WATT Global Media Focus Series: Volume 2

Cage-free Eggs:

Consumer Trust in the Poultry Industry

CAGE-FREE EGGS | CONTENTS

INTRODUCTION

Social media and activism are largely influencing consumers' views on animal agriculture welfare, specifically hen welfare and the rise of the cage-free egg movement. This collection of exclusive and in-depth cage-free focused articles from the acclaimed editors of Egg Industry, WATT Poultry USA and Poultry International magazines plus expert contributors will provide you with highly valuable insights.

Food-chain safety and transparency issues are influenced by family, friends and other non-experts, making it critical for the poultry industry to control messaging and tell its story. Building consumer trust not only entails conveying communicating scientific facts, but also that poultry companies and the industry are ethical, responsible and honest.

U.S. cage-free layer flocks continue to grow at a rapid rate to keep up with the cage-free pledges made by large retailers, food processors, fast-food and restaurant chains. McDonald's 10-year transition to only purchasing cage-free eggs in the U.S. and Canada is a tipping point considering they serve 2 billion eggs per year just in the U.S. McDonald's cites consumer preference for its move to using only cage-free eggs, but producers question the company's assessment since the vast majority of U.S. consumers pass up cage-free eggs in the retail case and purchase less expensive eggs produced by cage-housed hens. Cage-free egg production and sales in the U.S. still represent only about 10 percent of the total.

The market, not egg producers, are setting the course for cage-free egg production as the future of the industry. As a result, the three largest egg producers in the U.S. are designing and building cage-free farms that will become the largest cage-free egg facilities in North America. Raising cage-free hens introduces new management challenges for egg producers, which requires revising husbandry methods to ensure bird health, welfare, productivity and, of course, profitability are not sacrificed at the expense of consumer preferences. Egg producers also must decide quickly which type of cage-free housing system they should use to supplement, or replace, their cages. Producers and retailers looking for advice on how to equip themselves to go cage free will likely need to turn to independent organizations offering auditing and certification of animal livestock operations to market cage-free eggs.

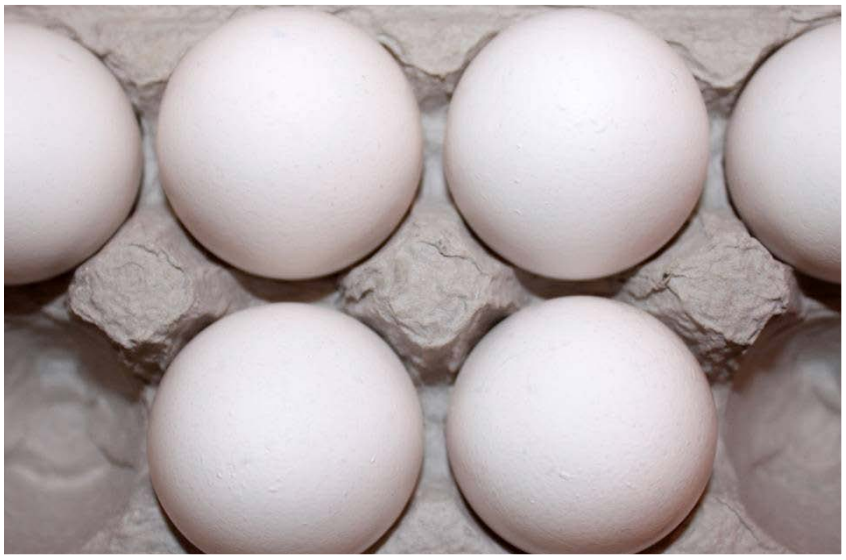
It is critical to stay on top of the most important issues impacting our industry today to remain competitive. The WATT Global Media Focus Series was created to help you achieve that objective, and ultimately succeed in reaching your business goals.

CAGE-FREE MOVEMENT

WATT Global Media Focus Series: Volume 2

Cage-free Eggs: Consumer Trust in the Poultry Industry

DOES THE 'CONSUMER' REALLY WANT CAGE-FREE EGGS?



Andrea Gantz

Former McDonald's executive, Robert Langert, said: "Quality is redefined as feeling good about the food we eat." | Terrence O'Keefe

By: Terrence O'Keefe
Published: October 18, 2016

Egg producers need to learn how major egg purchasers evaluate consumer sentiment -- it isn't just about point-of-purchase buying decisions.

Robert Langert, retired McDonald's vice president of sustainability, told egg producers at the United Egg Producers' Annual Board Meeting & Executive Conference in Miami Beach, Florida, on October 18, that McDonald's cage-free purchase pledge was based on consumer, not activist, desires.

He said the fast food giant shifted a few years ago from an operational focus to being customer driven, and adopting the cage-free purchase pledge fits into this focus on the customer.

Egg producers who questioned Langert didn't agree with his assessment of what consumers want. These egg producers cited the fact that the vast majority of U.S. consumers pass up cage-free eggs in the retail case and purchase less expensive eggs produced by cage-housed hens. Cage-free egg production and sales in the U.S., including organic eggs, still represent only about 10 percent of the U.S. total.

"No one is closer to the consumer than McDonald's"

Langert either wasn't able or willing to explain the real methodology that a consumer brand company goes through in evaluating what consumers want, but it is obvious it involves a lot more than just looking at current point-of-purchase decisions. Langert cited three megatrends that he said are shaping purchase decisions by companies like McDonald's. Consumers want to know where there food comes from, how it is processed, and what ingredients are in it. To meet these

three consumer requirements, Langert said food producers and processors need to figure out how to be transparent. He said food and agriculture companies are generally bad at this now.

MAKE THE CONSUMER FEEL GOOD ABOUT YOUR BRAND

Consumers need to feel good about using your product if you want to build your brand.

> ***"Quality is redefined as feeling good about the food we eat"***

To protect their brand, companies like McDonald's need to stay in front of consumer demands, not respond to them, according to Langert. He explained that making a switch from conventional to enriched cages wouldn't gain McDonald's "credit with consumers." He said that only going to cage free would give the company credit with consumers.

Langert didn't talk about how companies with consumer brands monitor all of the messaging and chatter about their products online. Based on my own research, I'll offer what I have learned about the process used by consumer brand companies: Whether it is bloggers, media outlets or social media platforms, large consumer brand companies have to monitor and respond to consumer sentiment and messaging about their brands constantly. These companies are looking at what is trending and trying to anticipate what is next and deal with possible concerns before they become problems. Success as a consumer brand requires responding now to what the consumer will want in the future.

US CONSUMERS STILL PREFER CHEAPER CAGE-PRODUCED EGGS

Consumers have access to shelves filled with cage-free eggs, but most still prefer less expensive cage-produced eggs. | Terrence O'Keefe

By: Terrence O'Keefe
Published: July 7, 2016

The big question is how much longer grocery shoppers will have a choice of the type of eggs they buy

With the tsunami of cage-free egg purchase pledge announcements this year, you might think U.S. egg producers would be struggling to meet the surging demand for cage-free eggs, but that isn't the case. A recent story on Marketplace explained how the current glut of cage-produced eggs has resulted in very low retail egg prices and that many consumers just aren't willing to pay as much as $2 more per dozen eggs to get cage-free eggs.

The net result is that some of the increased production of cage-free eggs are being packed and sold as cage-produced eggs, because the market just isn't absorbing the increased supply of cage-free eggs. Free markets have a very efficient, if sometimes painful, way of matching supply with demand. The story has Terry Pollard from Big Dutchman mentioning egg producers canceling or delaying orders for cage-free systems because of the current supply glut of cage-free eggs.

Delaying increases in cage-free hen housing as a result of the current supply-and-demand situation is a logical response by producers, but there is another option. At some point, won't a retailer just decide to offer lower prices on cage-free eggs? If they do, we can learn how much of a premium consumers are willing to pay, and the market will sort out how much of a premium egg producers need to maintain cage-free flocks and to expand.

I hope the market is allowed to sort out what consumers really want, but I fear that pressure from activists groups will be enough to take away consumer choice when it comes to how U.S. hens are housed. I swore off shopping at BJ's because of the company's cage-free purchase pledge, but now all of my other shopping options have made similar pledges. If consumers keep buying less expensive eggs, will grocers really pull them off the shelves?

CONSUMER-DRIVEN CLAIM ON CAGE-FREE EGGS OUTDATED

It may have earlier sounded good to say consumers prefer cage-free eggs, but how does it sound now? | Photo courtesy Nestle

By: Roy Graber
Published: August 31, 2016

During the first four months of 2016, there was a barrage of corporate announcements where the companies were revealing their plans to transition into selling and serving only cage-free eggs.

> ***And while the cage-free egg transition announcements have slowed down, they have not yet stopped.***

However, in early April when Walmart and Sam's Club – which sells more than one quarter of the groceries purchased in the U.S. -- announced a move to selling only cage-free eggs, the animal rights groups responsible for the push to end the use of cage-raised eggs seemingly considered it a victory, and determined the entire egg industry would have to remove all of its cages.

Just days ago, On the Border Mexican Grill & Cantina made an announcement that it was committing to switch to a 100 percent cage-free egg supply by the end of 2020.

A COMMON CLICHÉ

One of the most commonly used reasons companies have given to date is that consumers are increasingly requesting eggs raised from cage-free operations.

On the Border is no exception to this trend. In a press release, On the Border President and CEO Ward Whitworth stated the decision was made "in response to consumers' changing preferences."

That reasoning may have been believable in the spring, but statements like that are quickly losing credibility.

Reports continue to surface about how grocers are struggling to sell cage-free eggs in their stores, as consumers are apparently opposed to pay more for them than they are for cage-produced eggs. So how could this really be in response to consumer preferences?

WILL PR MOVES BACKFIRE?

We all want the companies that produce our food, as well as the grocery stores and restaurants that sell our food to be transparent. We all want to be able to trust those companies.

But is claiming that this is a decision based on consumer desires an honest statement? I'm going to give On the Border the benefit of the doubt on this one. However, at this late stage in the game and new egg consumption trend information available, it makes me wish the restaurant chain did more research and made the decision accordingly.

It seems a person doesn't have to talk to too many other people in the egg supply chain to realize that consumers aren't quite saying that they want to only eat cage-free eggs.

It may sound like a good public relations (PR) move to say we're going to serve only cage-free eggs. However, those who buy eggs and products including eggs that don't want to swallow the extra cost, may consider claims of responding to consumer demand to be poppycock. Then trust will be lost, which could ultimately be more of a PR challenge than any faced before transitioning the egg supply.

DRAMATIC EGG PRICE SHIFTS CLOUD CAGE-FREE CHOICES

How many consumers will make the choice to pay $2 for a dozen cage-free eggs? | Terrence O'Keefe

By: Terrence O'Keefe
Published: September 9, 2016

In the past year, egg prices have shifted from record highs to the lowest level in a decade, making it hard to determine the real demand for cage-free eggs.

Since January 2015, the U.S. estimated farm egg price per dozen for all sizes of white cage-produced eggs has gone on a roller coaster ride from a high of $2.045 in August 2015 back down to a low of $0.306 in May 2016, according an the Egg Industry Center analysis. During this same time frame, the U.S. Bureau of Labor Statistics reports that the retail price per dozen of large white cage-produced eggs has ranged from a high of $2.966 in September 2015 to a low of $1.491 in June 2016.

The last two years have served as a reminder of the inelasticity of demand for shell eggs sold at retail. Simply put, a relatively small change in supply can result in a large change in price. The avian flu-induced supply shortage drove the retail price of cage-produced eggs to levels close to those of cage-free eggs. In some stores, shortages of cage-produced eggs were so severe that cage-free eggs became the consumers' only choice.

As the nation's layer numbers recovered, the cage-produced egg supply outstripped demand and prices plummeted. Egg producers have also been adding cage-free capacity rapidly and the supply now exceeds the demand, but retail cage-free prices haven't fallen to the extent cage-produced egg prices have. In early September, my local Walmart had cage-produced eggs at $0.54 per dozen and the least expensive white cage-free eggs were $2.57 per dozen.

If retailers want to stick to their cage-free purchase pledges, then they will need to set interim targets for shifting their egg purchases to cage free. These targets will only be met if the retail pricing strategy is changed to encourage consumers to shift to cage-free eggs. How many consumers will feel good enough about the words "cage free" to pay $2 more per dozen?

US CAGE-FREE EGG LAYER FLOCK IS RAPIDLY INCREASING

By: Terrence O'Keefe
Published: November 16, 2015

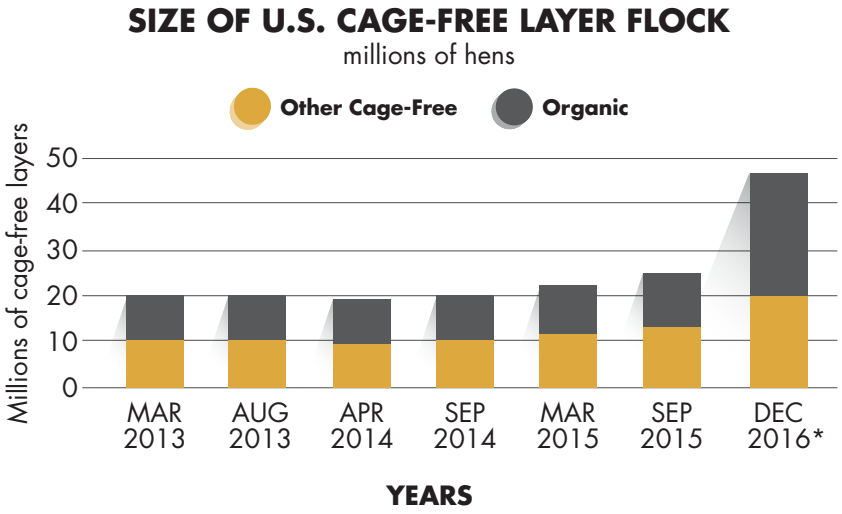
Poultry housing expansion projects are being shifted to cage-free as the number of restaurant chains making cage-free egg purchasing pledges continues to grow.

The U.S. Department of Agriculture (USDA) estimates that, in September 2015, the U.S. had 23.6 million hens housed cage free, a 37 percent increase from the agency's September 2014 estimate. Pledges to purchase eggs from cage-free layers by major restaurant chains and food companies are driving this increase.

Industry sources expect the U.S. cage-free layer flock to continue to grow at a rapid rate. Among the many projects underway, the three largest egg producers in the U.S. are designing and building cage-free farms that will become the largest cage-free egg facilities in North America.

CAGE-FREE LAYING FLOCK INCREASING

USDA estimates for the size of the cage-free layer flock in the U.S., for organic and non-organic egg production, are published on a semi-annual basis. From March 2013 through March 2015, the size of organic and non-organic cage-free layer flocks were roughly equal, with both increasing by a little over 1 million hens in this two-year period.



Sources: USDA Livestock, Poultry and Grain Market News for March 2013 to September 2015 estimates. December 2016 forecast based on current placments and estimates of additional housing expected to be completed by the end of 2016, and it is assumed that all housing is fully stocked.

** Forecast based on industry sources*

The sale of other (non-organic) eggs is expected to increase more rapidly than organic eggs sales during the next few years.

Between March and September 2015, the rate of growth of the organic and non-organic layer flocks increased. The size of the U.S. organic layer flock increased by 19 percent in this six-month period, while at the same time the non-organic or "other cage-free" layer flocks increased by 27 percent.

EGG PRODUCERS ANNOUNCE EXPANSION

Several announcements of new farm projects for housing cage-free laying hens by major U.S. egg producers have been made in the past year. Hickman Family Farms followed up on McDonald's cage-free purchase pledge with the announcement that it will add capacity to house 2 million cage-free layers at exiting Arizona locations.

> ***"Our customers are moving to cage-free faster than the regulatory environment is requiring it…"***

"Cage free is just the next logical step in providing eggs to our markets and comfort for our hens," CEO Glenn Hickman said. "Our customers are moving to cage-free faster than the regulatory environment is requiring it, so we want to ensure abundant supplies. It's the future of our industry and our business." Based on published reports, Hickman cage-free houses will use aviary systems.

On October 21, 2015, a ribbon-cutting ceremony marked the start of production at Red River Valley Egg Farm located near Bogota, Texas. This cage-free egg farm is a joint venture between Rose Acre Farms and Cal-Maine Foods, the two largest egg producers in the U.S.

The farm's plan calls for an initial capacity of 1.8 million cage-free layers and the site is permitted for up to 3 million. The layers will be housed in convertible modules designed by Rose Acre Farms.

On October 13, 2015, Rembrandt Foods, the third-largest egg producer in the U.S. and one of the largest egg products suppliers, announced that all of its future farm projects would be cage free. The company had previously announced that it would construct a 7 million-layer facility which would come online in 2017.

> ***"Any further investments will be aligned to cage-free as our standard," Spurway said. "The company will have multiple large-scale investments come online."***

Jonathon Spurway, vice present of marketing, Rembrandt Foods, said that the farm on the drawing board will now be cage free, but that it won't house 7 million hens.

Spurway said Rembrandt doesn't have plans to convert its houses with cages to cage free at this time.

"The industry isn't going to switch to entirely cage free in the next 10 years," he said. "Even foodservice outlets like McDonald's that have made announcements have transitions over a number of years. We are moving quicker than I expected, but I am excited because it offers an opportunity."

"The consumer is driving the behavior that, 'I want cage-free eggs at a minimum.' There is a segment of the population, and it is a large segment, that are willing to pay for cage free or whatever might drive them," he added.

FORECAST FOR MORE CAGE-FREE LAYERS

The USDA doesn't publish a forecast for the future size of the cage-free layer flock in the U.S., but industry sources suggest that the rapid growth in the number of cage-free layers seen in 2015 will continue into 2016. Sales of housing systems to U.S. egg producers have seen dramatic shifts in the past 10 years. A market that was dominated by sale of conventional cages saw a shift first to enriched/enrichable cages and now to cage-free systems.

Increasing demand for cage-free eggs in the U.S. has shifted investment in pullet and layer housing to cage-free systems. | Photo courtesy of Big Dutchman

Sources report that, for the first time in decades, the sales of cage-free housing systems in the U.S. in 2015, in terms of number of hens that can be housed, exceeded spaces sold for cage housing. This is expected to continue as sales of even “enrichable” cages fall to very low levels.

If all of the cage-free systems that are expected to be installed by the end of 2016 were fully stocked, the U.S. would have about 19 million more cage-free layers then it had in September 2015. Because it can take a year or more to fully stock a large layer complex, these new projects will not all be fully housed by the end of 2016.

