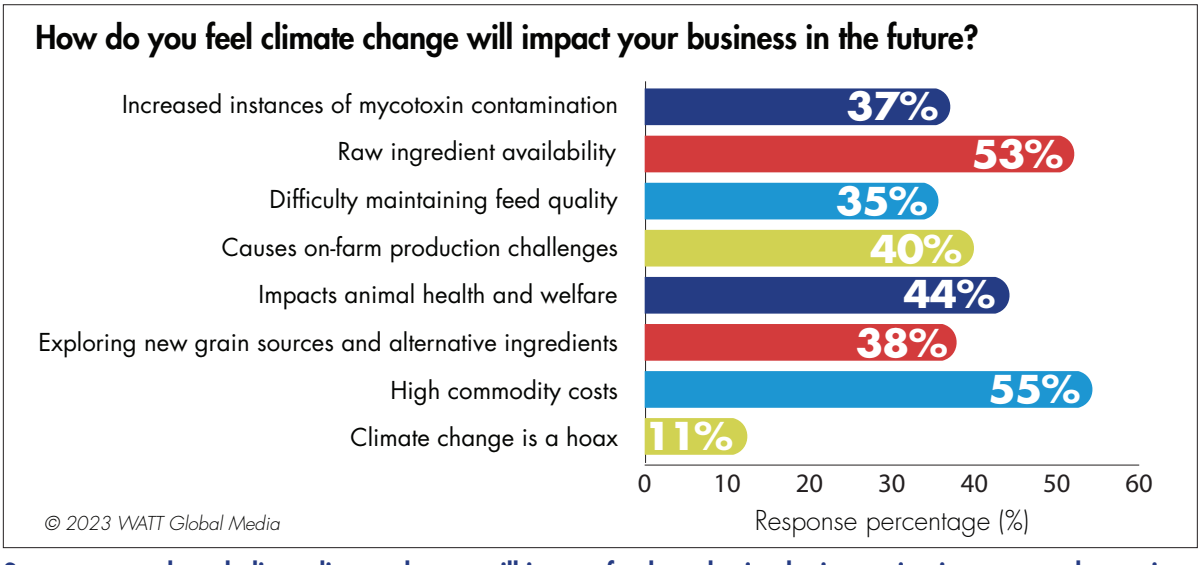
2023 Poultry Nutrition & Feed Survey



Thirty-four percent of respondents report their operation(s) being 100% antibiotic free; 23% say between 50% and 99% of their poultry production is free from antibiotics.



Poultry and feed companies plan to invest in biosecurity, new equipment and plant upgrades in 2023.



Survey respondents believe climate change will impact feed production by increasing input costs, decreasing grain quality and reducing availability.

antibiotic growth promoters (AGP) (32%) and the learning curve for nutritionists (23%).

Respondents cite increased coccidiosis (40%) and necrotic enteritis (31%) in their poultry operations correlating with antibiotic reductions or elimination.

Weighing in on AGP alternatives

Seventy-one percent of respondents report that their company is actively exploring, testing or using feed additives as antibiotic alternatives or replacements.

To regain the production gains AGPs provided, survey respondents have incorporated different feed additives into their rations to bridge the gap. Probiotics (69%) and organic acids (69%) tied as the most popular AGP alternatives, followed by enzymes (66%), phytogenic feed additives (49%) and prebiotics (48%).

Respondents report probiotics (80%), organic acids (80%) and enzymes (69%) to be the most effective feed additives alternatives to antibiotics. The efficacy of prebiotics (67%) and yeasts (59%) ranked fourth and fifth respectively. Fifty-eight percent of respondents believe phytogenic feed additives and essential oils are effective, but 28% didn't comment on the efficacy of the category. Nearly half of respondents did not know how to leverage functional fibers (43%) in ABF diets.

Comparing their outlook for 2023 inclusions against 2022, respondents will increase their use of probiotics (61%), prebiotics (55%) and essential oils (48%) this year. Twenty-six percent will decrease their use of subtherapeutic and therapeutic (25%) antibiotics in their poultry operations. ■

@ Poultry feed formulations reflect sustainability pressures: **bit.ly/3XuyVG3**

Rethinking poultry farm biosecurity in response to HPAI

Global stamping out efforts in 2022-23 resulted in record losses of domestic poultry.

ERIC GONDER

Highly pathogenic avian influenza (HPAI) is present almost worldwide and is becoming endemic in wild birds. For a continuing disease situation, the commercial poultry industry needs a long-term approach — similar to those in primary breeders.

This will require increased capital expense, careful design and a more comprehensive approach than that of conventional operational biosecurity.

Changes needed

To protect poultry when HPAI was not endemic, we relied on operational biosecurity, which involves how to safely get everything poultry need on and off farms and in and out of buildings without bringing in disease.

This usually meant training employees on how to move themselves and equipment in and out of houses securely with clothing and footwear changes, disinfecting equipment on entry and establishing farm perimeters. It is a quick response usually requiring training, minor physical changes and not a great deal of capital expense.

