

# THEPOULTRYSITE DIGITAL.

January 2016



INTERNATIONAL PRODUCTION & PROCESSING EXPO

**JANUARY 26 - 28, 2016**

**GEORGIA WORLD CONGRESS CENTER  
ATLANTA, GEORGIA, USA**





# Welcome.Editors Note

ThePoultrySite  
Digital

January 2016



Welcome to our special issue of *ThePoultrySite Digital*, including a guide to the International Production and Processing Expo (IPPE), which takes place in Atlanta on 26-28 January 2016.

**Alice Mitchell**

Editor

[ThePoultrySite.com](http://ThePoultrySite.com)



IPPE is the world's largest annual poultry, meat and feed industry event of its kind, and promises to provide opportunities to meet other industry players from around the world, learn about the latest innovations and research, and even meet Miss America!

The first two features in this issue take a look at what attendees can expect to see at IPPE, including a detailed preview of the educational events on offer.

Read on for our interview with Cobb President Jerry Moye. Cobb celebrates its 100th anniversary in 2016, and Mr Moye discusses a century of progress as well as his highlights of working at the company.

Further on in the digital, you can find an article in our popular Global Poultry Trends market analysis series, as well as features on disease prevention in pigs and in meat processing – two other focuses of the IPPE event.

To meet the team behind *ThePoultrySite* and its Spanish sister site *ElSitioAvícola*, come along to our stand at IPPE. If you are attending, you will find us at booth A1351. Hope to see you there!



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# IPPE 2016:

## Innovations to Inspire the Animal Protein Sector





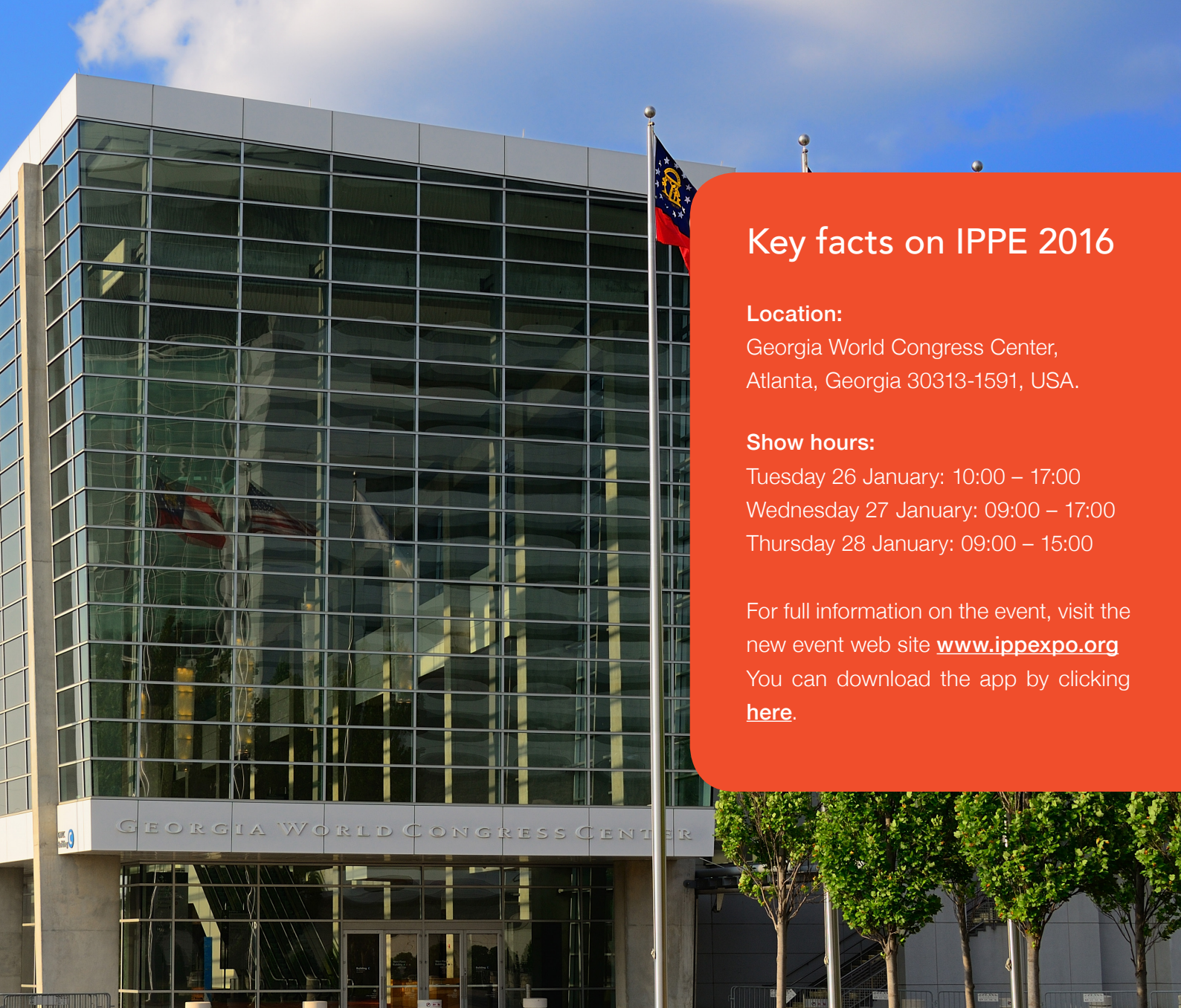
**Organisers of the International Production and Processing Expo (IPPE) 2016 are once again promising a showcase of innovations for the entire chain of animal protein production and processing, writes Jackie Linden.**