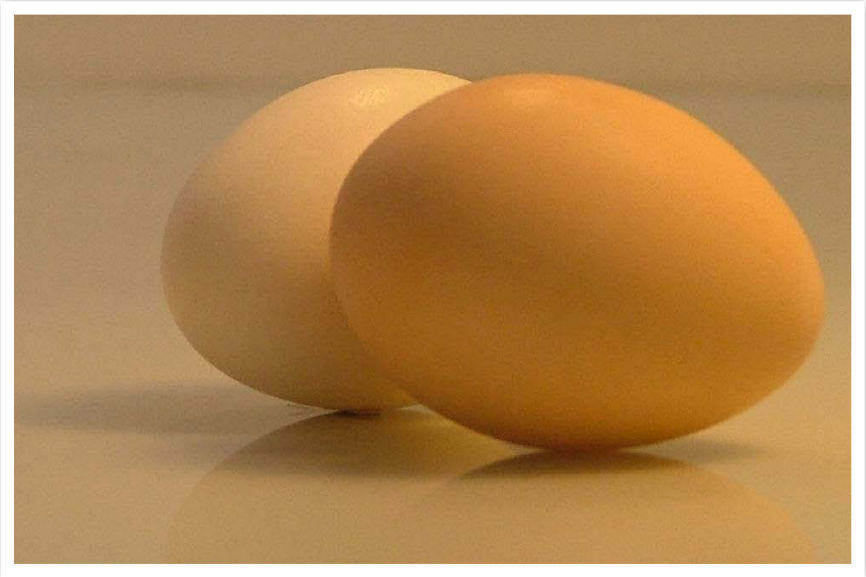
OTHER FACTORS TO CONSIDER

The U.S. table egg and egg products markets have traditionally been white egg and white bird markets. Cage-free customers in the U.S. have tended to prefer brown eggs, but as cage-free becomes more mainstream, expect a shift to white eggs, particularly for egg products.

All cage-free systems are not alike in how they allow the three-dimensional space inside a house to be utilized for housing hens. “Combi” or “convertible” systems will compete with aviary systems for share in the non-organic cage-free market. More traditional floor systems will likely continue to dominate the organic cage-free market, because they are more suitable for providing hens the required outdoor access.

Read more: Legislative, market uncertainty will force egg producers to adapt

HILLANDALE FARMS SHIFTING TO CAGE-FREE EGG PRODUCTION



Hillandale Farms is building barns with cage-free housing systems in Connecticut and Ohio, with plans to replace aging egg production facilities to use cage-free systems. | G Baden, Freeimages.com

Published: July 14, 2016

New cage-free layer houses are being built in Ohio and Connecticut, while company will replace existing facilities with cage-free barns as they age

Hillandale Farms is shifting its production practice from using traditional layer cages to cage-free systems, the company announced on July 14.

“All future expansion at any of our farms will only be with chickens housed in a cage-free environment,” Gary Bethel, chief executive of Hillandale Farms, said in a press release. “As our existing facilities age, they will be replaced with cage-free barns, as well.”

The company stated that using cage-free systems is a practice that is “considered progressive by today’s consumers.”

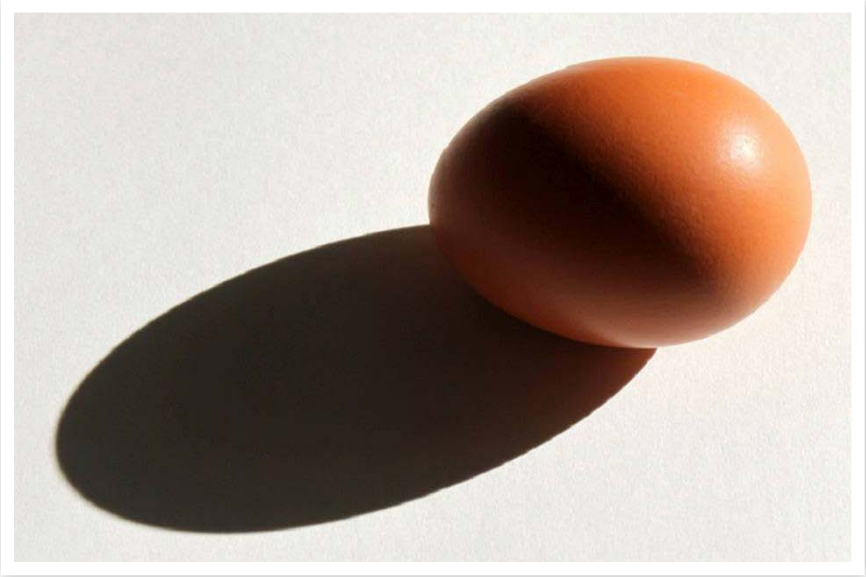
CAGE-FREE FACILITIES TO BE COMPLETED IN 2017

Construction is underway in Ohio and Connecticut for new cage-free chicken houses that will begin housing birds later in 2016 to meet customer demand. The first cage-free facility is expected to be completed during the third quarter of 2017 in Hicksville, Ohio, and the second facility in Bozrah, Connecticut, will be completed soon thereafter.

In addition to the new egg-laying farms, Hillandale Farms, is also implementing cage-free systems in its New England and Ohio pullet houses, which grow the chickens from day-old to mature laying hens.

One of the largest suppliers of shell eggs in the United States, Hillandale Farms has production facilities in the Northeast, Midwest and Southeast and supplies retailers and distributors throughout the eastern U.S. According to the WATTAgNet Top Poultry Companies Database, the company houses 12.5 million hens.

MICHAEL FOODS INTENDS TO EXPAND CAGE-FREE EGG PRODUCTION



Michael Foods said it will continue to invest in cage-free egg production and will advocate for cage-free eggs with consumers and customers. | Andrea Gantz

By: Alyssa Conway
Published: December 2, 2015

Company reveals that it will be an advocate for cage-free eggs with customers and consumers

Michael Foods will continue to invest in cage-free egg production systems and will be an advocate for cage-free egg products with consumers and customers, the company stated on December 2.

Michael Foods, which is a subsidiary of Post Holdings, stated that as the demand for cage-free eggs and egg products grows, it will ensure that the shift happens in a way that is reasonable and sustainable for all stakeholders involved.

“Cage-free is emerging as the likely future of the egg industry,” said Jim Dwyer, Michael Foods’ President and CEO. “Our customers are increasingly requesting cage-free eggs and products made from cage-free eggs. We are actively working with our customers and suppliers to transition to cage-free housing to anticipate demand.”

Michael Foods is a founding member of the Coalition for Sustainable Egg Supply (CSES), an alliance of egg farmers, retailers, foodservice operators, food manufacturers and academics.

Post Holdings, known widely for its range of breakfast cereal brands, purchased Michael Foods in June 2014. It expanded its involvement in the egg industry in October when it purchased Willamette Egg Farms, a producer, processor and wholesale distributor of eggs and egg products. Upon announcing its planned acquisition of Willamette Egg Farms, Post Holdings said it intended to consolidate Willamette Egg into the Michael Foods business.

THE DEMAND FOR CAGE-FREE HENS REACHES LATIN AMERICA

By: Benjamín Ruiz
Published: December 9, 2015

Grupo Bimbo's move to cage-free eggs comes as a surprise

I think the announcement made last week by Mexico's Grupo Bimbo, the largest bakery company in the world, was surprising. Starting in 2016, the company will implement a program to work with its suppliers to supply liquid and shell eggs from cage-free hens. I say it was surprising, because in Latin America we believe that such things only happen in the developed world. Well, not anymore.

> ***It is also interesting to note that this new provision comes from a global company that is not Walmart, Nestlé, Unilever, Starbucks or McDonald's, but Grupo Bimbo, a Latin American company.***

Grupo Bimbo, besides being the master of bread in Mexico, also has operations in the United States, Canada, several countries in Latin America, China, U.K. and Spain. So, with this global presence, what will be the impact on the poultry industry?

At least in Mexico, there are no cage-free commercial egg production operations of importance. Bachoco has a brand of eggs of this type, which as far as I understand, has had no impact, but with it, the company has already set a foot in this market. Is it that the Mexican public, and by extension the Latin American public, is insensitive or ignorant of animal welfare? Or is it that the concern is only eating, from whatever source?

Mexico has a high egg consumption rate. An outbreak of avian influenza in Mexico affected to such an extent the product price that there were jokes and memes that made mockery of the eggs being sold in monthly payments in department stores. Now it could face a further price increase, because it is undisputed that the cost of production will increase and thus the retail price will also increase. Just ask the Spanish producers.

The animal rights groups are delighted. And it's no wonder. They scored a big goal. And Bimbo scored a marketing strategy. But in a market economy, the market itself is the boss. We'll see what happens.

CANADIAN GROCERS MAKE CAGE-FREE EGG PURCHASE PLEDGE

The grocery arm of the Retail Council of Canada committed to a 10-year plan to source eggs its members sell from hens raised in "cage-free environments." | Terrence O'Keefe

By: Terrence O'Keefe
Published: March 21, 2016

The grocer members of the Retail Council of Canada announced they are voluntarily committing to purchase cage-free eggs by the end of 2025.

The grocery arm of the body for Canadian retailers has rolled out a 10-year plan to source the eggs its members sell from laying hens raised in "cage-free environments." Grocer members of the Retail Council of Canada (RCC) include Loblaw, Sobeys/Safeway, Metro and Wal-Mart Canada.

David Wilkes, senior vice-president for government relations and the grocery division at RCC, said in a release that the grocers' commitment is "made recognizing the restrictions created by Canada's supply management system." The cage-free timeline, he said, "will have to be managed in the context of availability of supply within the domestic market."

The RCC's pledge comes just a few weeks after the Egg Farmers of Canada announced a plan to move out of conventional cages to enriched cages for housing laying hens by 2036. Coupled with purchase pledges by major Canadian restaurant chains such as Tim Horton's and McDonald's, the RCC purchase pledge seems to make the Egg Farmers of Canada enriched cage housing plan obsolete.

HOW WILL CANADIAN HENS BE HOUSED?

The National Farm Animal Care Council expects to release a new Canadian code of practice for layer hens later this year. When released, National Farm Animal Care Council's layer hen code is expected to guide Canada's egg sector on various aspects of farm management and welfare practices, by way of "recommendations and requirements for housing, care, transportation, processing and other animal husbandry practices," the RCC said.

Wilkes said that the RCC, "remains firmly committed to the National Farm Animal Care Council process and will work with other participants to not only advance our voluntary commitment to move to cage-free environments by the end of 2025, but also by ensuring suppliers adhere to the code's recommendations."

Following the RCC announcement, the Egg Farmers of Canada said in a statement that it is "committed to research on these systems and on consumer preferences, and to ensuring evidence-based decision-making when it comes to industry practices. This ensures choice and price stability to shoppers while protecting the entire supply chain from shortages or the production of eggs for which there are no market."

The statement continued, "Recently, Egg Farmers of Canada announced a systematic, market-oriented transition from conventional egg production toward other methods of producing eggs. We look forward to working with retailers to ensure high-quality Canadian eggs remain on grocery shelves everywhere and we will continue to work with our supply chain to do so and to align our approaches as much as possible."

ENRICHED CAGES OR CAGE FREE

Egg Farmers of Canada has not given up entirely on enriched cages for housing hens: "Our industry transition plan considers the growing body of scientific evidence pointing to the benefits of enriched housing, which allows hens to exhibit specific behaviors which may include perching, scratching, foraging, dust bathing and nesting. The industry looks forward to discussing these important aspects, and the broader transition plan, with its supply chain and stakeholders as this process unfolds."

> ***"We are committed to helping all stakeholders understand our transition…."***

Canadian egg farmers pledge to continue to work with the National Farm Animal Care Council. "We are long-time supporters and participants of the National Farm Animal Care Council and have brought this industry plan forward to their current multi-stakeholder review of the Code of Practices for the egg industry," Egg Farmers of Canada said in a written statement. "We are committed to helping all stakeholders understand our transition. We believe a Code that takes into account what the egg industry analyzed, developed and proposed to be realistic will be stronger, and a tremendous framework on which to make many other enhancements to our industry for years to come."

RETAILERS' CAGE-FREE PLEDGES DEMAND MILLIONS OF LAYERS

Photo courtesy of Vencomatic.

By: Austin Alonzo
Published: April 15, 2016

Sortable tables show how many cage-free hens would be needed to meet needs of restaurants, grocers and distributors that have made cage-free pledges

U.S. egg producers will soon be challenged to produce more than 37 billion cage-free eggs annually, according to estimates from the United Egg Producers.

In an April 15 letter to its members, the egg farmer cooperative published a report from the U.S. Department of Agriculture's Agricultural Analytics Division estimating the size of the nation's cage-free flock will need to expand to 139.5 million birds, a more than 900 percent increase from the current 12.96 million bird flock of conventional cage-free layers, by 2030.

If the switch to cage-free were made today, about 48 percent of the nation's 276 million-bird total, non-organic table egg layer flock would have to be cage-free to meet demand coming from grocers, food distributors and restaurants with cage-free pledges.

EXPLORE CAGE-FREE COMMITMENTS THROUGH SORTABLE TABLES

Restaurants committing to cage-free eggs
Food distributors committing to cage-free eggs
Grocers committing to cage-free eggs

The report also analyzed 38 restaurant companies, five food distributors and 24 grocers who have committed to go cage-free by 2030. View and sort within the following tables to see when those retailers are due to go cage-free, their number of outlets around the U.S., how many eggs they need on an annual basis and how many hens would be needed to supply each retailer. The number of hens needed is estimated using the assumption a single hen will lay 270 eggs a year.

FOOD MANUFACTURER PLEDGES WILL FURTHER IMPACT CAGE-FREE HEN NEED

The author of the estimate, Michael Sheats, director of the USDA's Agricultural Analytics Division, said the estimates do not include food manufacturers committed to purchasing cage-free eggs. If they were included, he said, the figure could be as high as 65 percent of the current flock.

While cage-free hens only make up a small part of the nation's overall layer flock, the cage-free flock is already expanding rapidly to meet demand for the commodity. Between 2008 and 2015, the total flock of cage-free layers – including both organic and conventional – increased by 148 percent, to 24.36 million from 9.8 million.

Interactive tables created using Infogram

MCDONALD'S EXECS EXPLAIN CAGE-FREE EGG REASONING

Photo courtesy McDonald's

By: Austin Alonzo
Published: June 1, 2016

The fast food giant says its cage-free commitment is as much about staying in business in the long run as it is about animal welfare.

Dr. Justin Ransom, senior director of supply chain management and quality systems at McDonald's Corp. | Terrence O'Keefe

McDonald's Corp., one of the companies that ignited demand for cage-free eggs, made the switch in order to bring itself in line with the values of its consumers.

That's what two of the Oak Brook, Illinois, fast food chain's executives said during an appearance at April's Egg Industry Center's Issues Forum in Chicago. Jill Scandridge Manata, vice president of global public affairs and management, and Dr. Justin Ransom, senior director of supply chain management and quality systems, explained why the company made its September 2015 announcement and how its suppliers are adjusting to the move.

While consumers may not be clamoring for cage-free eggs, Manata said the company believes going cage-free will help keep them coming in the door in the future.

"It's more about whether or not we're connecting with what we believe our customers ultimately are going to support and continue to visit our restaurants and continue to pay the prices at whatever we have to set them at in order to give them the food they are looking for," Manata said. "Our angle is to drive the menu and an experience that our customers look for again and again when they come to McDonald's."

DOING BUSINESS IN THE AGE OF THE BUYER

Jill Scandridge Manata, vice president of global public affairs and management at McDonald's Corp. | Terrence O'Keefe

The golden arches experienced a rough patch in recent years as global consumers are bombarded with choices in the fast-casual restaurant sector. According to the company's U.S. Securities and Exchange Commission filings, McDonald's saw its total revenue fall to $25.4 billion in 2015 from $28.1 billion in 2013. During the same period, its gross profits shrunk to $9.8 billion from $10.9 billion.

Ransom said McDonald's experienced four straight years of declining overall sales, but the trend reversed with the chain's October 2015 launch of all-day breakfast in the U.S. Ransom said the move was made in response to consumer demand and reflects the company's new focus on engaging with consumers and making its business decisions based on their desires. Its customers responded by giving McDonald's one of its best ever quarters in the U.S.

"The world has changed and, to be relevant in the future, especially in the food industry, we must be customer obsessed," Ransom said.

This focus is part of what he called the age of the buyer, or a sweeping change in business where increased dissemination of information and choices provided through the internet is giving the customers more power to set the agenda than the retailers. To stay relevant in this era, and combat misinformation about the company, McDonald's launched a digital-focused initiative to speak with its consumers and answer its questions, Manata said. One of the largest results of that project was the consumer's desire for more transparency.

CAGE-FREE AND THE CONSUMER

Part of the transparency McDonald's and its customers desire is the knowledge that farm animals are treated humanely. Along with a desire for a more sustainable and nutritional supply chain, Manata said, consumers want to know the animals providing their food are treated well.

Manata said the company's concern about the treatment of laying hens dates back to the 2000s, when it established a housing standard calling for more space for the birds. Those efforts, and monitoring the market, led to questions about the chain's desire to go cage free. To learn more about the implications of that choice, McDonald's supported the Coalition for Sustainable Egg Supply. The publication of the group's research findings in 2015 educated the company on what the impact of cage-free housing would be on overall food affordability, bird welfare, food safety, worker health and safety and sustainability.

> ***"Decisions like this, again, are things that we take very seriously…"***

The results of the coalition's research were important, Manata said, but the chain also had to take into account variables it considered to be just as important: the consumers' views on cage-free, what they think is responsible, how those views might shift over time. The company also spoke with producers to see what they predicted for the market and if better cage-free performance was on the horizon.

"Decisions like this, again, are things that we take very seriously. We do try to take the time to get informed…it's really important that we understand how our suppliers and the producers that work with them are going to be able to deliver on such a commitment," Manata said. "We considered the best science available…and ultimately looking at the consumer insights – and recognizing that they still placed the cage-free at the highest level – we wanted to understand ultimately what would it take for us to do that in a way that we thought responsible."

THE COSTS OF GOING CAGE FREE

Manata explained the 10-year timeline – the company plans on serving only cage-free eggs in the U.S. and Canada by 2025 – was important because it gives McDonald's suppliers enough time to adapt their operations and possibly close the efficiency and cost gaps between conventionally raised and cage-free eggs.

During a question-and-answer session, Ransom and Manata explained what kind of cost impacts they expect for their products as cage-free egg products are rolled out in the coming years.

Ransom said the company will continue to work with suppliers to figure out what types of cage-free housing works the best in terms of performance and cost impact. He said it's going to be a journey and compared it to the company's work on moving toward group housing for sows for its pork suppliers.

As to how the company will absorb possible price increase, Ransom said McDonald's will take advantage of the 10-year ramp-up to spread out the costs of switching to cage-free housing. The price of menu items the consumer pays typically increases over time, Ransom said, but the company is committed to working with suppliers to manage inflation.

CAGE-FREE PLEDGES – HOW COMPANIES CAN REINFORCE CREDIBILITY

Andrea Gantz

By: Rachel Dreskin
Published: March 11, 2016

Once cage-free egg commitments are made, companies need to be transparent and report progress toward achieving goal

September 9, 2015 marked a significant day for the food industry. Early that morning, McDonald's made the announcement that they would be shifting to an entirely cage-free egg supply chain for all of their U.S. and Canadian restaurants by 2025.

While McDonald's was certainly not the first to make this commitment, it undoubtedly signaled a tipping point for the industry. Dozens of other companies followed suit. In the past couple of weeks alone we have seen three of the top ten U.S. grocers, Kroger, Albertson's and Delhaize, also turn their backs on cages for laying hens. The debate is essentially over: Consumers and food businesses are overwhelmingly unified in their disavowment of cages.

Public commitments are of the upmost importance. A clear statement of a company's direction of travel is essential to ensuring that a company's stakeholders, inclusive of their supply chain, know precisely what they stand for, and what practices they will not continue to support. Timelines give commitments backbone and signal a level of seriousness.