To decide what needs to change, we must ask how the risks have changed with more species of wild birds affected, and possibly other animals carrying HPAI consistently, rather than seasonally.

Turkeys are at a higher risk since a lower dose of virus is needed to infect them.

Kurupin_Kp2 | Shutterstock.com

Lessons learned

Considering the types of flocks most affected in the current North American epiornithic, some general observations can be made:

1. Longer lived poultry are at higher risk, including breeders, turkeys and table-egg laying chickens. Short-lived meat chickens are at lower risk. The longer the birds live, there is a greater risk that HPAI will be introduced to that flock.
2. Farms with more poultry houses are at higher risk of virus introduction within the farm perimeter. The larger the farm area, the greater the chance wild birds will deposit virus on the farm.
3. Farms with more birds per house are at higher risk due to increased entry frequency of personnel and equipment.
4. Poultry requiring personnel and equipment to enter houses more frequently are at higher risk. More trips in and out of the house increase the chance that the virus will be brought in.
5. Poultry exposed to natural ventilation or high-velocity ventilation systems are at higher risk. Aerosol transmission risks are higher. Natural ventilation is the highest risk but unscreened inlets and entrances increase potential exposure to insects and other vectors. Areas with windborne dust transmission between farms are at higher risk.
6. Farms with high labor requirements are at higher risk due to the increased risk of personnel turnover and need for contract employees. Both issues require increased attention to training and the designing of biosecurity procedures to be as easy and foolproof as possible.
7. Farms attracting feral birds are at higher risk, including those in migratory flyways, near standing water, with attractive nesting and resting sites or other attractants. The more wild birds visit a farm, the greater chance that HPAI will be introduced.
8. Turkeys are at higher risk since a lower dose of virus is required to infect them.

Longer lived poultry like breeders, turkeys and table-egg laying chickens are at higher risk of contracting avian influenza. *Moose Henderson | Dreamstime.com*

Potential solutions

What can be done to reduce these long-term risks?

- Recognize turkeys, breeders, table-egg laying chickens, large farms and large houses need increased protection. Plan capital expenditures, labor requirements and other needs accordingly.

- Reduce the need for people and equipment to enter houses by utilizing remote monitoring, automated equipment and robotics as much as possible.
- Keep farm and house size as small as is practical.
- Design farms and houses to eliminate feral bird and animal attractants and maintain them properly. Remove or protect standing water sources, screen potential nesting, perching areas and more.
- Design ventilation systems to accommodate biofilters and reduce aerosol dispersion from exhaust ventilation. Directing fan outflow downward reduces aerosol dispersion of potentially contaminated dust. Biofilters at ventilation inlets require increased fan capacities.
- Plan new construction as far from other poultry as possible. If there are more farms in a small area, the risk is increased.
- Work with vendors and suppliers to design equipment and facilities that are easy to clean and disinfect.
- Provide supervisors and managers with the time to train and supervise employees and contractors. Inspect all biosecurity procedures on both a regular and unannounced basis.
- In areas with potential dust transmission between farms, plant trees or shrubs can reduce wind velocity and dust transmission.
- Design or modify houses to create entrances for only clean personnel and equipment, and exits for potentially contaminated personnel and equipment, to reduce the potential for cross contamination and the chances of operational biosecurity errors.

Everyone needs to recognize that every surface outside the poultry house can be contaminated with the influenza virus and that everything that comes in contact with anything outside the house can bring the virus inside. That includes personnel, equipment, feral birds, other animals, insects and possibly contaminated air under the right conditions.

Recognize that things have changed. Think, be innovative and plan for this long-term risk. The changes that need to be made will reduce other disease risks as well. ■

Eric Gonder, MS, Ph.D, DVM ACPV, consulting veterinarian

What HPAI vaccination in U.S. poultry could look like: **www.WATTAgNet.com/articles/46746**

Highly pathogenic avian influenza risks changed with more species of wild birds affected, and possibly other animals carrying the disease consistently. *Carl Banks*

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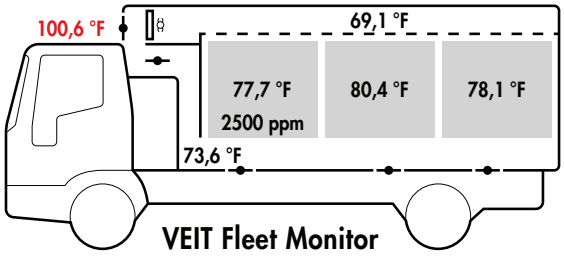

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How the quest for net zero will shape the poultry industry

More efficient feed and nutrition will be vital in improving sustainability.

ELIZABETH DOUGHMAN

U.S. consumers reliably indicate sustainability and environmental impact play an important role in poultry purchasing decisions. As a result, many poultry retail and foodservice brands are setting goals to achieve net zero or improve sustainability.