To be successful, every business needs to be innovative, incorporating technology and the best practices for the industry.

Taking place in Atlanta, Georgia, US, from 26 to 28 January, IPPE 2016 promises a showcase of innovations in animal agriculture from farm to point-of-sale, combining the networking and educational resources of the American Feed Industry Association (AFIA), North American Meat Institute (NAMI) and US Poultry & Egg Association (USPOULTRY).







## Key facts on IPPE 2016

### Location:

Georgia World Congress Center,  
Atlanta, Georgia 30313-1591, USA.

### Show hours:

Tuesday 26 January: 10:00 – 17:00

Wednesday 27 January: 09:00 – 17:00

Thursday 28 January: 09:00 – 15:00

For full information on the event, visit the new event web site [www.ippexpo.org](http://www.ippexpo.org)  
You can download the app by clicking [here](#).

Comprising three integrated trade shows - International Poultry Expo, International Feed Expo and International Meat Expo - IPPE will be the world's largest annual gathering of industry leaders and offer a comprehensive display of the latest technology, equipment, supplies and services used by poultry, feed and meat companies - from incubators through to animal health and sanitation products, feed manufacturing and meat processing equipment to packing.

For the poultry industry specifically, the International Poultry Expo is USPOULTRY'S annual signature event. The funds that the

event generates are invested back into the industry in the form of research grants, educational programmes, communications and technical assistance that benefit all segments of the industry.

IPPE 2016 is expected to attract more than 28,000 attendees from across the world and is a collaboration of the three trade shows representing the entire chain of protein production and processing.

At least 1,250 exhibitors have confirmed their participation and the exhibit space looks set to exceed 456,000 net square feet.



"IPPE 2016 is expected to attract more than 28,000 attendees from across the world and is a collaboration of the three trade shows representing the entire chain of protein production and processing."

After years of experience, the IPPE show organisers have identified four features that make for a stand-out business forum: innovation, global reach, networking opportunities and education.

### Innovation

IPPE showcases technical, service and business innovations in feed, poultry and meat production, processing and packaging equipment and services, all under one roof.

Categories covered include: animal health & sanitation products; breeding, hatching and growing equipment; casings; cutting & boning; environmental systems; facility design; feed ingredients; feed manufacturing equipment; general packaging equipment; live-stock & poultry production, equipment and services; logistics & process control programs & equipment; packaging equipment and supplies; processing equipment; quality control; sanitation; seasonings, ingredients & additives; slaughterhouse equipment; temperature control and transportation & storage services.

### Global Reach

Whether you are travelling alone, with colleagues, or as part of a delegation, interna-

tional visitors to IPPE can take up the offer of the following services: delegation assistance and buyer matching; US Embassy travel assistance, including registration and visa procedures and reduced registration fees; translation services & International Business Center; pre-arranged briefings and meetings customised according to buyers' interests and a directory of US exhibitors with an interest in exporting products.

IPPE 2016 has been named one of 23 events nationwide to participate in the US Department of Commerce's International Buyer Program, which brings trade delegations together from around the world and helps pair international attendees with American suppliers.

"We are pleased to be chosen as part of the International Buyer Program for the ninth year in a row. Programme participation is



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confirmation of the global scale of our expo. Since 2006, attendance from outside the US has grown by 238 per cent,” said IPPE show manager, Dr Charlie Olentine.