Most companies have set goals to completely rid their supply chains of cages by the year 2025. This nearly ten-year transition period is not necessarily unreasonably long. Prompting major shifts in complex supply chains cannot be done responsibly overnight.

BE TRANSPARENT AND REPORT PROGRESS

On one hand, a lot can be achieved in ten years with proper organizational commitment to the change. However, there is also a danger of these longer-term goals slipping from the priority list once the media attention and NGO pressure has subsided. The question then becomes, how does a food company generate confidence in its ability to actually deliver on a commitment years after the initial announcement was made and the excitement around it has faded, against the ever evolving and changing landscape?

The answer lies in public reporting and accountability. It is both the company's responsibility to transparently report on progress, and it is the responsibility of the public, the media and NGOs to hold companies to account. If we all wish to feel good about the direction that hen welfare is heading in, we won't drop the subject just yet. In fact, we should be talking about it now more than ever.

An integral part of Compassion in World Farming's collaborative approach to working with food businesses involves making those clear public commitments to higher levels of animal welfare. But this is just one aspect of our partnership with a business. Once a company makes a commitment, we don't pack up and move on. On the contrary, in many cases the bulk of the work lies within the actual execution of the commitments.

More and more, companies are utilizing reports like the Business Benchmark on Farm Animal Welfare (BBFAW) as a guide to ensure that the proper framework and management structure is in place to be able to deliver on the their commitments. The BBFAW is a global report which ranks the top food companies on how well they are managing the risk associated with having animals in their supply chain. Companies who score well on the report have robust management structures and systems in place for those less-than-press-worthy aspects of this work, such as employee training, policy implementation, non-compliance measures, and performance reporting.

The next iteration of the farm animal welfare movement is undoubtedly right around the corner but, simultaneously, focus must remain on organizational commitment to the removal of cages. Staying mum on progress may leave some wondering if, come 2025, they are poised to meet their commitment. The good news is that the commitment period presents an opportunity for companies to further strengthen trust and credibility with various stakeholders via robust reporting and public accountability. Aligning with customer's values and expectations is incredibly important to a business, but being trustworthy is essential.

This guest commentary was written by Rachel Dreskin, Compassion in World Farming's U.S. food business manager.

THE MARKET WILL DICTATE THE FUTURE OF CAGE-FREE EGGS

By: Austin Alonzo
Published: March 21, 2016

Ken Klippen, executive director of National Egg Farmers of America, speaks at the Midwest Poultry Federation Convention in St. Paul, Minnesota, on Thursday, March 17. | Austin Alonzo

A pair of speakers argued for and against expanding production of cage-free eggs at the Midwest Poultry Federation Convention in St. Paul, Minnesota.

A pair of polar opposites agreed about one thing on a forum about the future of cage-free egg production: the market, not the egg producers, will set the course for cage-free eggs in the U.S.

Ken Klippen, executive director of National Association of Egg Farmers, and John Brunnquell, president of Indiana-based free-range egg producer Egg Innovations, argued their case for and against expanding cage-free production at a workshop at the Midwest Poultry Federation Convention. The March 17 session in St. Paul, Minnesota, drew a standing room-only crowd.

The speakers agreed that the egg industry reached a tipping point in September when McDonald's Corp. announced its commitment to only purchase cage-free eggs in the U.S. and Canada within 10 years. Since then, more restaurants and grocers have made their own cage-free pledges. The wave of demand for cage-free eggs is pressuring egg farmers to rethink their production processes or risk losing a market for their product.

THE CASE AGAINST CAGE-FREE EGGS

Klippen argued expanding cage-free production – the forced move to cage-free, as he called it – is bad for the consumer as well as the producer and could represent an existential threat to the industry itself.

Referencing recent comments from animal welfare activists, he said the move toward cage free is just "yardage" toward the groups' ultimate goal of dismantling the egg industry entirely. The activists have succeeded in getting the biggest food retailers to make cage-free pledges, now they are fighting to bring food production companies and eventually the farms themselves to make similar pledges, he said.

Cage-free eggs, Klippen said, will represent a health risk to the birds, the workers in the houses and potentially the consumer. He said removing layers from cages, where they have been for decades, will lead to issues with pecking and other social behaviors prevented by a cage environment which, he said, is inhumane. The eggs are more likely to be contaminated with bacteria due to prolonged exposure from litter and manure in the nest boxes. As for the workers, Klippen said the amount of dust, which can transmit pathogens, inside a cage-free house represents a health risk to farm workers, and the need for workers to collect floor eggs creates ergonomic challenges, too.

The cost of the transition to cage free is also problematic, Klippen said. More resources – feed, labor and money – are necessary to produce the same amount of eggs as conventional systems. Eggs from aviaries will cost as much as 37 percent more than conventionally raised eggs.

Klippen vowed that his group will "never surrender" in its fight against forced expansion of cage-free production. He said the consumers, the market the egg industry serves, deserve to have a choice, rather than being forced to pay higher prices for cage-free eggs.

THE CASE FOR CAGE-FREE EGGS

Brunnquell vehemently disagreed with Klippen's argument that cage-free eggs are less safe for consumers and cruel to animals. Taking the animals out of the cages allows the birds to exhibit more of their natural behaviors and, in the case of free range, gives hens an environment closer to their ancestral biome.

As for the cost issue, Brunnquell couldn't speak for transitioning from cages to cage-free, but he said starting up a free-range operation can cost as much as $800,000.

Beyond animal welfare and health issues, Brunnquell said he and Klippen are in agreement that the egg industry should let the market determine its path. However, Brunnquell thinks egg producers need to pay attention to what the market's future, the millennial generation, wants.

He said the under-35 demographic is quickly becoming the most important consumer group, and the group's values will reflect heavily on its future buying decisions. The group is distrustful of "big food" and wants to know more about where its food is coming from. Most importantly, they are willing to pay a premium price in order to act on their values. As many as 83 percent of millennials, he said, are specialty egg customers, and research shows they are willing to put taste, animal welfare and additive-free production ahead of pricing.

> ***"Where we end up in the discussion of cage-free I don't think is for us to debate…"***

Brunnquell said free-range farming is not perfect, it's a management challenge, and poorly managed operations can underperform, but the market is trending toward more demand for specialty eggs.

"This has nothing to do with the egg industry. This generation is going to have the same thoughts and value statements across all their shopping habits. (Millennials are) the real consumers that are driving change," Brunnquell said. "Where we end up in the discussion of cage-free I don't think is for us to debate. I think we have to respond to the marketplace: If the marketplace wants it, we should be there for them. If the marketplace doesn't want it, we shouldn't be there."

CONSUMER DEMAND FOR CAGE-FREE EGGS WILL INCREASE

By: Kara A. Mergl
Published: April 6, 2015

Kara A. Mergl, U.S. manager of corporate engagement, World Animal Protection | Photo courtesy Kara A. Mergl

When California voters approved Proposition 2 in 2008, they overwhelmingly agreed that hens deserve the freedom to move around and flap their wings – which they can't do in conventional battery cages. The requirements of Proposition 2 took effect at the beginning of this year, but as recently as this February, court cases brought against California's new law were still being reviewed. While these lawsuits have been dismissed, there remains confusion about how much space per bird is enough to meet California's new requirement.

Significant attention has also been given to the rising cost of eggs, pitting hen welfare against consumer wallets, food businesses, and egg producers. Nine states currently have either passed ballot initiatives or enacted laws that regulate on-farm welfare practices. Research suggests, however, that if asked today, consumers in nearly half of U.S. states would vote to increase welfare for farm animals (Journal of Agricultural and Applied Economics, 46, 1, Feb. 2014).

Illinois, the fourth-largest hog producing state, and Georgia, the largest poultry producing state, are two examples of states that do not currently have farm animal welfare laws in place but where this research suggests that consumers would support increased regulations. Introducing more state laws, however, will continue to create a patchwork of standards that leave producers and food businesses to sort through the details and try to make some sense of whether larger cages or cage-free is the answer.

The United Egg Producers and the Humane Society of the United States were unsuccessful in convincing Congress to pass federal legislation designed to give hens more space to move. But in the absence of clear federal mandates, consumer purchasing trends emphatically show that cage-free is the way forward.

ANIMAL WELFARE AND ITS IMPACT ON FOOD BUYING DECISIONS

In research conducted by ESI Insights for World Animal protection, 67 percent of shoppers already consider animal welfare in their food purchasing, with 43 percent more doing so more today than just five years ago. Millennials factor animal welfare into their buying in even greater numbers. With 83 percent of millennials taking animal welfare into account when buying food, it's clear that public demand for better treatment of farm animals is not just a trend. Businesses looking to prepare for the next generation should read this as a sign of what's to come.

Food businesses and producers will likely argue that consumers' beliefs don't necessarily align with their shopping behaviors – but that's also changing. Dollar market shares for selected products with humane labeling rose from 1 to 9 percent by the end of 2013, up from nearly zero in 2009. One major mayonnaise brand that announced a shift to cage-free eggs experienced a 13 percent market share increase and a 46 percent increase in sales following their announcement. Another small study looking at the effects of simplified egg labeling at point-of-purchase showed a 43 percent increase in market share for cage-free eggs, with the lowest-price cage-free brand experiencing a sales increase of 74 percent.

EGG PRICE INCREASE TEMPORARY?

The increase in current egg prices caused by California's changing laws should also be seen as temporary. As more consumers become knowledgeable about the differences between cage-free versus caged egg production, market share will reflect a preference for cage-free. An analysis of scanner data, prior to the Proposition 2 vote in 2008, reveals that cage-free and organic egg sales increased by 180 and 20 percent, respectively, while the sale of less expensive, conventional eggs dropped. This was a result of consumer education leading up to the vote. If only 15 percent more consumers become aware of welfare concerns in egg production, then market shares are predicted to increase by 20.3 percent and profitability per shopper by almost 5 percent. As market share of cage-free eggs continues to rise, improved production efficiencies and economy of scale are sure to reduce the cost.

Consumers want to see hens out of cages, regardless of their size. We recognize that conversions away from battery cages on farms may take ten or more years and significant capital investment. But this also presents an opportunity. Investing in costly refurbishments and new barns with larger cages is not only shortsighted, but is sure to be a short-term solution as well. Investing now in cage-free egg facilities is guaranteed to be a win for consumers, producers, and hens.

Editor's note: *World Animal Protection, formerly known as the World Society for the Protection of Animals, is committed to the conversion of egg production to all cage-free. This organization is not against the use of animal meat or products in the human food chain.*

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US EGG MARKET WILL EVENTUALLY GO CAGE FREE

By: Alyssa Conway
Published: October 14, 2015

Even though only 20 percent of US consumers really care about animal welfare, analyst says egg products market will lead the change to cage-free egg sales.

Cage-produced eggs still make up more than 90 percent of the U.S. egg market, but cage-free egg sales have been growing rapidly. Futurist and "consumerologist," Richard Kottmeyer, principal, Strategic, thinks the growth in cage-free egg sales in the U.S. will continue and that, eventually, cage-free egg producers will dominate the U.S. egg market. Kottmeyer, who analyzes "Big Data" (see sidebar), said that even though the American public is split over how animals should be treated, he thinks a vocal minority of consumers will drive the move to cage-free egg production in the U.S.

CONSUMER ATTITUDES AND THE U.S. EGG MARKET

"The U.S. public is very split over whether they care about animal rights or not," Kottmeyer said. "On a survey, consumers will always say that they care far more about the treatment of animals than they actually do, because they think that they should or they think that they will be judged for not caring."

> ***"Around half the public who have a companion animal treat this pet like a member of the family…"***

He said that old companion animal surveys used to give the results where consumers all said they treated their dog like a member of the family, but many didn't really.

In reality, he said, "Around half the public who have a companion animal treat this pet like a member of the family, the other half of pet owners treat their pets like a piece of furniture that moves and jumps around."

Kottmeyer said approximately half of American consumers seem to care about animals at all. Then, only a portion of this group will let their feelings about animals actually affect their purchase decisions. He said the estimate is that less than 20 percent of American consumers really care about how chickens are raised. "The problem is that they are kind of vocal, and that 15 to 20 percent can shift their loyalties between grocery stores and restaurant chains very, very quickly," he said. "That is why they matter."

CAGE-FREE HENS VERSUS CATTLE FEEDLOTS

Among consumers who will let their purchasing decisions be affected by how they would like animals to be treated, there is a variance in how much these consumers care about different animals, according to Kottmeyer. "Unquestionably, the American consumer finds the big-eyed cow to be far more relatable and express far more concern for them. Second would be the pig, and way down the list would be the chicken, which doesn't look like their pets. They don't have a lot of birds in the house," he said.

The 15 to 20 percent of consumers who care about animal welfare can play a big role in the profit margin for grocers and restaurants. These consumers tend to be more wealthy and educated. Kottmeyer said these consumers are often the "make-it-or-break-it" market segment for the earnings calls that publicly traded retailers and foodservice companies make.

"That is why you could see some of these changes happen very quickly," he said. But, he said the fact that there is still more the industry could do to improve living conditions for cows and pigs -- which consumers tend to care about more -- takes emphasis away from change in how poultry are housed and raised, at least temporarily.

DRIVING CAGE-FREE EGG SALES

Kottmeyer said that how rapidly cage-free egg producers expand in the U.S. will depend somewhat on where animal welfare advocates choose to focus their efforts first. He said feedlot and dairy issues for cows and crates for sows are things that resonate more with consumers than cages for chickens. He also said health claims, antibiotic-free, hormone-free and clean labels are bigger issues for consumers.

High protein costs also are slowing the movement to force the industry to move toward more "welfare-friendly" housing for poultry. Kottmeyer predicted that we are at least three or four years down the road from hen welfare becoming a major issue for grocers and foodservice. The time will come but, for now, there won't be a mass rush for change.

In 2015, Americans can go into just about any grocery store in the country and buy either cage-produced or cage-free eggs. The key, according to Kottmeyer, is whether the 15 percent that cares about animal welfare decides not to shop at stores that offer a choice or if they will only choose to shop at a store that has only the eggs they are comfortable with. Will they demand that their grocer stock only cage-free eggs? If most of the 15 percent say it is sufficient that they have an option to buy cage-free eggs, then stores will continue to stock cage-produced eggs.

MARKET FOR CAGE-FREE EGG PRODUCTS

Kottmeyer said the deciding battle for the U.S. egg market will be in egg products where large food companies and foodservice outlets will go totally cage-free and not offer choice for consumers.

"They will jump right to cage-free. It adds a little cost, but they don't want to run afoul of 10 to 15 percent of the marketplace that care," he said. "The more the finished product is value-added, the more likely you are to go cage-free."

The question that egg products purchasers will have to ask themselves is, according to Kottmeyer, "What is the additional cost of cage-free egg products versus what does a percentage point in lost sales cost us?"

Some major international food companies like Nestle and Unilever have already announced intentions to source only cage-free egg products in the future. Kottmeyer said announcements like this will continue and that the egg products market in the U.S., which accounts for more than one-third of all U.S. egg production, will move quickly to all cage-free.

WILL CONSUMERS ACCEPT THE ENRICHED CAGE ALTERNATIVE?

Regarding possible consumer acceptance of enriched cages as an alternative to cage-free egg production, Kottmeyer said, "Consumers don't care about the science of it. They aren't going to spend 10 minutes thinking through the science of it. It won't work in the U.S. The American consumer is into all or nothing. They either want to solve the problem or they don't see it as a problem. It is far too much to ask the American consumer to consider if enriched is good enough."

"Enriched cages could be useful as a step which delays the movement to cage free by putting the issue lower on the list of concerns that could be dealt with in animal agriculture," he said. But, "It won't stop it, it won't turn it around, but it can delay the move to cage-free."

Overall, Kottmeyer said we will either continue to have a bifurcated market for retail shell eggs between cage-produced and cage-free eggs or we will move to all cage free. He said enriched cages may be what allow the market to stay at 80 percent cage-produced eggs and 20 percent cage free, so they may play a role here, but they won't prevent 20 percent from becoming cage free.

Kottmeyer has laid out two possible scenarios for cage-free egg sales in the U.S. Either the U.S. egg market shifts 100 percent to cage free or all egg products shift to cage free along with 20 percent of shell egg sales. Either scenario means big changes would be in store for U.S egg producers.

PREDICTING CONSUMER BEHAVIOR WITH "BIG DATA"

What do consumers really care about enough to change their behavior? This is a question that major consumer products manufacturers, retailers and foodservice outlets ask every day to see how to most effectively market their brands. The traditional way of tracking consumer attitudes was to conduct surveys, but there can be problems with surveys.

Richard Kottmeyer, principal, Strategic, said the problem with food surveys is that people tend to lie and will put down what they think they should put down and not what they actually ate, or they just forget. He said surveys can help identify areas that may merit further investigation, but you can't be sure.

"You can't interrogate consumers about food; you have to spy on them," Kottmeyer said.

The better way of tracking consumers' attitudes, according to Kottmeyer, is to analyze "every kind of digital signal a consumer can possibly have. Anything they are reading; what is being searched, what is trending on Google, Facebook and Twitter." He explained that this is the same process, more or less, that intelligence agencies use to try and keep us safe from terrorist threats.

Kottmeyer said there are companies that track this data and you can contract with them to search for what you want. He said that you can look at things like brand chatter but can also individual consumers, bloggers, members of the media and even regulators. He said even family members and known associates of influential people can be identified and tracked as well.

In essence, Kottmeyer explained that you want to try and understand to what extent someone is motivated to do something or not do something. "You are checking attitudes, but it all has to be tracked relative to everything else. This is the same approach to consumer sentiment that all companies with major brands like Wal-Mart, Coca-Cola, Nestle, McDonald's or Unilever would do," he said.

These techniques for tracking and analyzing sentiment and attitudes also are employed in political campaigns, and there is something that can be learned from this arena, according to Kottmeyer.

"In American politics, 90 percent of voters don't count to policymakers, because they are going to vote how they are going to vote no matter what," he said. "There is a small sliver of the population that is really up for grabs." The key question is, "What does the remaining 10 percent care about and which way will they vote?"

"It is the same with agricultural issues. Just a small percentage of the population cares and can be swayed" one way or the other, he said. "Tracking this small but important population group can let you predict which way an issue will be decided.

"The data is out there," Kottmeyer said. "The difference is in how the data is analyzed. There are some judgment calls and some art that need to be applied in the data analysis."

PRODUCING CAGE-FREE EGGS

WATT Global Media Focus Series: Volume 2

Cage-free Eggs: Consumer Trust in the Poultry Industry

RAPID US CAGE-FREE EGG FARM EXPANSIONS LEAD TO 'CHAOS'

Andrea Gantz

By: Terrence O'Keefe
Published: August 15, 2016

Cal-Maine president says potential US retail egg market conversion to cage-free eggs has already caused losses for egg producers.

The number of non-organic cage-free layers housed in the U.S. rose to 16.6 million head in April of 2016, according to U.S. Department of Agriculture figures. This is roughly double the 8.7 million head housed in 2014.

With all the pledges made by retailers, foodservice outlets and food manufacturers to purchase cage-free eggs, it would seem cage-free eggs would be flying off the grocery store shelves in the U.S. But, that doesn't seem to be the case, according to comments made by egg producers at the United Egg Producers (UEP) Area 5 Briefing held on August 15 in Atlanta.