These goals will significantly impact how poultry are fed, raised and processed and the effects will be felt along the entire poultry supply chain.

During "Net zero and the future of sustainable poultry production," a panel discussion recorded by WATTPoultry.com and Evonik Animal Nutrition at the 2023 International Production & Processing Expo (IPPE) in Atlanta, Georgia, a trio of industry insiders discussed the drivers for net zero and sustainability programs and what the poultry industry is doing to accelerate progress toward these goals.

The panelists were:

- Andy Rojeski, head of strategy, investor relations and Net Zero programs at Pilgrim's Pride Corp.
- Faazi Adam, director of sustainability for Evonik's animal nutrition line.
- Lara Moody, executive director of the Institute for Feed Education & Research (IFEEDER).

Consumer perception

Product labels displaying eco-friendliness are one way to communicate how improvements in the way poultry are fed, raised and processed are decreasing the environmental impact of the industry.

One example is Kipster, an operation that produces carbon neutral eggs in partnership with egg producer MPS Egg Farms through a combination of upcycled

Kipster, an operation that produces carbon neutral eggs, is an example of how sustainability can appeal to consumers. *Courtesy Kipster*

Andy Rojeski, Pilgrim's Pride Corp.

Courtesy Pilgrim's Pride Corp.

Faazi Adam, Evonik

Courtesy Evonik

Lara Moody, IFEEDER

Courtesy Institute for Feed Education & Research

feed and supporting external carbon reduction projects.

Climate friendly labels, as they're sometimes known, are more common in the European Union (EU), particularly on well-known consumer brands.

"It'll be interesting to see how that develops for the livestock industry. I'm guessing that it will go sort of the same way where you see products with a recognizable brand that are specifically trying to appeal to this part of the market," Adam said.

Sustainably as an opportunity

In the U.S., feed production accounts for 60% of all greenhouse gas emissions in agriculture, making improvements in crop growth a major opportunity for the entire supply chain.

"Crop production is a significant source of feedstuffs for poultry production systems," Moody said. "So, the footprint of crop production is a significant impact on the footprint of poultry production."

A new principle called regenerative agriculture could help reduce environmental impact, while still maintaining profits. It focuses on farming and grazing practices aimed at reversing climate change by rebuilding soil organic matter and soil biodiversity.

There are generally five accepted pillars for regenerative agricultural systems. They are practices that: minimize disturbance to the soil, increase the production biodiversity on the farm, maintain an active cover on the soil, maintain live root systems in the soil and, where possible, integrate agricultural systems.

"If we could put regenerative agricultural practices on all production systems within the U.S., we could potentially reduce our agricultural greenhouse gas footprint by about 40% regardless of location," she said.

"We have to find ways to optimize those five pillars for regenerative agriculture, as best we can in in the systems that are local to us."

Feed efficiency

Poultry growers should also look for ways to improve feed efficiency in their birds to further reduce environmental impact.

Performing regular nutritional analysis through infrared spectrometry is a good way to understand more about the amino acids, fatty acids and other nutritional factors present in poultry feed.

"It's really important for food producers and for farmers to really understand in as much detail as possible what the nutritional profile of these products are because it can vary so much with time and with weather," Adam said.

"With that extra knowledge, you're able to think about what kind of micro-ingredients do I need to really achieve a consistent quality in my feed that's going to give the best benefit to my animals consistently over time."

Birds with better feed efficiency are a lower cost to farmers. Moreover, they have a decreased environmental impact. It's a win-win for everyone involved.

Courtesy Kipster

Kipster works with egg producer MPS Egg Farms through a combination of upcycled feed and supporting external carbon reduction projects.

Courtesy Kipster

"It's important to make sure all the stakeholders understand not only in terms of how their piece impacts greenhouse gas reduction, but also some of the downstream or upstream implication of some of these choices," Rojeski said.

Critical partnerships

Pilgrim's has set aggressive net zero goals, pledging to reduce greenhouse gas (GHG) emissions by 30% in 2019. Partnerships are key to achieving this goal, Rojeski said.

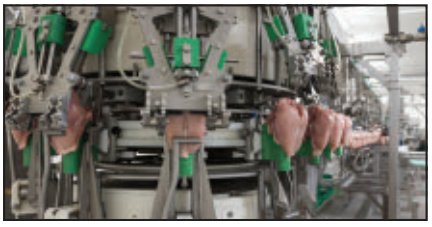
"We're asking the farmers to do something different from what they've known and been very successful with for generations. That's going to take, not only to collect data, but also to help people understand and help the community understand here's what can be done better," he said.

"We do need to create some sort of supportive business environment where the cost of those improvements is shared equally throughout the value chain," Adam said. "That means talking to retailers who are buying the products. It means engaging consumers on why we need to invest in more sustainable food.

"It means engaging policymakers on why this is a long-term policy issue as well. It's much broader than just within the feed farming industry." ■

@ Interested in watching the video recordings? Go to: **www.WATTAgNet.com/articles/46732**

»PRODUCT REVIEW



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