## Networking Opportunities

With more than 28,000 industry leaders from across the world expected to attend IPPE 2016, there will be plenty of opportunities to exchange knowledge and opinions with other delegates over the three days of the show.

The College Student Career Programme offers the chance for exhibitors to meet hundreds of future employees and for students to explore the many opportunities for their future career.

The brightest rising stars in the industry will attend IPPE under the Young Leaders '30

under 30' Programme. Running in 2016 for the fourth time, the programme targets young professionals who normally would not have the financial resources or opportunities to attend IPPE.

Its goals are to engage and invest in young professionals between the ages of 21 and 29 who work for companies directly involved in the production and processing of poultry and meat, or in the production of animal/poultry feed.

The programme is designed to recognise professional leadership qualities and to provide exposure to the world's largest annual trade show in the sector, as well as to provide further training in each person's respective industry and expose the recipients to the latest technology.

The Welcome Reception is scheduled to

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\*Department of Animal Science, Faculty of Agriculture, Kasetsart University, Thailand, \*Herbonis Animal Health, Basel, Switzerland







**Miss America 2016, Betty Cantrell**

return to Atlanta's world-renowned Georgia Aquarium on Tuesday 26 January.

Other fun events scheduled include the Chili Cook-Off.

Miss America 2016, Betty Cantrell, is to make an appearance at IPPE 2016, to pre-

sent donations by Jamesway Incubator Company and USPOULTRY and awards to the winners of the Chili Cook-Off. She will also be greeting attendees at the Welcome Reception at the Georgia Aquarium.

Attendees of the reception can get their picture taken with Miss America at the Georgia Aquarium as time allows.

## Education

A wide ranging programme of educational workshops has been planned to take place throughout IPPE Week from 25 to 29 January 2016 in the Georgia World Congress Center.

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# Educational Programmes a Key Feature of IPPE

**Not only a trade show and opportunity to do business, the International Production and Processing Expo (IPPE) 2016 also offers visitors a wide choice of options to gain new insights into the poultry, pig, feed and meat industries, writes Jackie Linden**

Topics scheduled to be covered in the many events taking place alongside IPPE 2016 reflect the wide-ranging coverage of the show. For the poultry sector, they include avian flu, future market prospects, sustainability, the latest scientific developments and a workshop covering the correct handling and transport of the birds. For the feed industry, there will be sessions on the new Veterinary Feed Directive and pet foods, while those in the meat sectors will be attracted by programmes covering beef and pork quality, food safety compliance, rendering and business succession planning.

These events – arranged mainly by IPPE organisers the US Poultry & Egg Association (USPOULTRY), American Feed Ingredients Association (AFIA) and the North American Meat Institute (NAMI) - take place throughout 'IPPE Week' from 25 to 29 January 2016 in the Georgia World Congress Center in Atlanta. Many of them are free of charge to IPPE delegates.





### Free Education Programmes Offered at IPPE 2016

NAMI is sponsoring four free education programmes in conjunction with the Expo. Together with the American Meat Science Association (AMSA), the first is the Pork 101 education workshop on Monday 25 January between 13:00 and 16:00. The hands-on session will offer attendees a taste of AMSA's three-day Pork 101 Conference. It will address quality and consistency issues in the pork industry, providing insight on the value differences in swine, pork carcasses, pork primals and processed pork products.

A two-hour session from 08:00 on Tuesday 26 January will take a look at global meat traceability and the unique challenges faced by US producers in a programme entitled Challenges and Opportunities in Meat Product Traceability. The second half of the ses-

sion will focus on in-plant traceability and the technologies available to help processors track products and improve efficiency.

Starting at 09:00 on 26 January, the eighth annual Animal Agriculture Sustainability Summit sponsored by USPOULTRY is a timely programme that will compare the sustainability of today's industry to the past and provide viewpoints from industry and agriculture experts on sustainability, and why it matters to the animal agriculture industry. It will also highlight the poultry industry sustainability workgroup's efforts, to develop a sustainability assessment programme to identify measureable indicators that can gauge industry's efforts to maintain and improve its sustainability.

This year's Summit will include a presentation by Dr Marty Matlock and Dr Greg Thoma of the University of Arkansas on 'A Retrospec-



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tive Analysis of US Poultry Production - A 50 Year Comparison of the Meat Bird Industry'. Dr Joy Mench of the University of California Davis will discuss 'The Sustainability of the Layer Industry - Laying Hen Housing Research - The Coalition for Sustainable Egg Supply'. Dr Claudia Dunkley of the University of Georgia will review a 'Carbon Footprint Tool for Poultry and Egg Producers' and a panel discussion by the Poultry & Egg Sustainability Workgroup will provide an update on the Poultry and Egg Industry Sustainability Assessment Program.