> ***"Most of the cage-free purchase pledges have 2025 as the year when transition to cage free will be completed."***

Most of the cage-free purchase pledges have 2025 as the year when transition to cage free will be completed, and most of the retail pledges carry provisions with exceptions around availability and affordability of cage-free eggs. These purchase pledge deadlines don't contain interim benchmarks, so egg producers have concerns regarding timing of cage-free expansions or conversions with actual increases in market demand for cage-free eggs.

CHAOS IS 'ALREADY HERE'

Chad Gregory, president and CEO, United Egg Producers, suggested that the timing of so many cage-free purchase pledges all taking place in 2025 could lead to chaos in egg markets for egg purchasers and consumers.

> ***"We don't need to wait until 2025 for chaos; it is already here"***

"We don't need to wait until 2025 for chaos; it is already here," said Adolphus Baker, president, chief executive and chairman of board of directors, Cal-Maine Foods. The glut of cage-free eggs coupled with an oversupply of eggs in general in the U.S. has resulted in some egg producers diverting cage-free eggs to breakers rather than being sold at retail.

David Lathem, president, Lathem Family Farms, echoed Baker's comments and said that it is a confusing time for egg producers. There is uncertainty over the types of housing systems that will be considered as acceptable cage-free housing by customers long term, and it isn't known whether consumers will actually pay the additional cost for cage-free eggs as long as they have access to less expensive cage-produced eggs.

As the industry has added approximately 8 million cage-free layers in the past two years, supply has already overshot demand for cage-free eggs. Ups and downs may await the market as the industry converts existing housing to meet the expected need for 190 million cage-free hens by 2025 if all of the cage-free pledges are met.

US EGG INDUSTRY FACES HARD CHOICES AMID CAGE-FREE RUSH

By: Austin Alonzo and Terrence O'Keefe
Published: September 8, 2016

The US egg industry is rapidly increasing its cage-free egg capacity in preparation for massive cage-free purchase pledges, but retail consumers aren't on the bandwagon yet.

While the U.S. egg industry surges toward what looks like a cage-free future, individual egg producers and the organization that represents more than 90 percent of them, the United Egg Producers (UEP), find themselves at a crossroads. Should the organization of the country's largest egg farmers go all in for cage-free production, or push back against the trend and defend enriched cage housing as an alternative to cage free?

The UEP held a series of six regional meetings across the country in August and the staff of Egg Industry attended meetings held in Atlanta and Des Moines, Iowa, on August 15 and 23, respectively. At those meetings, several egg producers expressed frustration with the disconnect between the marketplace and the cage-free egg purchase pledges made by major retail, food-service and food processing purchasers.

CAGE-FREE EGG SUPPLY EXCEEDS DEMAND

Many of the cage-free egg purchase pledges have implementation dates around 2025, which was thought to be the minimum amount of time required for the industry to convert from more than 90 percent cage-housed hens to being predominantly cage free. Unfortunately, many of the retail store purchase pledges don't contain intermediate benchmarks, and they have provisions for availability and affordability of eggs. Couple this with many consumers' reluctance to pay the premium for cage-free eggs, and we have the current confusion in the marketplace where surplus cage-free eggs are being sold to breakers at substantial losses for egg producers.

Conversion to cage free presents a huge challenge for egg producers and, as demonstrated this year, timing will be everything. The UEP estimates about two-thirds of the country's layer flock will need to be cage free by 2026 to meet the cage-free purchase pledges.

The cost of this housing conversion for the entire industry has been estimated at $6 billion. But, the potential conversion of the industry isn't being made as a group decision, rather it is a series of individual decisions that are being made by farm owners to either add a new cage-free house or to remodel an existing house. Industry representatives at the meetings said the current lack of demand for cage-free eggs from consumers – and difficulty of financing the transition – is magnifying the financial strain placed on farmers.

STAND UP FOR CAGE FREE OR DEFEND CAGES?

Chad Gregory, president and CEO, UEP, said the cooperative shouldn't stand by and watch the issue play out, but it can't act without direction from its membership and its board of directors. The group fought hard against Proposition 2 in California and put in years of work into the so-called Egg Bill – a failed bid to set up a national transition plan to enriched colony cages – but it doesn't have a defined stance on cage free.

Members at both meetings asked why the UEP isn't doing more to point out the flaws in cage-free production. The science, chiefly from the Coalition for Sustainable Egg Supply, demonstrates the drawbacks cage free generates for producers, the environment and consumers.

"When are we going to come to the point that we try to protect the 90 percent of the eggs that we produce that are in cages? When is the industry going to address (it)?" Cal-Maine Foods Inc. CEO Adolphus Baker asked in Atlanta. Other producers made comments similar to Baker's.

The challenge for egg producers would be to defend cage-housed egg production without going negative on cage free. Any attacks on negatives of cage-free housing such as higher hen mortality, possible food safety issues with floor eggs, or greater environmental impact could backfire when activists shift the goal posts and start pushing for free-range or pasture-raised egg production.

Another troubling aspect of trying to defend cage housing at this point would be, what type of cages would producers defend? The Egg Bill puts UEP members on record as supporting a transition to enriched cages. Less than 1 million birds' worth of fully enriched cage housing has been installed in the U.S. Should egg producers really take the risk of advocating for enriched cages? How comfortable would egg producers feel making the investment in an enriched house now? Would a lender even make the loan?

Gregory said UEP has fought for cages for years and that it's a lost cause. Consumers think a cage is bad – they don't have time or interest enough to understand the difference between battery and enriched colony cages – so executives at food companies and grocers say their hands are forced.

Going toward one extreme or another, Gregory said, would alienate a portion of the egg industry and divide the organization. Perhaps a better solution would be to prepare to support cage-free and conventional practices and allow the UEP's directors and members to say which way they want the organization to go.

PROTECTING FREEDOM OF CHOICE IN GROCERY STORES

Egg producers, as well as retailers, are struggling with the general public's unwillingness to pay the premium to purchase cage-free eggs. Food industry research shows consumers say they are willing to pay a premium price for humane products, but then they consistently choose the cheapest product. Cage-free eggs are not increasing market share at the rate that producers are adding cage-free production.

The problem is compounded by the looming threat that one day eggs produced in cages will be removed from grocery stores altogether. Gregory said producers are unwilling to tell their customers their purchase pledge will be impossible to meet because they don't want to harm their business relationship. It's time, he said, for the producers to speak up for themselves and start telling their customers those pledges cannot be met in time.

Producers also framed the issue as protecting freedom for consumers to choose a product they can feed their families at a price they can afford.

> ***"People need to see it, the choice is being taken away from them…."***

"People need to see it, the choice is being taken away from them. This is the land of the free, but they're not going to have a choice in how much they spend or what kind of eggs they get," one producer said. "And it's not (us) who's taking it away from them."

Another producer said that if consumers, particularly lower-income groups, have to start buying less – or not shopping at a store that's gone entirely cage free – maybe it will convince grocers to keep carrying conventional eggs. Americans want choices, he said, and they will fight to keep them.

UEP: EGG PRODUCERS MUST FORM OWN DEFINITION OF CAGE-FREE

Austin Alonzo

By: Austin Alonzo
Published: August 24, 2016

Chad Gregory, president and CEO of United Egg Producers, said the group must take the lead on defining cage-free as part of taking a more offensive posture toward the movement. | Austin Alonzo

Chad Gregory, CEO of the United Egg Producers, said the industry needs to be more proactive in defining what a cage-free operation should look like, otherwise activists and regulators will.

It's time for egg farmers to get more involved in setting the agenda surrounding cage-free eggs, especially defining what a cage-free system looks like, said Chad Gregory, president and CEO of the United Egg Producers (UEP).

Gregory told a group of producers and representatives of allied industries that farmers need to stop being reactive toward cage-free and go on the offensive. Gregory spoke at the UEP's August 23 Area 3 meeting, representing the Midwest region, in Des Moines, Iowa.

In a relatively short amount of time, cage-free eggs seized the attention of U.S. egg producers and retailers. The UEP estimates 190.4 million birds – or about 66 percent of the current national flock – will be needed to fulfill the anticipated demand for cage-free eggs by 2025. As of July, the size of the cage-free layer flock was 16.6 million birds. The pace of the transition is creating chaos in the egg industry which will only increase as the pledges mature.

ACTIVISTS SHOULDN'T DEFINE CAGE-FREE SYSTEMS

Gregory said the movement toward cage-free eggs isn't being driven by the consumers – consumers aren't buying the more expensive cage-free eggs on grocery store shelves, he said – or the restaurants and retailers, it's activist groups like the Humane Society of the United States and the Humane League. The groups, with a major victory under their belt, can now pivot to defining what cage-free means and imposing standards that would be even more disruptive to animal agriculture.

The UEP is working to define what cage-free production should look like and will have a more definitive answer by its October Annual Board Meeting and Executive Conference. The UEP is calling upon its members and industry experts to do this to prevent activists groups from defining what cage-free should look like.

The lack of national standards on cage-free housing and production is adding to the confusion and providing ample opportunity for activists to create their own certification programs. The UEP has a cage-free certification program in place and will likely revise its standards by the October 17-20 meetings.

PAST AND PRESENT EGG-RELATED LEGISLATION

Gregory said he's been asked why the UEP hasn't done more about the issue in the past. He said the organization has maintained an animal welfare committee since 1982 and mounted a major, $10 million offensive against California's Proposition 2. Two-thirds of California voters approved the proposition banning battery cages. Similar laws are now in effect in Michigan, Arizona, Ohio, Oregon and Wisconsin.

In November, Massachusetts voters will likely mandate all eggs sold in the state must be cage-free. The UEP is not fighting against that proposal, he said.

The UEP also called for a national egg bill that would have established a timeline for an orderly transition to enriched colony housing, but the effort failed in early 2013 because it was not supported by the beef and pork industries or the Farm Bureau. Gregory said some egg producers didn't agree with an effort to create a national law because they believe the free market, not the government, should define the business.

> ***"…the market place is sorting it out because we've left this void and the activists have filled that hole."***

"They would make comments like, 'Let's just let the marketplace sort things out, the marketplace always sorts stuff out, let's just do that,'" Gregory said. "Well guess what, the market place is sorting it out because we've left this void and the activists have filled that hole."

Gregory said the bill failed, but he respects the UEP's board members for taking a leap of faith and making a bold move to try and pass it.

"They knew, the 34 board members and those of you who are in the room right now, you knew this chaos was going to happen, you knew that if we didn't have an egg bill or a law like this that what we are experiencing right now was going to play out, and here we are."

WILL THE CAGE-FREE HOUSING OF CHOICE BE COMBI SYSTEMS?

Image courtesy of Valli Spa.

By: Austin Alonzo
Published: July 14, 2016

Combination, or convertible, housing offers the maximum stocking density in cage-free housing as well as the ability to be a cage-free and conventional system.

The U.S. egg industry is going cage free as major egg buyers pledge to no longer serve eggs from birds raised in cages. With those pledges maturing soon, and a massive increase in cage-free supply needed, farmers are weighing their options for housing.

There are three prevailing system types – aviaries, combination and floor – with distinct performance and management advantages and disadvantages. Combis promise the maximum stocking density among the three options. The systems, which feature aspects of aviaries and conventional cages, can be we converted from cage free to conventional, serving as a sort of insurance policy in case the clamor over cage-free eggs dies down.

> ***"Only a handful of housing manufacturers sell combi systems."***

Combis are not truly a cage nor a cage-free system, so they are dogged by questions about their acceptability as a long-term solution. Welfare groups and regulators in the U.S. and Europe already call their status as a cage-free system into doubt over the system's confinement features.

Only a handful of housing manufacturers sell combi systems. In alphabetical order, here is the information they shared with *Egg Industry* as part of its cage-free housing survey.

FARMER AUTOMATIC

COMBI II

Photo courtesy Farmer Automatic

Farmer Automatic Gmbh & Co. KG Combi II housing system is highly customizable and can be arranged in an open format like an aviary, or closed format like a conventional cage. The system's feed, water, nest and perch components can be arranged in different configurations, as well. The feed troughs and egg belts are located inside the system in order to maximize available floor space inside the house.

TECNO

VOLIERA VS224

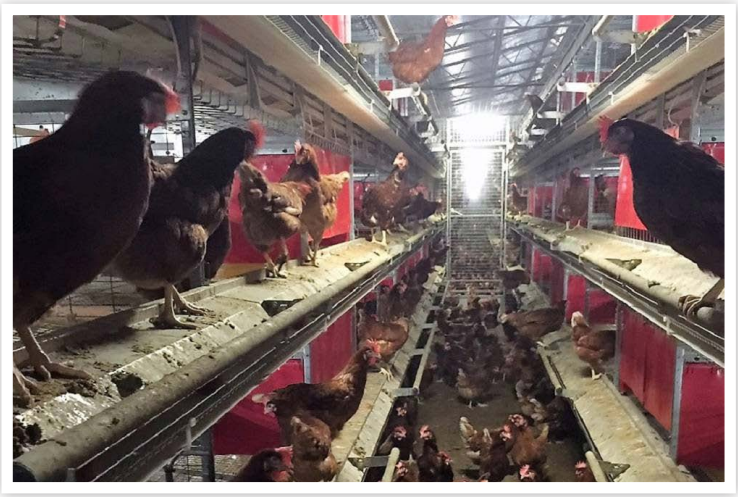


Photo courtesy Tecno

Tecno Poultry Equipment Spa's Voliera VS224 aviary is designed to work as a combi system as well as a standard aviary. The system can work as a cage-free, conventional cage or temporary confinement system for laying hens and is used by customers in Europe and the United States. It's part of Tecno's VS line of aviaries – the VS188 and VS224 are part of the same series – which aim to provide the technical characteristics of a cage-system and allow for freedom of movement for the birds.

VAL-CO/VALLI

VALLI SPACE AVIARY

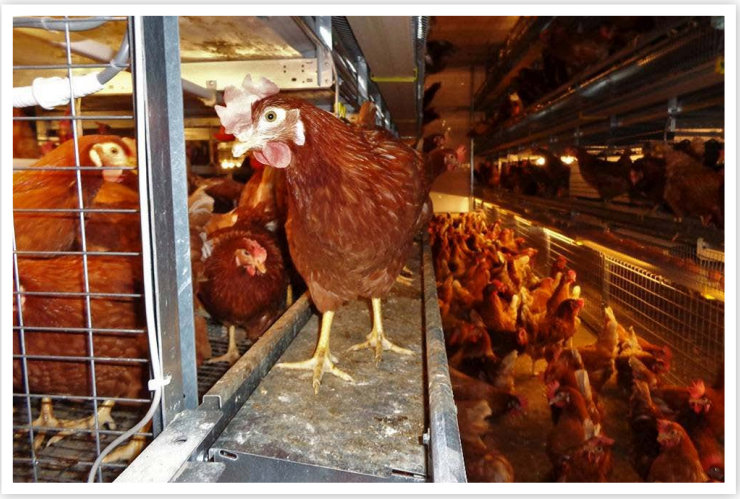


Photo courtesy Val-Co/Valli

Valli Spa's Space Aviary is designed to give farmers the most for their money. The system is fully convertible from enriched cage housing to cage-free aviary housing and is fully compliant with the European Union's laws on hen housing. The system is available with customizable options for drinkers, feeders and manure management systems. The system comes in two-tiered and three-tiered models with intermediate catwalks for workers.

EU LAYER BREEDERS ADAPTING HENS FOR CAGE-FREE CONDITIONS

Austin Alonzo

By: Austin Alonzo
Published: September 27, 2016

Dr. Rudolf Preisinger, of German breeder Lohmann Tierzucht, said breeders will need to select for new traits to serve a cage-free egg industry.

The cage-free movement is taking the global egg industry by storm, and the world's leading genetics companies are changing their layer stock to perform better under new conditions.

Dr. Rudolf Preisinger, chief geneticist for German breeder Lohmann Tierzucht GmbH, earlier this year spoke about the present, and future of cage-free in Europe at the 2016 *Egg Industry* Issues Forum in Chicago.

THE CAGE-FREE MOVEMENT IN EUROPE

Dr. Rudolf Preisinger, of German breeder Lohmann Tierzucht, said breeders will need to select for new traits to serve a cage-free egg industry. | *Terrence O'Keefe*

Like the United States, European countries are coping with increasing demand to remove birds from cages. In 2013, a year after the European Union's ban on battery cages, only 57 percent of the about 380 million hens in the EU were housed in enriched cages with rest either being cage-free, free-range or organic.

The use of cages will keep shrinking, Preisinger said, as retailers pledge to go completely cage-free and countries ban cages. Germany, home to the second largest population of hens in the EU, will ban all cages starting in 2025. Other countries may follow suit as animal welfare becomes more important to consumers and product marketing.

This trend is particularly challenging for European farmers, Preisinger said, who moved to enriched cages in response to the 2012 battery cage ban and may soon have to remove relatively new equipment and replace it with cage-free housing.

European consumers also prefer brown eggs, Preisinger said, and consider white eggs to be industrialized and therefore bad. U.S. egg farmers have an advantage, he said, because white-egg-laying Leghorn birds perform better in cage-free conditions than their brown-egg-laying counterparts.

BREEDING FOR CAGE-FREE

As a breeder, Preisinger said he's challenged to anticipate what customers will need at least five years in advance. In order to maximize the profitability of egg production, breeders are always looking for a steady improvement in the number of eggs a bird can lay, the quality of eggs laid, feed consumption per egg and reliability the bird will lay eggs in the right place.

Cage-free changes the laying environment and introduces enormous changes in bird behavior. Some behaviors which were not important in cages are tremendously important in cage-free housing. Along with that, birds raised outside of cages cannot be scientifically monitored in the same way as caged birds. Essentially, it's hard to test a bird's laying performance when a geneticist can't be sure which bird laid which egg.

Cage-free hens move around more than their caged predecessors, so geneticists are continuing to emphasize feed conversion in order to prevent feed costs from rising too dramatically as cage-free production becomes the standard in Europe and the United States. | Austin Alonzo

The growing demand for cage-free housing, Preisinger said, likely means breeders will be selecting for the following traits:

- **A longer production period:** Producer always want more eggs out of the same or less birds, but bird longevity is becoming an animal welfare issue, because molting of hens is not looked on favorably by activists groups.
- **Better feed conversion:** Geneticists always want steady improvement in feed conversion and amount of feed per egg laid, but hens housed in aviaries will have more freedom to move around and expend energy than their caged counterparts. Breeders will be challenged to find a way to minimize the impact of higher feed costs associated with cage-free housing through genetic improvement.
- Preisinger estimated farmers are used to using 3 pounds of feed per a dozen eggs, but under cage free conditions feed use could increase to 3.3 to 3.5 lbs per dozen. He said feed cost per dozen is a key to the success of the U.S. egg industry but farmers will need to be prepared for their costs to go up as the industry shifts to cage-free.
- **Good feather coverage:** Geneticists are looking for good plumage as part of increased feed consumption and risk of exposure to feather pecking. Birds with better feather coverage conserve more energy and consume less feed. Good feather coverage over a lifetime shows minimal negative pecking behavior and is considered to be a sign of animal welfare.
- **Shorter beaks:** With a ban on beak treatment coming to Europe, Preisinger said future generations of hens will have shorter and shorter beaks so, eventually, farmers will receive chicks that don't need beak trimming. A shorter beak will prevent loss associated with aggressive pecking behavior.

Cage-free hens have more freedom to move about the house, and breeders must select for genetic traits that allow them to move around and interact with other birds without sacrificing egg production or productive lifespan. | Austin Alonzo

- **Stronger bones:** As a birds production cycle increases to 90, 100, 110 or 120 weeks, the birds will use more minerals from their bones to make strong egg shells. Over time, the bird's bones will become brittle and more likely to break, especially in a cage-free environment where birds can hop and flap between multiple tiers of housing. Preisinger said about 30 percent of birds have bone breakage in their lifetime, so the challenge must be taken seriously. Birds with stronger bones will lead a longer, more productive life under cage-free conditions.

- **Nest acceptance:** Preisinger said equipment companies are doing a good job of providing perches where birds feel comfortable. They are so comfortable, however, sometimes they will lay their eggs while perched. Before cage-free, nest acceptance was not an important trait, but now cage-free is penalizing breeds with low nest acceptance. Breeders will focus on developing layers predisposed to lay in nest boxes to reduce floor eggs and other mislaid eggs.

Before cage-free, nest acceptance was not an important trait for layer hens. Now, birds must be predisposed to lay their eggs inside nest boxes in order to prevent mislaid eggs and, therefore, lost productivity. | Austin Alonzo

EUROPEAN TRENDS CHALLENGING THE EGG INDUSTRY

Along with increasing demand for cage-free, Dr. Rudolf Preisinger, chief geneticist at Lohmann Tierzucht, said, the European egg industry will likely be challenged with the following trends in the coming years.

- **Animal welfare:** European consumers are increasingly concerned with animal welfare. Retailers are responding by marketing products as animal welfare friendly, and aligning themselves with animal welfare causes.
- **Cage-free demand increasing:** Like the United States, European companies are pledging to go entirely cage-free in the near future. Germany is totally banning caged housing in 2025 and other countries may follow suit. In 2015, enriched cage eggs only made up only 51 percent of eggs produced in the United Kingdom with 44 percent coming from free-range birds.
- **Beak trimming ban:** Within 5 years, beak treatment will be banned in Europe. Lohmann is responding by breeding birds with shorter beaks. Preisinger said removing beak trimming, coupled with cage-free housing, will likely lead to more behavior problems like feather pecking and cannibalism. He predicted bird mortality will double in Germany immediately after the ban is enacted.
- **Sex determination in the egg:** Within 5 to 10 years, Preisinger said, European breeders will be required to determine the gender of the chick less than 10 days after the egg is laid. Germany will likely be the first country to establish laws on sex determination. There is some talk about developing dual purpose birds, but they will likely have significantly low levels of performance as both a broiler and a layer bird and the costs of the products will be significantly higher.

CAGE-FREE HOUSING CONTINUES TO GAIN MOMENTUM IN 2016

By: Terrence O'Keefe
Published: December 14, 2015

Foodservice and food processing companies making cage-free egg purchase pledges are fueling a cage-free hen housing expansion in the US

Just 12 months ago, the biggest challenge facing the U.S. egg industry appeared to be the possible market disruption resulting from Proposition 2 implementation in California. As it turned out, Proposition 2 became a mere footnote to the big story in 2015, the impact of highly pathogenic avian influenza on the U.S. poultry industry as a whole and the layer industry in particular.

Even though the avian flu outbreak of 2015 was the most costly foreign animal disease outbreak ever suffered by the U.S. poultry industry, the cage-free egg purchase pledges made by major foodservice and food processing companies in the U.S. will be the development that has the longest-lasting impact on U.S. egg producers.

NEW CONSTRUCTION IN 2016

In early returns from *Egg Industry*'s Top Egg Company Survey, it is apparent that much of the new housing being added in 2016 will be cage free. This shift is occurring as the industry is in a bit of a building boom. With surveys returned by mid-December, 26 egg producers with a combined total of around 100 million hens housed at the end of 2015 report they will add housing for nearly 4 million head of cage-free and 3 million head of cage-housed hens in 2016.

It is important to note that most cage-free projects that have been announced publicly involve new construction, not conversion of existing facilities. These projects are undertaken to meet increased demand for cage-free eggs without reducing the production of eggs from cage-housed hens.

Market demand for cage-free eggs is spurring a shift to cage-free housing, which may be the most significant development of 2016 for U.S. egg producers. | Photo courtesy Val-Co/Valli

Anecdotal reports from California egg producers suggest that the California egg market will convert almost entirely to cage free over the next five years. Industry sources report that some California egg producers are taking steps to convert all of their existing cage housing to cage-free in anticipation of this market shift.

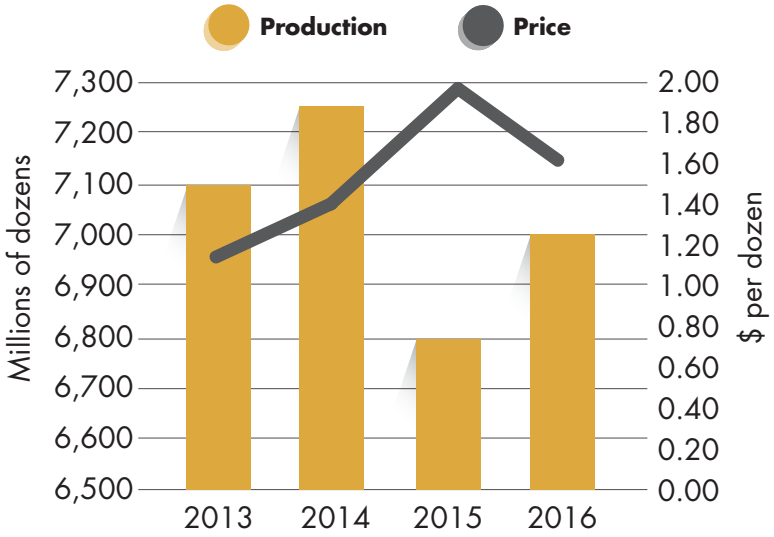
All hens housed in cages to produce eggs for the California market are provided a minimum of 116 square inches per hen versus 67 square inches for UEP Certified standard. Because of the lower housing density in cages for the California market, converting these facilities to cage free results in less of a production drop per square foot of floor space than it would for houses operated at the UEP Certified standard.

EGG PRODUCTION AND PRICE

The avian flu outbreak in the Upper Midwest caused the loss of more than 40 million layers and pullets, which created an egg supply shortage in the U.S. and led to record high egg prices. The USDA estimates that U.S. egg production in 2015 fell to 6,803 million dozen eggs, down 6.5 percent from 2014 (Figure 1). The USDA is forecasting that 2016 egg production will be 7,015 million dozen, still below 2014 levels. But, industry sources expect U.S. weekly egg production to recover to 2014 levels by the end of 2016.

U.S. EGG PRODUCTION AND WHOLESALE PRICE

Source: USDA Livestock, Dairy and Poultry Outlook report 12/9/15



U.S. egg production is predicted to be below 2013 levels in 2016, and wholesale egg prices are predicted to remain at profitable levels for egg producers.

FEED INGREDIENT COSTS

Egg producers benefited from reduced corn and soybean meal prices in 2015. Dr. Thomas Elam, economist, FarmEcon.com, said that he expected the USDA Agricultural Marketing Service (AMS) Central Illinois elevator daily cash bid price for corn to average $3.65 per bushel for the year in 2015. Prices ranged from a high of $4.15 per bushel to a low of $3.36 over the course of the year.

In 2016, Elam said he also expects the corn price to average around $3.65 per bushel as long as the U.S. has a crop of 13,250-14,000 million bushels. The December 9, 2015, USDA WASDE report estimated that the projected range for the 2015-16 crop year average corn farm price will be $3.35-3.95 per bushel.

The USDA AMS Decatur, Illinois, high protein soybean meal cash bid, daily average in 2015 reached a high of $420 per ton on January 5 and the low, as of December 7, was $294.50.

Elam said: “I look for 2016 weakness in meal based on a minor shift in acreage to beans and a continued strong dollar (negatively) affecting exports.”

The December 9, 2015, USDA WASDE report estimates the average soybean meal price will be in the $290-330 per ton range for the 2015-16 crop year.

When considering grain price forecast, Elam said, “As always, weather is the wild card.”

COMPETING ANIMAL PROTEINS

Elam estimates chicken and pork will be in relative oversupply situations in the U.S. in 2016, meaning production costs will reach or at times exceed market prices for these meats. “I look for very small margins next year, and some months showing losses,” he said.

The supply and demand situation will be better for turkey and cattle producers in 2016, according to Elam. “The turkey breeding flock will not be back fully online until late in the second quarter of 2016, slaughter volume will be up three to four months after that,” he said. “Beef supplies will continue to grow in 2016, into 2017, and beyond. Growth rates of 2-4 percent are possible for 2016-17.”

Elam said: “Total protein disappearance for 2016 is forecast to be up 2-3 pounds from this year and a whopping 11-12 pounds from 2014. That is a large increase in a short period of time. Look for 2017 production growth limited by profitability across all meats.”

CAGE-FREE AVIARY HOUSING EYED IN LAYER PERFORMANCE TEST

The Piedmont Research Station is located in Salisbury, North Carolina.
Submitted by Dr. Kenneth Anderson, North Carolina State University.

By: Austin Alonzo
Published: February 5, 2016

The North Carolina Layer Performance and Management Program is raising money for a $3.2 million expansion to study cage-free aviary egg laying systems.

More than a year after North Carolina State University announced a project to expand its research of aviary laying systems, the university is looking for additional funding to make the project a reality.

In January 2015, Dr. Kenneth Anderson, a professor of poultry science and director of the North Carolina Layer Performance and Management Program, announced the university was looking to raise $3.2 million to keep the Layer Performance and Management Test up-to-date with how laying hens are being housed today.

In an interview with *Egg Industry*, Anderson said the university is halfway to its fundraising goal, with about $1.6 million committed toward the project. The $3.2 million will fund a new building at the Piedmont Research Station, new housing equipment, operation of the new building and an endowed professorship in layer research.

Anderson said ground could be broken on the new building by the middle of 2016 and the birds could be going in by the end of 2017. That, he said, depends on industry funding and support coming into place.

So far, all of the funding has come from the industry, with the largest commitment coming from the owners of Nashville, North Carolina, egg and feed company Braswell Foods. Anderson said the Braswell family is committed to funding the endowed professorship and more than 50 percent of the building's structure costs.

Anderson said the test has about 15,000 hens housed in conventional or battery cages, enrichable cages, enriched cages, cage-free floor pens and range huts with attached outdoor pens, but it does not test aviary systems.

"With all of the shifting to cage-free production by a lot of the large, mercantile and restaurant chains…it's more and more important that we develop a research facility that can look at problems or issues associated with those production systems and actually compare them to what we've been doing or what we've been moving toward," Anderson said. "We need to know and understand more about the cage-free system and how the different genetic stock interacts with that system."

> ***"We need to know and understand more about the cage-free system and how the different genetic stock interacts with that system."***

Anderson said the test will study how birds interact with the aviary systems – a type of cage-free laying system that allows hens to move freely around the house and better utilize the three-dimensional space of the house – and how these systems affect the bird's health and performance. The new building could house as many as 10,000 layers and test a variety of aviary systems. The facility will have an aviaries that will allow for outdoor access – onto verandas attached to the building and into a "free-range" paddocks – as well as aviaries that are housed completely indoors. The different settings will allow the facility to research how birds perform under European Union housing standards and see if those standards will work in the U.S.

Along with testing laying performance, the aviary building will allow researchers to monitor how the environment influences the hen's behavior, compared with the other laying systems it tests.

Because the funding is not yet complete and design work is just getting started, Anderson could not say whom will be furnishing the laying equipment. In 2015, Anderson said the German equipment company SALMET GmbH & Co. KG had pledged to provide half of the equipment for the proposed new aviary building. That agreement is still in place, Anderson said.

Ideally, the proposed building would house 36 replications each housing 200 to 300 birds. At the minimum, it will house 18 replications. Anderson said the goal is to test 18 different strains of hens. Which breeds are placed in which laying systems will be at the discretion of the genetics companies that provide the birds.

He said the project aims to see how the different strains interact with the different laying systems, but the genetics companies will ultimately decide which strains are tested in which housing systems.

> ***"It'll vary from year to year. Right now, we are looking in the layer test that is coming up right now at, at least, 18 strains"***

"It'll vary from year to year. Right now, we are looking in the layer test that is coming up right now at, at least, 18 strains," Anderson said. "Most of them will be looked at in four environments, probably four to five of them will be looked at in only two environments and that would be the free range and cage free."

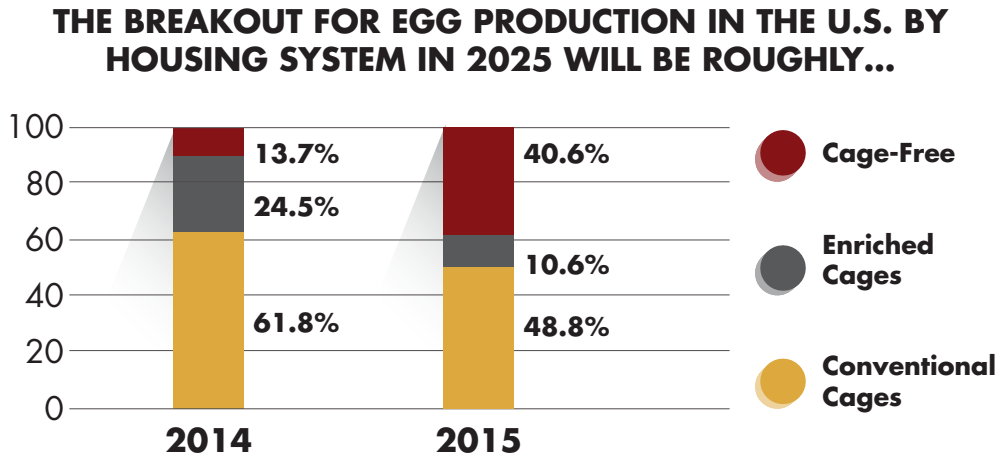
Anderson could not say which breeding companies will be providing animals for the next layer test. He said information about previous tests, which includes full information on the birds studied, can be found online.

EGG PRODUCERS SEE BIG SHIFT TO CAGE-FREE EGGS BY 2025

By: Terrence O'Keefe
Published: February 11, 2016

The cascade of foodservice and food manufacturing companies' pledges to shift egg purchases to cage-free has had a big impact on how US egg producers view the future.

For each of the past two *Top Egg Company Surveys*, U.S. egg producers were asked to project what they thought the breakout for egg production by housing system will be in 2025. In just 12 months, egg producers changed from predicting that 13.7 percent of hens would be housed cage-free in 2025 in last year's survey to 40.6 percent in this year's survey.



Egg producers predict that cage-free egg production will grow much more rapidly than they did just one year ago.

In this year's survey, 29 egg producers housing about 130 million hens submitted their predictions for what the future holds for hen housing in the U.S. The predictions for the percentage of hens that will be raised cage-free in the U.S. in 2025 ranged from a low of 10 to a high of 80.

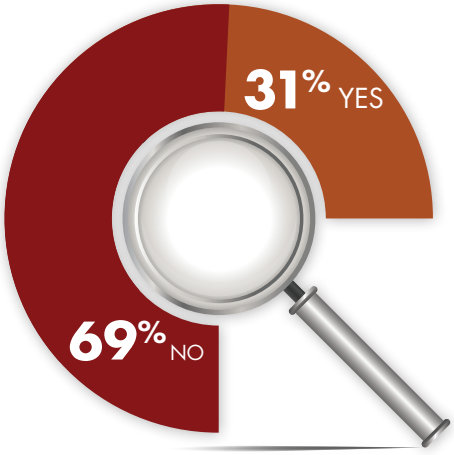
The expansion in cage-free egg production is predicted to come largely at the expense of enriched cages, which this year were predicted to make up just over 10 percent of total hens housed in 2025, down from a prediction of almost one-quarter of total hens housed last year. The predictions for enriched cages ranged from seven responses of 0 percent to a high of 30 percent.

Conventional cages are still predicted to be the predominant means of housing hens in 2025, according to this year's survey respondents, with almost 49 percent of housed this way, a significant decline from the prediction of last year, almost 62 percent.

FOODSERVICE CAGE-FREE EGG SALES

McDonald's pledge to switch all of the company's egg purchases in the U.S. and Canada to cage free by 2025 is seen by some as pivotal for the U.S. egg industry. In this year's survey, egg producers were asked if they agreed with the statement, "McDonald's decision to transition to cage-free egg purchases will ultimately lead to the end of cage housing for foodservice egg production." More than two-thirds of egg producers responding to the survey disagreed with this statement.

DO YOU AGREE WITH THE STATEMENT, "MCDONALD'S DECISION TO TRANSITION TO CAGE-FREE EGG PURCHASES WILL ULTIMATELY RESULT IN THE END OF CAGE HOUSING FOR FOOD SERVICE EGG PRODUCTION"?



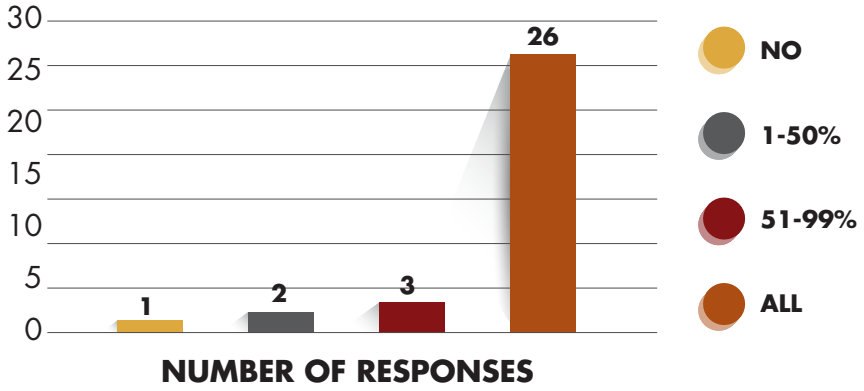
Almost one-third of responding egg producers believe McDonald's cage-free announcement will result in end of cage housing for foodservice in the U.S.

FARM-SPECIFIC BIOSECURITY PLANS

The avian influenza outbreaks of 2015 in the U.S. caused more damage to the egg industry than to the other poultry sectors. The loss of about 40 million layers and pullets highlighted the importance of effective biosecurity programs for pullet and layer farms.

USDA's Animal and Plant Health Inspection Service (APHIS) has issued guidance on farm biosecurity, and a site-specific biosecurity program is named as one imperative for poultry farms.

DO YOUR PULLET AND LAYER TARMS HAVE SITE SPECIFIC BIOSECURITY PLANS?

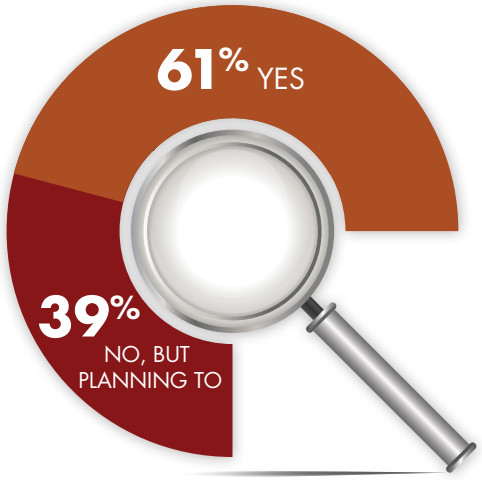


More than 80 percent of responding egg producers say they have site-specific biosecurity plans for each farm.