Also on 26 January, AFIA will host a seminar on the Veterinary Feed Directive (VFD): What You Need to Know. The two-hour session starting at 14:00 will cover changes made to the VFD rule in spring 2014 and describe the challenges industry can expect to face. This is a good opportunity for feed indus-

try personnel responsible for handling VFDs and those interested in learning what to do with old animal drug premixes after the policy goes into effect in January 2017.

Richard Sellers, AFIA senior vice president of legislative and regulatory affairs, explained: "Changes to the VFD and animal drugs used in human medicine have been very complicated for many in the feed industry. AFIA is striving to make this transition as smooth as possible by providing assistance for our members and the industry to stay one step ahead of FDA proposed changes."

Three events organised by NAMI are scheduled for Wednesday 27 January between 08:00 and 10:00. Beef 101 will provide an overview of the beef lifecycle, address common questions regarding beef production, discuss factors affecting beef quality and



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"Three events organised by NAMI are scheduled for Wednesday 27 January between 08:00 and 10:00. Beef 101 will provide an overview of the beef lifecycle, address common questions regarding beef production, discuss factors affecting beef quality and offer a unique demonstration of innovative beef cuts. "

offer a unique demonstration of innovative beef cuts.

The Regulatory Update and Compliance Session, also starting at 08:00, will cover the regulatory issues and challenges facing the meat and poultry industry and will provide an overview of the many in-plant inspection and enforcement tools used by the US Food Safety and Inspection Service (FSIS). In addition, the session will take an in-depth look at *Salmonella* in the meat industry, and its effects on in-plant practices, regulations and public health.

NAMI's third event that morning is a workshop entitled Addressing the Challenges of Family Business, which will discuss some of the most pressing concerns facing family businesses in the meat industry, and focus on succession planning and family member employment. The session will also provide opportunities for interaction and discussion

to facilitate the sharing of best practices and ideas.

Input costs, global competition and increasing regulatory requirements present ever-changing challenges for the poultry and egg industry. Seeking to address these challenges, the Poultry Market Intelligence Forum returns to the 2016 IPPE. Sponsored by USPOULTRY and the National Poultry & Food Distributors Association (NFPDA), the programme aims to highlight key issues facing the industry and provide understanding into how domestic and international poultry industries are positioned to move forward in 2016. The Market Intelligence Forum will be held on 27 January from 09:00 to 11:30.

Sherman Miller of Cal-Maine Foods and US-POULTRY chairman, explained: "The Market Intelligence Forum continues to be a popular programme on the Expo schedule, and we are pleased to include it again in the 2016 education line-up. It is important to stay informed on current conditions and projections for the future affecting the poultry and egg industry. This programme helps keep industry leaders up-to-date on the many factors that influence financial performance."

The programme will feature a leading economist, a policy advocate and an industry performance analyst. Dr Paul Aho of Poultry Perspectives will discuss 'Domestic and Global Drivers for 2016'. The Policy Group's Christian Richter will offer a 'Washington Review' and Mike Donohue of Agri Stats will provide insight into 'Performance Trends for the Poultry and Egg Industries'.

On Thursday 28 January from 08:00, there will be a Process Technology Workshop: Brines, Marinades, and Cook Technologies.



The session will cover the latest techniques and ingredients for improving the use of brines and marinades in your plant, as well as a discussion on best practices for sanitation. The second part of the session will cover innovative cooking technologies and how tried and true practices are being improved.

A two-hour session on 28 January starting at 08:00 is entitled Global Food Safety Initiative: Planning for Success. It will cover the top mistakes - and how to avoid them - in achieving or continuing certification from the Global Food Safety Initiative (GFSI), including the latest changes to two of the most popular schemes.

From 09:00 to 12:00 on 28 January, a programme entitled Wastewater Treatment Challenges – Five Shades of Grey aims to

characterise the processes and equipment used to treat wastewater generated in poultry processing facilities as well as identify challenges and liability that can result from the over use or misuse of sanitation chemicals in processing plants.

Effective treatment of wastewater generated in poultry processing facilities is not a simple direct process. Sanitation programmes that use antimicrobial chemicals to rid the facility of unwanted bacteria all too often carry over to poultry industry wastewater treatment plants where they can harm or even fully eliminate beneficial bacteria used to treat wastewater.