In this year's survey, egg producers were asked if their pullet and layer farms had site-specific biosecurity plans. Twenty-six of the 32 egg producers who responded to the question said that all of their farms had site-specific biosecurity plans (Figure 3). Five egg producers reported that some of their farms have site-specific programs, and only one said that they had no site-specific biosecurity plans.

Egg producers were asked if their on-farm biosecurity plans are audited to validate compliance with the plans. Nineteen of the 31 egg producers answering this question report that they are being audited. The other 12 respondents said that they are making plans to be audited.

ARE YOUR FARMS AUDITED FOR COMPLIANCE TO YOUR BIOSECURITY PLANS?



More than 60 percent of responding egg producers say they are audited to check compliance of their biosecurity programs.

HOW CANADA WILL PHASE OUT CONVENTIONAL CAGES BY 2036

Canada's egg farmers will be required to keep their laying hens in fully enriched housing in the future. | Terrence O'Keefe

By: Austin Alonzo
Published: March 1, 2016

A leader of the Egg Farmers of Canada said managing the shift will require coordination between the country's supply management system and its provinces.

By 2036, Canada will no longer house laying hens in conventional cages. Instead, farmers will be required to keep their birds in fully enriched housing systems, which grant the hens additional space for normal behaviors, or in cage-free environments. The mandatory shift will be overseen by the Egg Farmers of Canada, the national egg production organization, in cooperation with the country's provincial egg boards.

In an interview, Roger Pelissero, the first vice chair of the nonprofit organization that manages the country's supply of eggs, said as much as 65 percent of the country's hens will be housed in non-conventional housing within the next eight years. He said the transition is possible because Canadian farmers are embracing the unified direction and because of the country's system for managing the price and supply of some agrarian commodities: the supply management system.

The supply management system, a national program created in 1965, dictates the price Canadian farmers are paid for their products based on the costs of production. Dairy, table eggs, broiler hatching eggs, chicken and turkey are subject to the supply management system. Grain, cattle and hogs are not.

Supply management includes production controls, pricing controls and import controls. Pelissero, an egg farmer from Ontario, explained the system allows egg producers to receive a "fair" price for their goods. It also allows producers to coordinate quotas of how many eggs they produce in order to prevent an over- or under-supply of the commodity. If those quotas are not met, then the country can import eggs from elsewhere. Canada is a major agrarian exporter of grains, such as wheat, canola and soy, cattle and swine. It is not a major exporter of commodities included in the supply management system.

Moving out of conventional cages will increase the price consumers pay for eggs, but not by much, according to Pelissero. He expects the price of eggs to increase by about 7 cents per dozen. In the current formula used to set the price of eggs, housing costs are worth about 3 cents per dozen.

The system, which is administered by the provinces, provincial egg producer organizations and, in some regions, the national government, will play a large role in management of the transition. Because egg farmers have their costs of production calculated into the price of their products, costs for livestock housing are reimbursed directly by consumers. Typically, the cost of housing systems is reimbursed in 15 years, Pelissero said.

Provincial egg boards will be charged with ensuring the transition occurs on schedule. Those who monitor the egg farms have records on when new systems and houses were constructed, and they will be able to tell when a farmer is due to make the switch. Ideally, the farmers will be given a timeline for how soon they are expected to stop using conventional housing. If the change is not made, the administrators can block a farmer from producing more eggs. Pelissero said he doubts farmers will balk at the move out of conventional cages.

“We expect full cooperation. In fact, in Ontario, the province I represent at the national table, farmers have embraced this,” Pelissero said. “They are saying, ‘We’re happy now, we know how we can move forward regarding producing eggs in Canada.’ We always base our decisions on what’s best for our hens and what’s a good affordable egg that we can produce for consumers.”

The shift will not make the Canadian egg industry entirely cage free, Pelissero said. It asks farmers to house their laying hens in fully enriched housing or other alternative housing: meaning housing that includes a nest box, perches, scratch pads and a minimum distance of 116.25 square inches of floor space per hen.

He said the decision to go with fully enriched is based on research conducted as part of the Coalition for a Sustainable Egg Supply’s 2015 report on the sustainability of conventional and enriched cages as well as an aviary system at a commercial-scale egg farm in Iowa. Canada’s egg farmers are given some freedom because there is not yet a conclusion on which form of non-conventional housing is the best for hens, farmers and consumers.

> ***“When you take a look at that research, there is no one housing system that is perfect…”***

“When you take a look at that research, there is no one housing system that is perfect. And at the end of the day, when we weigh off the negatives and the positives not only for our hens but for our families and members of who we employ working in these facilities, we feel the best system to produce eggs, and for food affordability, is the enriched housing system,” Pelissero said.

About 90 percent of Canada’s eggs come from hens living in conventional cages. On February 4, 2016, the country’s egg farmers agreed to stop adding more conventional housing. Pelissero said 85 percent of Canada’s hens will be in enriched housing by 2031. The entire egg industry is expected to make the transition by 2036.

Moving toward enriched cages raises the question of how the Canadian egg industry can answer growing demand for cage-free eggs. Pelissero said the industry will meet the demand for cage-free eggs, but the cage-free demand created by companies like McDonalds only purchasing cage-free eggs in the future will account for less than 7 percent of the egg industry’s market. He said the majority of the nation’s production is for the Canadian consumer, who is happy with the responsibly raised, affordable eggs Canada is producing.

“We have cage-free production in Canada and it will continue to increase,” Pelissero said. “This is why 20 years to transition will allow us to match production with demand. It’s all about choices and we will make sure that we will continue to allow for choice.”

CALIFORNIA EGG PRODUCER TRANSITIONING TO CAGE FREE

J.S. West, the first U.S. egg producer to install enriched cages, is converting its houses to cage free. | Terrence O'Keefe

By: Terrence O'Keefe
Published: April 19, 2016

Gary West shares J.S. West's plans to increase cage-free egg production in coming years.

J.S. West Milling Co. was the first egg producer to build, equip and populate an enriched "colony" cage layer house in the U.S. The company became a major proponent of enriched housing as egg producers lobbied for passage of the Egg Bill, which would have mandated a transition from conventional to enriched cages for the entire country.

The Egg Bill never passed. Proposition 2, when implemented, led to more space in cages for hens producing eggs for the California market, but not to cages with enrichments. Enriched cages just didn't catch on. J.S. West is now adding cage-free capacity and planning to convert cage houses to cage free.

When asked about his company's plans for building new cage-free facilities and for converting old buildings to cage-free equipment, Gary West, president, J.S. West, said: "J.S. West Milling Co. is planning new cage-free brooder houses to be built this year (2016) and two cage-free layer houses to be finished early next year (2017). We expect to increase the total number of cage-free layers as we convert our (existing) houses."

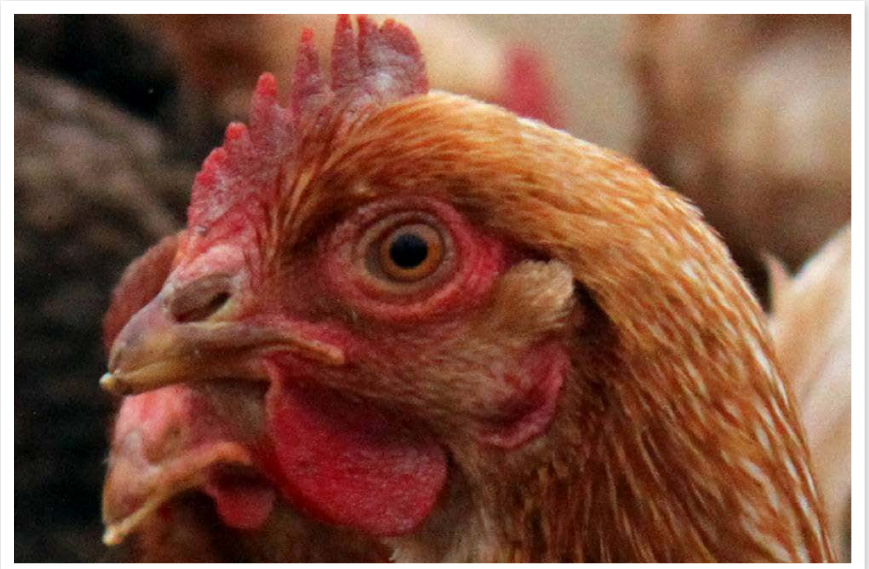
> ***"Our company plans to use existing high-rise buildings where we can transition from cages to cage free."***

"Our company plans to use existing high-rise buildings where we can transition from cages to cage free. These housing systems will be aviaries, and include all new equipment."

West stopped short of saying J.S. West is completely converting to cage-free egg production.

"As you know, the use of cage-free systems costs more to produce eggs, consequently raising the price to the consumer," he said. "Many of our retail customers will continue to offer cage-free, caged production, organic, and many other forms which allows the customer to choose what they want. We feel this is a prudent decision. However, we will produce whatever eggs our customers want."

STOCKING OF RED RIVER VALLEY EGG FARM UNDERWAY



The Red River Valley Egg farm near Bogata, Texas, is expected to be fully stocked with hens by early 2017. | Andrea Gantz

By: Roy Graber
Published: March 14, 2016

New cage-free egg farm jointly owned by Cal-Maine Foods and Rose Acre Farms expected to be fully stocked with hens by early 2017

A new cage-free egg production farm jointly owned by the two largest egg companies in the United States should be fully stocked with hens by early 2017, an official with Cal-Maine Foods said.

Tim Dawson, Cal-Maine Foods' vice president and chief financial officer, gave an update on the company's joint project with Rose Acre Farms while speaking at the UBS Global Consumer Conference on March 10 in Boston, Massachusetts. When fully operational, the facility will have about 1.8 million birds, said Dawson.

"We're in the process now of beginning to populate that facility. We have a little less than a half-million birds there today and should be at full capacity there by early 2017," Dawson said.

Cal-Maine Foods and Rose Acre Farms in April 2015 announced that the companies had formed a joint venture known as Red River Valley Egg Farm LLC, and would be building a cage-free egg facility near Bogata, Texas, in Red River County.

The cage-free farm is being built at a time when major grocery chains like Aldi, Kroger, Delhaize America and Albertsons Companies are phasing out eggs from caged hens. Numerous chain restaurants, such as McDonald's, IHOP, Denny's and Burger King are also making the transition to cage-free eggs.

When the Red River Valley Egg Farm facility becomes fully operational, it will be a significant expansion to the two major egg companies.

According to the Egg Industry exclusive survey of top egg companies, Cal-Maine Foods' operations included 36.38 million laying hens in 2015, while Rose Acre arms housed 25.59 million hens.

REMBRANDT FOODS PLANS CAGE-FREE EGG FARM IN SOUTH DAKOTA

Rembrandt Foods is building a cage-free egg facility in Lake Preston, South Dakota. | Andrea Gantz

Published: Written April 18, 2016

Facility will initially house about 3 million laying hens

Rembrandt Foods plans to build a cage-free egg production site in Lake Preston, South Dakota. The facility expansion will initially house approximately 3 million cage-free layers, in planned phases. The facility will have on-site breaking equipment, with further growth planned.

The South Dakota location was selected for its central location, access to feed, and biosecurity benefits. Construction will begin in 2016, with the first hens introduced in 2017.

NEW FACILITY 'ANOTHER STEP CLOSER' TO FACILITATING CAGE-FREE DEMAND

The site will significantly expand the existing cage-free egg production and processing capacity of Rembrandt Foods. This investment aligns with the commitment to cage-free expansion and growth that the company announced in 2015.

"We recognize the growing consumer demand for cage-free eggs and egg products and as a leader in this industry, we are committed to supporting our customers' cage-free needs," said Dave Rettig, President of Rembrandt Foods. "The Lake Preston operation reflects our interest in a cage-free future and we are excited to make this investment."

"A cage-free supply chain isn't built overnight," Rettig added, "but the Lake Preston facility puts us another step closer to facilitating a cage-free standard."

Rembrandt Foods worked with the State of South Dakota, Kingsbury County and the community of Lake Preston in the planning stages for the new facility.

"Rembrandt Foods will be a welcome addition to South Dakota's robust agriculture industry," said South Dakota Gov. Dennis Daugaard. "I want to thank Rembrandt for choosing to do business here."

GEMPERLE FARMS TO PRODUCE ONLY CAGE-FREE EGGS

California-based Gemperle Farms is converting all of its facilities to cage-free egg production. | Terrence O'Keefe

By: Terrence O'Keefe
Published: March 21, 2016

California-based egg producer plans to transition to 100 percent cage-free egg production by 2024.

Gemperle Farms will shift all of its egg production to either organic or cage free over the next eight years. Steve Gemperle, president, Gemperle Farms, said the nation's 21st largest egg producer is making this conversion in response to increased consumer demand for cage-free eggs.

"We have always appreciated consumers that support the cage-free and organic movements through their purchasing choices both at grocery stores and in restaurants," Gemperle said. "The trend we now see is that more grocers, restaurants and food manufacturers are catching on to these consumer choices. This shift will allow us to move towards a 100 percent organic and cage-free future for Gemperle Family Farms."

ALL CAGE-FREE BY 2024

When asked about the timetable for conversion to 100 percent cage-free egg production, Gemperle said, "If consumer trends continue in the current direction towards cage-free and organic (eggs), we expect to be fully converted before 2024. Over 50 percent of our barns have already been converted to cage free and organic."

> ***"We believe our hen numbers will grow with customer demand. California's population has grown dramatically over the years."***

Gemperle Farms' conversion to cage-free egg production is being accomplished with a combination of remodeling existing buildings and building new ones. When asked if he expected hen numbers to increase in the future, Gemperle said, "We believe our hen numbers will grow with customer demand. California's population has grown dramatically over the years."

Gemperle said that the company employs open aviary and floor systems for housing its cage-free hens. He said they are not trying to open up or modify any cage systems to be used as aviaries.

"We currently have been building open aviaries and believe they are the right choice," he said. "We are using all new aviary equipment. We have found over our decades of experience that it is the best environment for our birds."

THE FUTURE FOR CAGE-FREE EGGS

Gemperle was asked if he thought California consumers will be satisfied with cage-free eggs from hens in aviary-type systems as the standard egg or whether the market for eggs from birds with outdoor access will continue to grow and challenge "regular" cage-free eggs for what is "standard" in the future.

> ***"Consumers have all different buying habits and desires…"***

"Consumers have all different buying habits and desires," he said. "How this changes is very difficult to predict. We believe that there will always be different categories of eggs that meet different consumer needs. Our business philosophy has always been to supply consumers the healthiest and most nutritious local egg choices using the highest animal welfare standards. We are committed to producing the eggs in aviaries and floor houses."

Gemperle Farms has been producing cage-free and organic eggs as part of its product mix for more than two decades. The company is based in Stanislaus County, California, which is east of San Jose in the Central Valley. As of January 1, 2015, cage-housed hens producing eggs for the California market have been required to be given a minimum of 116 square inches of cage floor space. Converting to cage-free egg production for the California market results in a lesser reduction in hen numbers within a building than would be the case for a farm producing a the UEP Certified cage density of 67 square inches per hen.

KREIDER'S CAGE-FREE FLOCK NOW CERTIFIED HUMANE

Terrence O'Keefe

By: Austin Alonzo
Published: April 1, 2016

The American Humane Association announced the largest egg producer in Pennsylvania's cage-free egg flock achieved humane certification by the association.

Kreider Farms cage-free layer flocks have achieved American Humane Certified certification from the American Humane Association (AHA).

On March 30, the Washington-based animal welfare organization announced Kreider, the 18th largest egg producer in the U.S. according to research from WATT Global Media, has met its farm animal welfare standards certification. The Pennsylvania-based egg producer supplies shell eggs to supermarkets and wholesalers in the northeastern U.S. and sells cage-free eggs under the Noah's Pride brand.

"Kreider Farms acknowledges (the AHA's) contribution and commitment to the humane movement. We are proud to receive the American Humane Association's certification," Byron Shaffer, food safety and quality manager at Kreider Farms, stated in a news release.

Americans are becoming more concerned about the treatment of livestock. According to a recent poll conducted by the the American Humane Association, 94.9 percent of Americans are "very concerned" about farm animal welfare, and 75.7 percent are willing to pay more for humanely raised eggs, meat, and dairy products, up from 74 percent in 2013.

> ***"We commend Kreider Farms for making the humane choice"***

The AHA offers welfare certification programs for cage-free egg programs as well as other certification services for livestock farmers. In a news release, Robin Ganzert, the AHA's president and CEO, said cage-free is a growing segment of the egg industry as more retailers and food service providers commit to purchase only cage-free eggs in the near future.

"We commend Kreider Farms for making the humane choice," Ganzert stated.

CAGE-FREE EGG PRODUCTION, MORE COST THAN BENEFITS?

TABLE 1. COALITION FOR A SUSTAINABLE EGG SUPPLY RESEARCH RESULTS

Average operating costs per dozen eggs for each housing system

	Conventional Cage	Enriched Cage	Cage-free Aviary
Feed cost	$0.425	$0.417	$0.436
Pullet cost	$0.148	$0.143	$0.221
Labor cost	$0.019	$0.056	$0.074
Energy cost	$0.014	$0.014	$0.015
Miscellaneous cost	$0.005	$0.005	$0.005
Sum of operating costs	$0.612	$0.636	$0.751
Capital costs at 10%	$0.058	$0.120	$0.162
Capital + operating costs	$0.670	$0.756	$0.913
Cost increase over conventional		13%	36%

Source: Mathews and Sumner, Poultry Science March 2015, page 557

Cage-free eggs cost 24 cents more per dozen to produce than eggs from hens housed in conventional cages in this study.

By: Terrence O'Keefe
Published: April 3, 2015

New Coalition for a Sustainable Egg Supply research looks at air quality, food safety, egg quality, production costs and pullet bone growth in the three housing systems.

The Coalition for a Sustainable Egg Supply conducted field research on a commercial egg farm comparing three housing systems: conventional cages, enriched cages and cage-free aviary. Environmental impact, food safety, bird performance, production costs, worker safety, and animal health and well-being measurements were made over a period of 27 months, which encompassed two single-cycle flocks. Nine papers were published in the March 2015 issue of the journal *Poultry Science* detailing results from research conducted on indoor air quality, food safety, egg quality, production cost and bone growth.

CAGE-FREE EGGS COST 24 CENTS MORE PER DOZEN TO PRODUCE

William A. Mathews and Daniel Sumner found that the feed costs per dozen eggs were highest in the aviary-housed hens and were lowest in the hens housed in enriched cages (Table 1). The feed cost for aviary-housed hens was 2.6 percent higher per dozen eggs than for those housed in the conventional cages. Even though feed is the largest cost component of egg production, the authors note that it is not the source of major differences in costs across these housing systems.

Pullet costs were substantially higher for the aviary-housed birds, so eggs from aviary-housed birds were 7 cents more per dozen than eggs from conventional cage-housed hens. The aviary and the enriched housing systems both have higher labor costs, resulting in more than 4 cents per dozen eggs.

Energy and miscellaneous costs constituted only a small share of total operating costs for each of the three housing types with little difference between the three types.

On average across the two flocks, operating costs were almost 14 cents higher for the aviary compared with the conventional house. Operating costs were only 2.4 cents higher for the enriched versus the conventional cages.

In this study, the aviary was the most costly system in all categories. Costs of the enriched system were close to those of the conventional system except for the labor and capital costs, which were considerably more costly.

ENRICHED CAGES HAVE BEST HEN-DAY EGG PRODUCTION

Darrin M. Karcher and co-authors report that the hen-day egg production was similar among housing systems until the eighth four-week-period of the laying cycle at which point the hens in the enriched cages had higher production and maintained a higher level through the end of the production period. The mortality rates were similar among the housing systems until the fourth four-week period of the laying cycle at which time cumulative hen mortality in the aviary house continued to increase rapidly compared with the other housing systems, resulting in cumulative mortality 2.5 times higher in the aviary compared with the other systems.

> ***"The amount of feed supplied was slightly higher in the aviary but hen body weights were similar among the housing systems."***

The authors speculate that the increase in mortality in the aviary house might be due to the learning curve of managing this housing system, which was new to the farm, and the larger hen groups within the pen resulting in pecking and crowding.

The amount of feed supplied was slightly higher in the aviary but hen body weights were similar among the housing systems.

Several egg quality traits were measured from eggs collected from each of the three housing alternatives. In this study, eggshell parameters, vitelline membrane parameters, and whole egg solids were found to be more directly influenced by hen nutrition than by housing type. The authors stated that research would need to be conducted under more controlled research settings to delineate any effect of specific housing systems on egg quality measures.

BETTER BONE STRENGTH IN CAGE-FREE PULLETS

Hens that will be housed in cage-free aviary systems need to be raised as pullets in systems that prepare them structurally and behaviorally. A study was conducted that compared bone development and strength of pullets raised in cages and cage free. The researchers, Prafulla Regmi and co-authors, report that the skeletal loading provided by physical activities undertaken by the pullets in the aviary housing resulted in structural and material changes that improved the load-bearing capability and stiffness of the tibia and humerus. They conclude that providing greater access to activities including flying, perching and running during pullet phase can be crucial to the increased bone quality that might help prevent fractures due to osteoporosis in cage birds, and impact injuries during the production phase in the extensive systems.

CAGE-FREE AVIARIES HAVE THE POOREST AIR QUALITY

Yang Zhao and co-authors monitored air temperature, relative humidity, ammonia and particulate matter concentrations inside the three housing types. All three housing options maintained similar temperature conditions throughout the two flock periods. The air quality inside of the conventional and enriched cage houses was comparable. The aviary house had higher ammonia and particulate matter concentrations than did the cage houses. The ammonia concentration in the aviary house occasionally exceeded 25 parts per million, a commonly used animal welfare standard upper limit for ammonia. The researchers also note that the overall ammonia concentrations

observed in all three housing types in this study were at the lower end of the range observed in previous studies, which involved high-rise and manure-belt hen houses. They also suggest that ammonia mitigation practices should be explored for litter-floored aviary houses to safeguard hen and worker health and to reduce the environmental impact from house emissions.

CAGE-FREE HOUSES HAVE HIGHEST AIRBORNE EMISSIONS

Tim Sheppard and co-authors found that house-level ammonia emissions were highest coming from the aviary house at 0.112 grams per hen per day, followed by the conventional cage and enriched cage houses at 0.082 and 0.054 grams per hen per day, respectively. Farm-level ammonia emissions were lower for the enriched cages, 0.16 grams per hen per day, than for the aviary or conventional cages, 0.30 and 0.29 grams per hen per day respectively. The authors note that ammonia emissions from the manure storage accounted for 60 to 70 percent of the farm-level emissions, and suggest that future ammonia mitigation efforts should focus on manure storage.

Particulate matter emissions, both particulate matter up to 10 and 2.5 micrometers in size, were highest for the aviary house at 100.3 and 8.8 milligrams per hen per day, respectively. Particulate matter emissions from the conventional and enriched cages were similar and significantly less than the aviaries, amounting to 16 percent of the aviary's particulate matter 10 microns or less emission rate and 10–20 percent of the aviary's particulate matter 2.5 or less emission rate. The authors state that the higher particulate matter emissions from the aviary house resulted from hen activities on the litter floor.

> ***"The authors state that the higher particulate matter emissions from the aviary house resulted from hen activities on the litter floor."***

House-level methane emissions were similar for all houses and were at low levels, from 0.07 to 0.08 grams per hen per day.

CAGE-FREE EGGS HAVE HIGHEST MICROBIAL LOAD ON SHELLS

Deana R. Jones and co-authors looked at the microbial loads found on the egg shells and in the environment of the three housing systems. They found the highest levels of average total aerobic organisms were found on aviary floor and system eggs, 4.9 and 4.1 log colony forming units per milliliter, respectively. The lowest levels of total aerobic organisms were found in enriched colony cage nest box and conventional cage system wire produced egg shells, 2.6 and 2.8 log colony forming units per milliliter, respectively. Aviary floor and system wire produced eggs maintained the greatest level of aerobic organism contamination throughout the study.

Average coliform levels for all shell samples were 1 log colony forming unit per milliliter or less. The greatest average shell pool coliform count was associated with aviary floor eggs, 1.0 log colony forming unit per milliliter. There were no significant differences between shell sample types for the prevalence of Salmonella or Campylobacter serotypes. Very low levels of shell Salmonella serotype contamination occurred throughout the study, 0 to 8 percent.

The authors suggest that higher dust levels in the aviary house played a significant role in the higher aerobic plate counts found on the egg shells produced in this house. Developing a system for controlling dust in aviary houses could help reduce these plate counts. The authors also note that the enriched cage scratch pad area can be a source of aerobic and coliform microbiological contamination based on the environmental sampling conducted in this study. They also stressed the importance of the role of workers can play in preventing hens from laying floor eggs in cage-free environments, as floor eggs consistently had the highest microbial loads.

AREAS FOR IMPROVEMENT

This research tested the performance of one strain of hens, Lohmann LSL, in one type each of aviary, conventional cage and enriched cage. Innovation can lead to changes in system designs or in management techniques that may improve the relative performance of the three housing systems in many areas. Field experience also suggests that different strains of hens may be better suited to one type of housing system then another, so strain choice could also affect the relative cost per dozen eggs produced in these three housing alternatives.

Learn more about this project at www.WATTAgNet.com/158214.html | Photo courtesy Coalition for a Sustainable Egg Supply

The aviary system used in the Coalition for a Sustainable Egg Supply research provides a litter area that serves as a dust-bathing and scratch area, but it also is a source of dust and ammonia which negatively impact air quality in the house and increase exhaust emissions from the house.

CAN A CAGE-FREE LAYER HOUSING SYSTEM HAVE A DOOR?

Some aviary systems have doors that can be closed either at night or when first populated as a management aide. | Courtesy Big Dutchman

By: Austin Alonzo
Published: April 11, 2016

The answer might depend on the animal welfare certifying group your customer has selected.

One of the nation's leading certifiers of cage-free operations won't certify any type of cage-free housing that includes a closing door.

In an interview, Adele Douglass, CEO and founder of Humane Farm Animal Care (HFAC), said the Virginia-based animal welfare group can't certify any housing system with a door that closes – including aviary systems with closing doors and combination or "combi" systems – because there is no assurance the doors won't be closed as soon as welfare auditors aren't on site.

> ***"What they are doing is they are not having a cage-free system, they are having a giant cage…"***

"What they are doing is they are not having a cage-free system, they are having a giant cage," Douglass said. Farmers "are going to be wasting their money because the public is going to see it as one giant cage."

The American Humane Association (AHA), an animal welfare group that also offers third-party auditing of livestock conditions, doesn't share that position.

"The implication of what some other groups are saying is that the presence of or even temporary use of a door is less than humane," Mark Stubis, a spokesman for the AHA, said in an email. "The science on that has not been established one way or the other."

THE IMPORTANCE OF CERTIFICATION

Growing demand from major food companies and grocers in North America – McDonalds Corp., Grupo Bimbo S.A. de C.V., General Mills Inc. and most recently Wal-Mart Stores Inc. – is pressuring the egg industry to rapidly adopt new cage-free housing systems to meet their customers' cage-free purchase pledge timelines. As the industry pivots in the coming years, the opinions of animal welfare auditing agencies like HFAC will play a large role in which systems egg producers will ultimately purchase and install.

Because the United States does not have a national law dictating how a cage-free operation should be outfitted, producers and retailers are turning to third-party programs, like HFAC's Certified Humane and the AHA's Humane Heartland – identified as American Humane Certified on its certification seal – for guidance on cage-free husbandry.

While equipment companies are still rolling out new equipment, several early entries for cage-free housing – some aviary systems and all combination or "combi" systems - have deployed doors that close. This is either to allow farmers to secure hens inside the housing system when first brought over from the pullet house and overnight when in full lay, or to serve as a hedge in case cage-free doesn't turn out to be the future of the industry.

Both organizations commission scientific committees to determine how best to provide for the welfare of farm animals. Stubis said the AHA is a science-based organization and it needs an "objective" reason for endorsing any criteria involving the welfare of animals, including whether doors should be allowed on cage-free systems.

> ***"Sometimes what sounds good to an uninformed consumer may not actually be best for the animals…"***

"Sometimes what sounds good to an uninformed consumer may not actually be best for the animals," Stubis said. "That is why it is important to look into each feature of housing and conditions thoughtfully."

OPEN FOR DEBATE

The AHA's cage-free guidelines indicate the issue is still open to future debate. Its audit documentation said the group's scientific advisory committee is "taking into consideration" the issue of whether and for what period of time hens can be temporarily confined to their cages.

Producers looking for guidance on cage-free can also look to the United Egg Producers' (UEP) husbandry guidelines. The UEP has established guidelines for cage-free housing and management, but it has said it will not take a position on any specific type of cage-free housing system – including those with and without closing doors.

In an e-mail, UEP President Chad Gregory said its board of directors has approved the following official position: "UEP already has cage-free certified guidelines, and the system used to meet those guidelines is a matter between the farmer and their customer."

Gregory said it is possible that the UEP board will reconsider the issue at a later date.

A CLOSER LOOK AT THE STANDARDS OF CAGE-FREE CERTIFIERS

Some multi-tiered cage-free systems, like this Potter's Poultry compact aviary, provide floor space under the tiers where birds can access litter and scratch areas. | Courtesy Potter's Poultry

By: Austin Alonzo
Published: April 14, 2016

Three organizations -- United Egg Producers, Humane Farm Animal Care and the American Humane Association -- have varying definitions of what a cage-free operation should look like.

Producers and retailers looking for advice on how to equip themselves to go cage free will likely need to turn to one of three independent organizations offering auditing and certification of animal livestock operations.

> ***"The groups…share motivations and agree upon some aspects of cage-free husbandry. "***

The groups – the industry group United Egg Producers and animal welfare nonprofits Humane Farm Animal Care and Animal Humane Association – share motivations and agree upon some aspects of cage-free husbandry. However, there are wide differences in the written guidelines they use to certify cage-free operations.

Cage-free housing standards highlights

	Certified Humane	American Humane Certified	UEP Certified
FLOOR SPACING			
Birds need room to stand, sit, spread their wings and perch without difficulty.	✓	✓	✓
1.5 square feet per bird is needed in a single-level, all-floor house.	✓	✓	✓
1 square feet per bird is needed in a multi-tiered house with feeders and drinkers.	✓	✓	✓
NESTING			
At least 9 square feet of nesting space per 100 birds housed in the system is required.	✓	✓	✓
FLOORING AND LITTER			
At least 15 percent of usable space in the house should be dedicated to litter areas.	✓	✓	✓
Litter must be kept dry and free of excessive contamination.	✓	✓	✓
MULTI-TIERED HOUSING			
Systems must provide enough space to allow for proper inspection of the birds at all levels and to enable immediate access to any sick, injured, trapped or dead birds.	✓	✗	✓
All tiers must allow for the bird to move easily between the tiers and ensure they can gain access to the entire floor area, including under the tiers.	✓	✗	✓
Has a spacing requirement between tiers.	✗	✓[1]	✓[2]
Tiers must be arranged so that hens do not need to descend at an angle steeper than 45 degrees from tier to tier.	✗	✓	✓
All tiers must allow access to other vertical tiers and the littered floor.	✗	✗	✓

[1] *There must be at least 17.7 inches of space between the top of the floor below to the underside of the droppings belt above, but the maximum distance from the top of floor to the top of the next tier must not exceed 39.4 inches.*
[2] *The vertical distance between tiers, including between the floor and the first tier, must be between 1.6 and 3.3 feet. The horizontal distance between tiers should not be more than 2.6 feet. When the design discourages horizontal movement between tiers, there should be a minimum distance of 6.6 feet between tiers.*

PERCHES			
A minimum of 6 inches of perch space per hen is required.	✓	✓	✓
20 percent of perches must be located above the ground to allow hens to evade aggressors.	✓[1]	✓[2]	✓[3]
Perches must be made of non-slip material.	✓	✓	✓
Perches must be at least a half inch away from any obstructions so birds do not get caught.	✓	✓[4]	✓[5]
Perches should be located above a manure belt or droppings pit.	✓	✓	✓
Perches must be accessible at day and night and pullets must have access to perches, starting at 4 weeks.	✓	✗	✗
Perforated floors can be considered as perching space when they have perches incorporated within the floor structure or attached on top of the floor.	✓	✗	✗
Has a size requirement for perches.	✓[6]	✓[7]	✓
In multi-tiered systems, perches must be immediately accessible to the birds at the level of the elevated tiers.	✗	✓	✗
If tubes are used as perches, they must be solid or capped on the ends.	✗	✓	✗

[1] *Elevated perches must be located more than 16 inches and less than 3.3 feet from any wall or ceiling and allow hens to dismount at an angle of no more than 45 degrees.*
[2] *Elevated perches must be placed between 16 inches to 39.4 inches above the adjacent floor.*
[3] *All cage-free houses perches to be raised at least 16 inches above the adjacent floor space.*
[4] *All perches must be located at least 12 inches from the wall or other adjacent perches. There must be at least 9.5 inches of clear height above perches, unless the perches are located above feed troughs. If they are located above a trough, the minimum clearance is reduced to 7.9 inches. No more than 50 percent of perches can be installed this way.*
[5] *Perches should be placed at least 1 foot away from walls and should not be raised higher than 3.3 feet above the adjacent floor and sufficient space should be provided to allow birds to dismount.*
[6] *Perches must be at least an inch wide at the top, have no sharp edges, be capped at the ends if hollow.*
[7] *Perches must be between 1 and 1.75 inches wide. Floor edges can work as perches if they fit this definition*

All use guidelines written with the help of a committee of experts in animal science to represent the best interests of the animals. The audits are conducted by independent, third-party auditors not employed by the organizations offering certification. All offer a certification label – UEP Certified, Certified Humane and American Humane Certified, respectively – which is often placed on product packaging to promote the certification to consumers.

Adele Douglass, CEO of Humane Farm Animal Care, said her organization's standards are "very close" to the Royal Society for the Prevention of Cruelty to Animals' cage-free guidelines. Dr. Marion Garcia, chief veterinary officer for the American Humane Association, said AHA's standards are adapted from Council Directive 1999/74/EC, the EU's law mandating welfare standards for laying hens. UEP drafted its cage-free guidelines in 2006 and includes its recommendations in its animal welfare guidelines.

This Potter's Poultry cage-free floor housing system features nest boxes where hens can find privacy to lay their eggs. | Courtesy Potter's Poultry

Cage-free laying systems, like this Tecno Poultry Equipment aviary, include perches so hens can exhibit natural perching behaviors and avoid aggressors when necessary. | Courtesy Tecno Poultry Equipment

Cage-free laying systems, like the Tecno Poultry Equipment aviary, should allow birds sufficient space to exhibit natural behavior and give them access to enough littered floor area to scratch and dust bathe. | Courtesy Tecno Poultry Equipment

ARE AVIARIES THE RIGHT CAGE-FREE CHOICE FOR YOUR FARM?

Photo courtesy Jansen Poultry Equipment

By: Terrence O'Keefe
Published: May 17, 2016

Aviaries allow for greater housing densities than traditional floor and nest systems and look less like cages than convertible or combi-systems.

Cage-free purchase pledges by egg buyers who purchase approximately 60 percent of the U.S. egg output are driving a flurry of purchases of cage-free housing systems by U.S. egg companies. These systems can be classified into three general categories: convertible or combi-, floor and nest, and aviaries.

The convertible or combi-systems offer the promise of the highest housing densities, but most are unproven under commercial conditions. Floor and nest systems have been around for about as long as chickens have been kept indoors, but they offer the poorest eggs per square foot of floor space.

> ***"Aviaries utilize house space better than floor and nest systems…"***

Aviaries utilize house space better than floor and nest systems and are less likely to be confused with a cage by welfare certifiers than convertible or combi-systems. In alphabetical order, here is information on aviaries being marketed in the U.S. by suppliers responding to Egg Industry's cage-free housing survey.

BIG DUTCHMAN

NATURASTEP AVIARY

The Natura Step, Natura Sunrise, and Natura Nova are open systems without doors. Birds are free to move up and down the system to feed and drink. The mechanical nest is designed to be open during the day lay period and close at night. Closing the nest during night hours keeps the nest area clean. Big Dutchman also produces the Natura 60, which can open and close to aid bird management.

Photo courtesy Big Dutchman

FARM INNOVATION TEAM (FIT)

NATURE 2 AVIARY SYSTEM

The diversity of design of the Nature 2 Aviary System allows for an optimal density with different dimensions of existing buildings. An excellent LED lighting distribution system and program enables the hens to find the perches, feed and water supply, and the automatic nests with a tilting floor system which results in clean nests and allows closing of the nests at night. The layout of the platforms encourages bird movement.

Photo courtesy Farm Innovation Team (FIT)

HELLMANN POULTRY SYSTEMS

AVIARY PRO 10 & AVIARY PRO 11

The Pro 11 layer aviary builds on the proven properties of other systems and offered for customers who have higher buildings and who prefer a less intensive investment solution. The system has automatic doors to exclude hens from going under the system, which can be a useful management tool at night and early in the morning to prevent floor eggs. The Pro 10 and Pro 11 are outfitted with feeders, waterers and nests on all tiers. The company offers 20 different design variants for each model.

Photo courtesy Hellmann Poultry Systems

JANSEN POULTRY EQUIPMENT

COMFORT 2 AVIARY SYSTEM

Jansen has never made cages, and the Comfort 2 aviary system reflects that in its design. It consists of multiple tiers that don't look like an open enriched cage. Hens move throughout the entire system and have easy access to integrated laying nests and feeder and water lines.

Photo courtesy Jansen Poultry Equipment

POTTERS POULTRY

COMPACT AVIARY SYSTEM

The Compact Aviary is available in two- and three-tier nest layouts, which can be used to easily fit in either retrofitted or purpose-built houses. The system is designed with easy bird management as a priority and allows easy access for birds and workers throughout. The Compact Aviary is American Humane Certified. Optional hinged doors can be used to manage flocks just brought in from the pullet house.