Also on 28 January starting at 09:00, AFIA will host its free education programme, Feed Production: Update on Issues Impacting Your Business, a session returning

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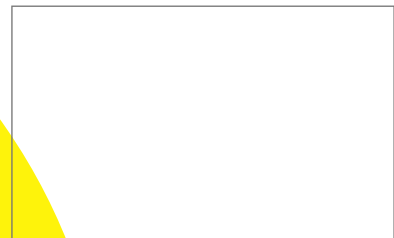
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by popular demand and aimed at feed mill managers and mill personnel. It will cover biosecurity in feed mills; energy management in feed mills; the Food Safety Modernization Act (FSMA) and VFD; Occupational Safety and Health Administration (OSHA) and Safety Data Sheet requirements; upcoming AFIA education and training programmes and US Environmental Protection Agency. There will also be an announcement of AFIA and Feedstuffs' Feed Mill of the Year Award winner and runner-up.

Gary Huddleston, AFIA manager of feed manufacturing safety and environmental affairs, said: "This four-hour crash course will cover the various elements impacting feed production and the future outcomes to be expected. Anyone who works with the manufacturing of animal feed will leave the programme with a better understanding of the proposed changes brought on by FMSA, SDS requirements and VFD."

There is a wide-ranging programme of Tech



"You can learn how industry leaders are dealing with key environmental issues through the sharing of best practices, and gain practical information to help your business from expert speakers at the Environmental Conference for the Meat & Poultry Industry."

XChange presentations by IPPE exhibitors in Halls A and B throughout the day on Tuesday 26 and Wednesday 27 January.

### **Programmes Offered at IPPE for an Additional Fee**

The International Poultry Scientific Forum is sponsored by the Southern Poultry Science Society, the Southern Conference on Avian Diseases and USPOULTRY, and will present information on industry topics such as environmental management, nutrition, physiology, pathology, processing and products and avian diseases. The Forum will be held on Monday 25 (08:00 to 17:00) and Tuesday 26 January (08:00 to 14:00).

USPOULTRY is hosting its second annual Seminario Técnico para Maximizar la Eficiencia de la Industria Avícola (Technical Seminar for Maximising the Efficiency of the Poultry Industry) on 25 January in a full-day programme starting at 09:00. Conducted

entirely in Spanish, the programme will discuss improvements in the areas of breeding, incubation, grow-out, egg production, processing and health.

Also on 25 January, between 13:00 and 17:00, NAMI is sponsoring the Ingredient Specification and Allergen Control Workshop.

The meat and poultry industries face a number of challenges regarding environmental issues. Even as these sectors adapt new technologies and demonstrate improvement, environmental issues continue to attract attention from government while consumers focus ever more on sustainability and environmental impact.

You can learn how industry leaders are dealing with key environmental issues through the sharing of best practices, and gain practical information to help your business from expert speakers at the Environmental Conference for the Meat & Poultry Industry. Sponsored by NAMI, conference topics will include resource conservation, greenhouse gas emissions, waste management and regulatory compliance. The event runs on the afternoon of 25 January, starting at 13:00, and all day on 26 January.

Between 07:30 and 11:30 on Tuesday 26 January, NAMI will host the Achieving FSIS HACCP Validation Workshop. It will address effective ways small and very small plants can comply with the Food Safety and Inspection Service (FSIS) Hazard Analysis Critical Control Point (HACCP) Validation Guidance by the deadline of 4 April 2016. Attendees also will learn about strategies to meet FSIS expectations for both scientific support and in-plant validation - two areas



that are the focus of the compliance guidelines. Also starting at 07:30 on 26 January is a session entitled Product Improvement Workshop: Meat Colour, Packaging and Shelf Life.

This NAMI-sponsored workshop will provide an in-depth look at some of the most critical factors affecting meat quality and customer satisfaction, and provide attendees with an understanding of how meat colour, packaging and shelf life are intertwined. The programme will also cover the latest packaging technologies and provide best practices and real world examples for determining and extending shelf life.

AFIA will host its ninth annual Pet Food Conference on 26 January. Scheduled to start at 08:00, this education-packed event is designed to inform pet food industry rep-

resentatives about the latest industry initiatives, including speakers from government entities, private companies and universities. Attendees will hear about industry issues including country of origin labelling (COOL), pet obesity trends, allergen research and the newly published FSMA and its implications on the pet food industry.

Leah Wilkinson, AFIA director of ingredients, pet food and state affairs, explained: "Every year, attendees from around the world congregate at the Pet Food Conference to acknowledge, discuss and rectify pertinent issues affecting the pet food industry. The conference offers an opportunity for industry professionals to unify and learn about the latest in the field."

Also on 26 January, industry leaders will be honoured at the NAMI Annual Awards



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Luncheon, featuring Meat Institute Board of Directors, key industry leaders, representatives from packer and processor companies and award nominees and their families.

A workshop on Poultry Handling and Transportation 'Train the Trainer' for poultry transporters and catch crews has also been organised by USPOULTRY. The programme is scheduled to start at 08:00 on Wednesday 27 January.

The Poultry Handling and Transportation (PHT) programme provides certification training for poultry transporters and catch crews. It was developed by a team of poultry scientists and veterinarians from Pennsylvania State University, the US Department of Agriculture and transportation industry professionals and is managed by USPOULTRY.

PHT training gives companies and contract

crews and their employees an understanding of poultry welfare, good management practices, biosecurity and emergency planning. Attendees will also develop tools to train non-English-speaking (primarily Spanish) employees. The PHT programme offers a combined certification and 'Train the Trainer' workshop, which forms part of the requirement for those wishing to become PHT-certified trainers.

Also on 27 January, AFIA will host its second Food Safety Modernization Act Phase III Training programme. Starting at 08:00, the full-day session will cover various components of the new law, 'Current Good Manufacturing Practice and Hazard Analysis and Risk-Based Preventive Controls for Food for Animals'. The seminar is ideal for all employees involved in feed, ingredient and pet food manufacturing. AFIA staff experts and Dr Daniel McChesney of the USDA Food and



Drug Administration's Center for Veterinary Medicine, will address completing an animal food safety plan; current Good Manufacturing Practices; developing an effective supply-chain programme; Foreign Supplier Verification Program and Third-Party Rules; records for FSMA compliance and AFIA's next steps.

Starting at 13:00 on 27 January, NAMI will host a Media Training Session, offering comprehensive, hands-on media training to industry professionals. Participants will learn essential message development and interview techniques, with opportunities to practise these skills on camera. Professional media experts will also be available to provide feedback in an effort to equip participants with the necessary skills to advance their companies' message and better navigate through a crisis.

Sponsored by the United Egg Producers (UEP) and USPOULTRY, the 'Highly Pathogenic Avian Influenza – Lessons Learned' programme starting at 09:00 on Thursday 28 January offers the opportunity to learn about the 2014-2015 outbreaks of highly pathogenic avian influenza (HPAI) in the United States from people who were actively involved in controlling the disease.

Chad Gregory, UEP president and CEO, said: "The 2015 HPAI outbreak was devastating to the US egg farming community. All sectors of the poultry and egg industry must be diligent in preventing the spread of future outbreaks, and this programme will share important lessons learned."

USPOULTRY president, John Starkey, added: "This programme will provide a timely reminder for our entire industry as we ap-

proach the spring migration period. Effective biosecurity measures are extremely important - now more than ever."

Speakers will include experts from the US Department of Agriculture and veterinarians from layer and turkey companies. Topics will include the factors that contributed to the spread of the virus and the efforts to develop vaccines for potential use in any future eradication efforts. Representatives of the commercial egg and turkey industries will provide valuable insight into the efforts required to control and eradicate the disease and give the audience an understanding of the challenges this disease provided to the commercial companies involved.

Sponsored by the National Renderers Association and held in conjunction with the IPPE, the International Rendering Symposium on Thursday 28 January (12:00 to 17:00) and Friday 29 January (09:00 to 12:00) will focus on the opportunities and challenges for the industry today.

Beginning with a virtual tour of a rendering plant, the Symposium will continue with discussions on the usefulness and importance of rendered products in animal feed, pet food and aquaculture.

The implications for rendering of the FSMA will be discussed along with how rendering influences sustainability, quality and safety of animal and pet food. Challenges and opportunities with the media will also be addressed, and a networking reception will be held following the first day's programme.

For further information on all these educational programmes, **click here** to go to the visit the IPPE 2016 web site.■





# Cobb's 100th Anniversary Year: An Interview with President Jerry Moyer

In Cobb's 100th Anniversary Year, the Editor of ThePoultrySite, Alice Mitchell, speaks to Cobb President Jerry Moyer about business innovation, exciting new research, and the company's enduring legacy in the industry.

**2016 is your 100th anniversary year – tell us how Cobb started.**

In 1916, Robert C. Cobb Sr. bought the Old Pickard Farm in Littleton, Massachusetts, and began Cobb's Pedigreed Chicks.

In 1947, Cobb began a breeding line of all white birds, called the White Rocks.

These birds along with the Vantress male built the foundations of today's pedigree Cobb lines.