Photo courtesy Potters Poultry

TECNO POULTRY SYSTEMS

AVIARY 450

The Aviary 450 is characterized by a symmetrical structure composed of overlapping and offset rearing levels. The system features continuous, overlapping nests, with a centralized bird ejection mechanism. The ease of movement of the laying hens within the aviary allows access to the feeding, drinking and laying areas, ensuring a uniform distribution of the birds in the system. The aviary has transverse and lengthwise closures for dividing the birds into small groups.

Photo courtesy Tecno Poultry Systems

VAL-CO – VALLI

VLV LAYING AVIARY

VAL-CO is the exclusive distributor of Valli cage-free systems for the U.S. market. This collaboration brings together Valli's cage-free system experience in Europe with VAL-CO's feeding, watering and ventilation experience in the U.S. The VLV is a three-tiered system with nests on the second level and feeders and manure belts on the first and third levels. The system can easily be inspected and the positioning of feed and water lines ensures movement throughout the aviary.

Photo courtesy VAL-CO – Valli

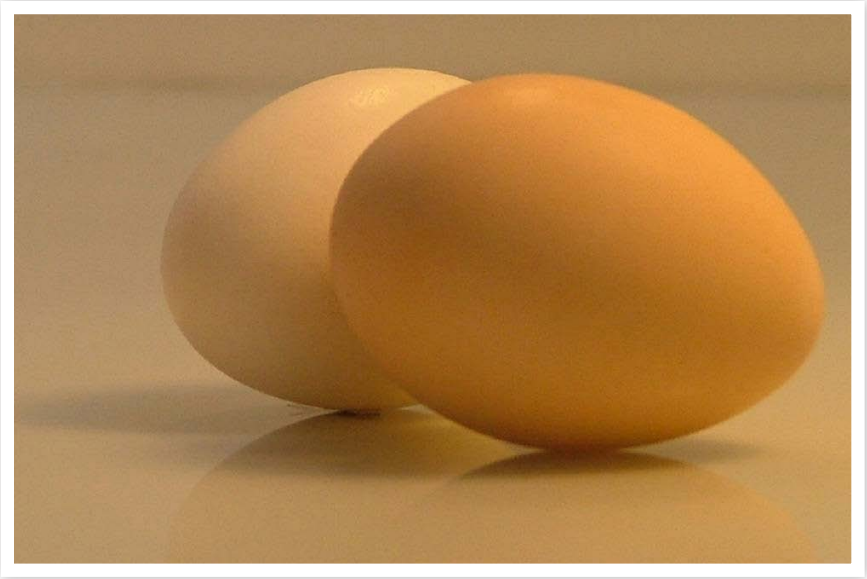
VENCOMATIC

BOLEGG GALLERY

At the heart of the Bolegg Gallery is the Vencomatic laying nest. This nest has the Vencomat, the tipping floor. With the perfect angle of the nest, eggs gently roll away directly after lay, protecting them from damage by the birds. All three tiers of the Bolegg Gallery are equipped with egg belts, enabling automatic collection of all eggs. A tipping floor-closing mechanism keeps nests clean at night. Its open structure allows easy inspection, winchable back walls allow nest inspection, and the tree concept offers a good overview and access to all levels.

Photo courtesy Vencomatic

5 CAGE-FREE AVIARY FACTS EGG PRODUCERS SHOULD KNOW



Egg producers must decide quickly which type of cage-free housing system they should use to supplement, or replace, their cages. | G Baden, Freeimages.com

By: Austin Alonzo
Published: May 17, 2016

As US egg producers ponder a move out of cages, equipment suppliers share lessons learned about cage-free aviaries.

Like it or not, cage-free is becoming the defining trend in the U.S. egg industry, and the country's producers will need to adapt operations and housing to supply their customers.

In early May 2016, the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service estimated 176.5 million cage-free layers would be required by 2025 to supply all of the cage-free purchase pledges made by U.S. retailers, foodservice outlets, distributors and food manufacturers. Currently, the USDA estimates the country's cage-free non-organic layer flock at around 18.0 million hens and growing rapidly.

To accommodate these purchase pledges, egg producers must decide quickly which type of cage-free housing system they should use to supplement, or replace, their cages.

Egg Industry is publishing a series of articles discussing the advantages and disadvantages of three types of cage-free housing systems: aviaries, floor systems and combination, or combi, systems. This article focuses on aviaries.

Egg Industry surveyed cage-free housing manufacturers from around the world to gather their input on their systems. Big Dutchman Inc., Farm Innovation Team GmbH (FIT), Jansen Poultry Equipment, Valco Companies Inc./Valli Spa, Potter's Poultry International, Tecno Poultry Systems LLC, Vencomatic Group, and Hellmann Poultry GmbH & Co. KG responded to the survey.

1. WHAT AVIARIES LOOK LIKE

While there is significant variance depending on the manufacturer, aviaries provide a multi-tiered environment for hens which allows for higher housing density per cubic foot than floor and nest systems, but less density than cages and some combi-systems. Generally, aviaries feature egg and manure belts underneath the housing tiers as well as feed and water systems to manage the bird's biological needs. Unlike cage housing, there is no permanent "front" to the system confining birds to the system full-time.

Aviaries allow for higher stocking densities per square foot of floor space than do floor systems. | Courtesy Hellman Poultry

Aviaries are outfitted with perches, scratch pads and nesting areas designed so hens can express all of their natural behaviors. Many have ramps for birds to move between the tiers of the system. Some are outfitted with closing doors for temporary confinement of the animals, but the feature is controversial among groups that certify an operation is humane.

2. ADVANTAGES AND DISADVANTAGES OF AVIARIES

Survey respondents agreed aviaries, with or without a door, are the most popular housing option in the EU, where conventional cages were banned in 2012.

Potter's, based in Rugby, U.K., said aviaries, especially when compared with cages, are more "visually appealing" because they appear to give the birds more free-ranging capabilities within the barn. Farmers have told Potter's birds prefer aviaries over conventional housing.

"They are convinced that the activities of the birds, and natural instincts of the hens being able to roost up higher makes their birds in this system much 'happier' than when they had their flocks in nests and slat houses," it said in its response.

Aviaries are also highly customizable, which can help meet the standards of certain certification agencies and regulators. Vencomatic, of Eersel, Netherlands, said feed, water, lighting, perching and nest close-out features can help achieve those requirements or improve the bird's comfort. Steinfurt, Germany-based FIT said greater access to nests afforded by the tiered system can reduce competition between birds for nesting space and lead to less stress associated with a pecking order in front of the nests.

Manufacturers said birds perform best in aviaries when they've lived in similar housing their entire lives. Pullets must be raised in systems that are compatible with the aviary in the layer house so they are trained to move up into the system and throughout its tiers before they reach the house. Birds who were not raised in an appropriate pullet system will have a harder time adjusting, will be more likely to lay floor eggs, and generally will not perform as well as birds raised in a rearing aviary.

Aviary-housed layers perform better if they were raised as pullets in systems similar to what they will inhabit in the layer house. | Courtesy Jansen Poultry

Val-Co, based in New Holland, Pennsylvania, said cage-free systems, which expose birds and their eggs to feces, carry food safety risks and could lead to future food safety challenges.

3. ADVANTAGE AND DISADVANTAGE OF DOORS

Some manufacturers said aviaries with closing doors bring significant management advantages to the farm. Other manufacturers argued those advantages are outweighed by the fact that activists, welfare certifying bodies, regulators and consumers may soon reject any system with temporary confinement.

Big Dutchman said the closing door feature attached to some of its aviaries gives farmers more freedom to inspect and clean their barns, reduces overall labor requirements for cage-free housing, and a significantly reduces floor eggs.

Confining birds from the evening to the morning, the Holland, Michigan, company said, gives workers more freedom to move through the house and inspect the system than if the house were full of hens. Because the birds can be kept inside the system until after the morning lay, the door prevents floor eggs and facilitates the capture of droppings by the manure belt.

> ***"It takes fewer man hours to manage this type of system…"***

"About 90 percent of the manure is collected inside the system on the manure belts from early morning until just after the egg-laying period, and prior to the doors opening automatically for the day," it said in its survey. "It takes fewer man hours to manage this type of system because you are dealing with a smaller amount of manure that builds up in the aisleways and you spend less time searching and picking up mislaid eggs."

A means of enclosing birds inside the aviary system can ease a flock's transition from the pullet house to the layer house. | Courtesy Potters Poultry

With the hens steeled into this aviary, the doors are removed and hens can move into and out of the system and down onto the floor. | Courtesy Potters Poultry

FIT said the enclosure system can ease a new flock's transition into their environment before they begin to lay. Closing doors facilitate the administration of any medication or vaccination program, too.

Jansen, which does not manufacture closing aviaries, offered a counterpoint: The Barneveld, Netherlands, company said consumers will soon become aware of what it called a half-a-cage system being called a cage-free system. Marketers could latch onto the issue and pressure consumers not to buy eggs from producers that use closing aviaries.

> ***"The consumer will decide which production system will be used, not the poultry industry, egg producers and cage manufacturers"***

"The consumer will decide which production system will be used, not the poultry industry, egg producers and cage manufacturers," Jansen said in its response.

Vencomatic, which also does not manufacture closing aviaries, argued aviaries with doors are already at risk of being regulated out of existence in Europe, and certifiers are quickly closing the door on allowing birds more than a few weeks old to be confined. They say that purchasing a system that cannot be certified cage-free in the future would not be a wise investment.

4. LABOR CONSIDERATIONS

Respondents said cage-free operations can require anywhere from two to four times more labor than cage systems.

Vechta, Germany, manufacturer Hellmann said labor requirements for aviaries are similar to cages, but generally more labor is needed for inspections and bird management. Vencomatic said the barn and housing system's layout, the farm's management practices and even the lighting inside the barn can play a role in labor needs.

Allowing enough space in the aisleways for bird activity and worker movement through the system is an important consideration when placing aviaries in a house. | Courtesy Tecno Poultry

Val-Co said hens' training before moving into the layer house can factor into labor needs.

"Will the birds be trained to learn vertical movement, either in the pullet or hen houses, so they readily go from the cage or slats to the floor? Will there be floor eggs to gather or is the system designed for all eggs to roll on to belts? The increase in labor is normally proportional to the level of bird training desired," Val-Co said in its response.

Potter's said there is always significant labor involved in placing pullets into the barn, and more attention – such as routinely walking the house and monitoring the health of the birds – required during the flock's first two to three weeks in the system. It estimates about 0.2 hours of labor are needed per day for every 1,000 birds housed in its systems.

Many aviaries are designed with raised walkways or specialized corridors for barn workers to move through the house for routine inspection of the birds and the system's components with minimum disruption to the flock. Those features are added to reduce overall labor needs. Manufacturers of aviaries with closing doors said keeping the birds in the system at certain times – such as in the evening or early morning – can reduce the house's overall labor requirements as well.

Jansen pointed out that farmers transitioning from cages to cage free will have trouble at first, and it will take more time than usual to manage the flock, but this issue will be alleviated with time and experience.

5. OTHER CAGE-FREE TIPS

Survey respondents offered general advice for farmers considering making the switch to cage-free. They said the decision on which type of cage-free system will be installed should not be made lightly and there should be serious research invested in the system and its supplier and how it will interact with the profitability of the operation.

Val-Co and Vencomatic suggested farmers consider long-term market projections and consumer demand. While there are drawbacks in feed conversion, in Europe farmers are already seeing their labor and capital expenses coming in line with conventional housing.

“Yesterday, we thought that these changes would be 10 years out; today we know that they are actually coming much more quickly. We know from experience that the animal welfare organizations will not be content with the industry as it stands,” Vencomatic said in its response. “Cutting corners will result in producers being forced to reinvest in the future or limit themselves to less lucrative contracts.”

Jansen made a similar argument.

“Consumers demand cage-free eggs so any additional cost is not the determining factor if you want keep on selling to the consumers who will be even more influenced by advertising from many retailers promoting their new product: cage-free, organic (or) free-range eggs. So extra cost questions are obsolete in this situation,” Jansen said. “By increasing the production of first-class eggs that can be labeled as cage-free, farmers will be paid more for their eggs.”

LENDERS WILL BE CAUTIOUS TOWARD CAGE-FREE EGG EXPANSION

Lenders will be required to put up more than half of the capital to finance the addition of new cage-free layer houses. | Courtesy Tecno Poultry

By: Austin Alonzo
Published: May 25, 2016

Jeff Coit, vice president of agribusiness finance and poultry industry specialist at Farm Credit Services of America. | Terrence O'Keefe

Jeff Coit, a top agricultural lender, shares his insight on the availability of capital and how lenders view the egg industry ahead of its shift to cage-free housing.

A leading creditor for the egg industry predicts $6 billion of investment must be in order for the industry to meet cage-free demand in the coming years. This will challenge lenders and borrowers.

Jeff Coit, vice president of agribusiness finance and poultry industry specialist at Omaha, Nebraska-based Farm Credit Services of America, spoke about financial challenges due to the expected rapid shift to cage-free from conventional egg operations in the U.S.

Coit told the audience at the Egg Industry Center's Issues Forum in Chicago that, while there is some wiggle room, egg purchasers' cage-free pledges generally mature in 2025. Between now and then, Coit said, the U.S.'s cage-free flock must grow to 145 million birds from its current size of about 13 million birds to meet the pledges.

The switch will cost producers about $40 to $50 per bird, or about $6 billion in total to house the needed birds. Coit said about 40 percent of that amount is "net capital need" -- what the industry will need to provide up front -- and the rest is "debt financing" -- what will need to be borrowed.

Coit said current market conditions will make lenders hesitant to dive in.

"We need to make sure that the industry is very liquid and well-capitalized going into this movement for cage free. Because we over-leveraged cage free and we experienced really erratic market conditions, like Germany experienced," Coit said, "we've put ourselves in a very negative position."

FACTORS LENDERS CONSIDER

The value of an operation's existing assets; the type of housing; and the relationship between the farmer, the customer and the creditor will play a role in lending decisions surrounding cage-free.

Whether cage-free birds will be kept in a converted conventional house or in a new house built on greenfield, or previously undeveloped land, can affect costs, especially because getting a permit to expand an operation can be difficult. He recommended leveraging existing building permits and adding new cage-free birds through attrition.

The type of housing system used can also factor into overall costs of conversion. The necessity of specialized housing for pullets, which must be kept in cage-free pullet-rearing spaces before being placed in cage-free housing, should be considered as well.

Lenders also look for market commitments made between an egg producer and its customers. While long-term contracts are not necessary, Coit said, commitments and agreements showing a lender the farm will consistently have a market for its products are important to lenders. As always, the financial health of an operation is essential and lenders pay special attention to a farm's profitability.

Finally, the value of collateral is essential. Most of Farm Credit of America's farmers have multiple operations, or greater overall collateral support, due to years of expansion or consolidation. The big question in this space, Coit said, is the value of conventional operations going forward.

"What is going to be the level of collateral support going forward? As we move to cage free, what is the value of an old high-rise facility or a battery (house) over time? I'm not saying I see that eroding any time that quickly, but it is a dynamic," Coit said. "It will impact the collateral support."

OBSTACLES TO LENDING

Coit said several factors outside a farmer's control can influence the availability of capital.

One of the most important factors is the lender's appetite for risk. If lenders feel that times are too hard and making a loan is too risky, they will withhold capital. Coit said his organization is focused on agriculture and will continue to be active, but other lenders may withdraw or stay on the sidelines if they feel the market is not strong enough.

He said the current strength of the market is helpful and if the U.S. can prove itself free of highly pathogenic avian influenza, more lenders will likely get involved in the egg industry. While the industry is still recovering from the 2014-15 outbreak, it is financially healthy and nationwide egg consumption continues to grow as consumers choose eggs for more than just breakfast.

Another factor to keep in mind is the availability of construction materials and contractors capable of building housing. Coit wondered if the construction industry will be able to keep pace as many U.S. egg producers hustle to build or convert housing to meet cage-free commitments.

The final question for lenders and borrowers is whether consumers, rather than the companies who've made commitments, will choose to purchase cage-free eggs.

> ***"We know today that markets provide consumers with the ability to choose…"***

"We know today that markets provide consumers with the ability to choose between the higher-cost cage-free egg and the lower-cost non-cage-free egg," Coit said. "The reality is most people are still buying the cheaper egg."

ARE CAGE-FREE EGGS MORE SUSTAINABLE THAN CONVENTIONAL?

Does cage-free egg production have a larger environmental impact than conventional production? | Courtesy Hellmann Poultry Equipment

By: Austin Alonzo
Published: May 26, 2016

The WWF's leader on sustainable food says cage-free eggs are "hard to defend" from a sustainability standpoint.

Cage-free eggs are winning support because of concerns about animal welfare, but the former specialty product may be less environmentally sustainable than conventionally raised eggs.

After his remarks at the Egg Industry Center's Issues Forum, Carlos Saviani, vice president of the World Wildlife Fund's (WWF) food team, fielded questions from the audience.

Chad Gregory, president and CEO of the United Egg Producers, asked Saviani whether he thought cage-free egg production is as sustainable as conventional production.

"It's going to require a lot more acres of soybean and corn (and) a bigger footprint for the actual farms themselves. I remember Dr. Jason Clay (WWF's senior vice president of food and markets) telling us several times that intensification is going to have to feed the growing population by 2050, when we have 9 to 10 billion people…We're actually being forced to do just the opposite," Gregory said. "I'd like to know your opinion…about what that means to feeding the world's growing population…when we're actually being forced to take steps back and harm the environment."

Saviani replied it's important to consider the natural resource impact of food production and that includes when certain types of livestock housing, such as cages, are removed from the equation. He referred to the Coalition for Sustainable Egg Supply's 2015 report – which gathered research on conventional, cage-free and enriched colony housing – and said from a scientific, rather than emotional, perspective, "it's hard to defend cage free" as it is today.

THE MCDONALD'S CASE

The leader of the Washington-based global conservation organization's sustainable meat and livestock initiative shared an anecdote about his experience with McDonald's Corp. The Oak Brook, Illinois-based fast-food chain arguably started the rush toward cage-free when it pledged to serve only cage-free eggs in its U.S. and Canadian stores by 2025 in September 2015.

Saviani said the WWF questioned McDonald's decision to go cage-free. The company, along with others, spent millions to support the study and it was aware that going cage-free was not the best possible solution for a sustainable egg supply.

"They came back and said, 'We know that, we just wanted to know how huge is the gap between cage-free and other systems, because this boat already left the dock,'" Saviani reported.

McDonald's, he said, knew they would have to go cage-free in the future because social pressure was too great to not change. The company, he said, is betting the industry will be able to fill that gap in efficiency within 10 years and eventually be as efficient as enriched cage operations.

STICKING UP FOR CONVENTIONAL HOUSING?

Gregory then asked Saviani if he, and the WWF, would be willing to defend conventional housing. Saviani replied that's the idea behind the egg roundtable concept he pitched in his presentation.

> ***"So we can bring everyone together and have discussions and also give the chance for the people that defend cage-free…"***

"So we can bring everyone together and have discussions and also give the chance for the people that defend cage-free to present their science and their ideas…to come up with a conclusion by the end so when we leave the room, we have a joint position on sustainability including animal welfare," Saviani said.

Stay up to date on all the latest news and insights featuring cage-free eggs on **WATTAgNet.com** and **WATT Poultry Update eNews**.

Watch for future WATT Global Media Focus Series releases highlighting other critical poultry industry topics coming soon!

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