In 1974, Cobb was purchased by the Upjohn Company and Tyson Foods, Inc. acquired the Vantress breeding lines. Tyson Foods, Inc. then went on to purchase 100 per cent of Cobb stock in 1994 to assume full ownership.





# PREPARING FOR WHAT TOMORROW NEEDS

We will be taking on the next 100 years like we did the past 100—with excitement and highest expectations. Thanks for helping us look ahead to our next innovation. And hang on. We have a strong grip on the shape of things to come.





**Many things have no doubt changed over the years, but what has remained the same?**

I think the single most consistent part of our business is the drive for annual genetic progress. This is the most critical element for our continued success. As you say, science has certainly changed or added techniques for achieving this progress.

**What is the most exciting development you have seen at Cobb?**

From a business standpoint, the growth of our Brazil business has been fun to watch. Also, the opportunity to add the genetic lines from Avian, Hybro, and Heritage has been important. From a research view, the development of our capabilities in biotechnology has been very exciting. The future will change as we learn how to use gene marker assisted selection. The potential will be tremendous.

**How has your research evolved over the years?**

Advancements in technology, and demands from the industry have made the breeding companies expand the amount of traits that we are using to measure and select birds. As an example, welfare traits and antibiotic free production have become much more of an industry focus in the last ten years.

**What is the best thing about working at Cobb?**

For me, it is the way that Cobb Team Members have embraced our Values. Today, we can stand behind the Cobb brand that represents not only our products, but importantly, how we do business. I am very proud

Cobb President  
Jerry Moyer



"I think the single most consistent part of our business is the drive for annual genetic progress"

that we have been able to convey this consistently across the globe. It really is a fun place to work!

**What is your legacy as Cobb's President – what do you want to do or change or improve?**

I don't know that this is my legacy, but as I have said, the fact that we've built the Cobb brand as "Who we are" is probably the most important to me. If we continue to work through our Values, our business will stay healthy.



# FINDING SOLUTIONS TOGETHER



A lot of what we've achieved in the past 100 years wouldn't have happened without you. That's why your success is important to us and why we will never stop providing the best advice and support to maximize product performance. For working with us and driving us forward, thank you.



A CENTURY OF PROGRESS



"Antibiotic free broiler production is a very important change today. I see this becoming a global trend within the next five years"

**What industry trends are you seeing and how do those trends influence the future of Cobb?**

Antibiotic free broiler production is a very important change today. I see this becoming a global trend within the next five years.

In the US market, the continued growth in bird weights in the large bird segment presents problems. This is not the case in other regions, so we must develop a separate product for this segment. I see future segment opportunities in dark meat yield as well.

**What do you expect to be the next big innovation in poultry genetics and the overall industry?**

In today's market, the rapid growth of antibiotic free broiler production will require some innovation from the breeding companies. Today there is a premium for ABF product, but I don't believe this is sustainable as the segment grows. Our customers will look to us to develop a broiler that is more efficient in that environment.

**Cobb chickens are available in most parts of the world – where will you expand next?**

Currently, we are building a GP complex in China so that will be an important focus for us over the next 3-5 years. We see an opportunity there. Finding a location in the Asia

market for a great-grandparent production base may also be necessary in the face of continued avian influenza trade risks.

**How is Cobb helping to protect bird health and welfare?**

Bird health (antibiotic free production) and animal welfare are two of the key drivers for broilers going forward. Cobb and the other breeding companies have expanded our trait measurement primarily around these two issues.

While we talk about efficiency quite often, the reality is that broilers cannot be efficient in the face of disease and welfare challenges. Breeding companies must make improvements every year on these characteristics.

**How do Cobb breeds help provide a more sustainable food supply?**

Genetic progress is the foundation of sustainability. Management of the world's resources is absolutely supported through improved feed conversion, better bird welfare, improved meat yield, and a more robust broiler.

**Will you be attending IPPE and if so, what are you most looking forward to seeing?**

As always, I am looking forward to seeing old friends in the industry, but most importantly for Cobb, I will be spending time with our customers who attend the show. ■





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A CENTURY OF PROGRESS



# Global Poultry Trends: Chicken Meat Output to Exceed 100 Million Tonnes

**The Americas is the largest chicken meat producing region in the world, but the industry there has grown more slowly than in other regions in recent years, writes industry analyst Terry Evans.**

World chicken meat production could well top 100 million tonnes in 2016, of which the Americas will likely contribute around 44.3 million tonnes or 44 per cent (see Table 1 and Figure 1).

The estimated global total for this year of some 99 million tonnes compares with an actual figure of 96.3 million tonnes in 2013. While the Americas is clearly the largest producing region, the 2015 estimate when compared with ten years ago reveals that its share of the global total has actually declined from 46.5 per cent to around 43.8 per cent.

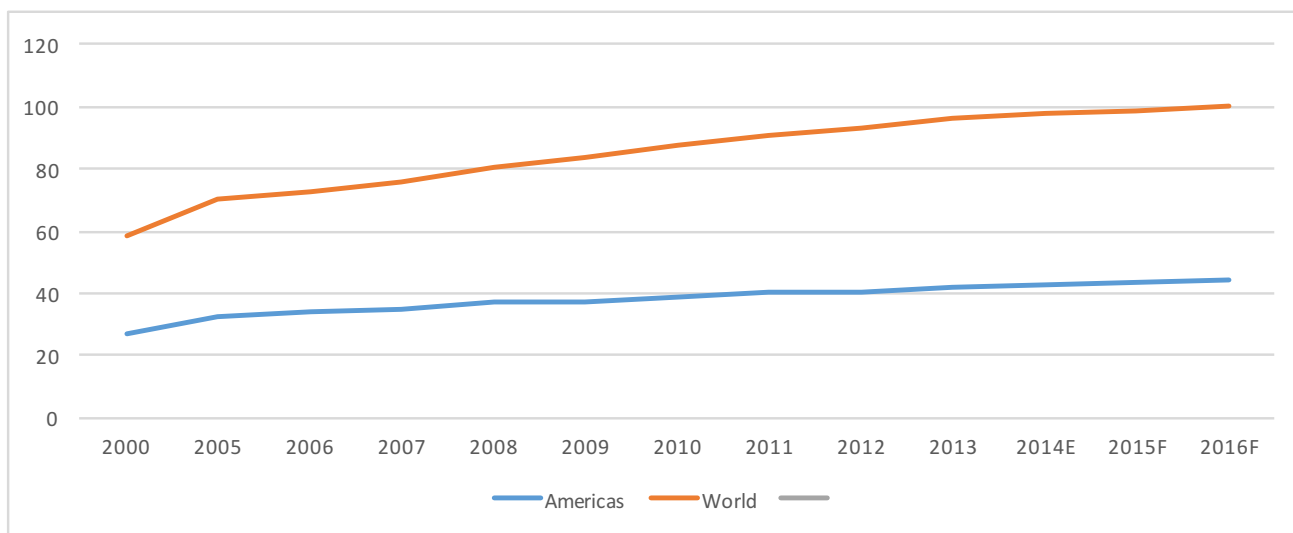
This is because the rate of growth in this region will have averaged less than 3 per cent over the decade, compared with 4 per cent or more in the other major producing regions and a world average of 3.5 per cent.











**Figure 1. World chicken meat output has grown faster than in the Americas (million tonnes)**

Forecast above-world average growth in both Brazil and the USA next year could raise this region's share to around 44 per cent. The Food and Agriculture (FAO) data presented in Table 1 includes estimates of the output from culled layers and backyard flocks with those for table chickens.

Data provided by the USDA relating specifically to broiler meat production point to a 3.4 per cent per year expansion in global production with output climbing from 63.1 million tonnes in 2005 to an estimated 87.9 million tonnes this year, while in 2016 it is expected to exceed 89 million tonnes (Table 1).

Despite concerns over outbreaks of avian influenza, the outlook for most poultry industries is good with favourable feed prices and less competition from competitive meats.

The major producers in Latin America are currently looking at ways of combating and preventing outbreaks of this disease, including the setting up of funds and contingency plans, to include the establishment of biosecurity controls.

At least one long-term forecast for poultry meat foresees continued growth at around 2 per cent per year, with output coming close to 134 million tonnes by 2024. In broad terms chicken meat accounts for almost 89 per cent of all poultry meat so, by 2024, chicken production could be in the

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Table 1. Indigenous* chicken meat production (million tonnes)													
Region	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014E	2015F	2016F
Africa	2.8	3.3	3.4	3.7	4.0	4.2	4.5	4.5	4.6	4.7	4.9	4.9	4.9
Americas	27.1	32.7	33.7	35.0	37.5	36.9	38.8	40.0	40.5	42.1	42.8	43.4	44.3
Asia	18.6	22.4	23.5	25.0	26.2	28.0	29.2	30.3	31.6	32.2	32.1	32.7	33.1
Europe	9.5	10.9	10.8	11.6	12.1	13.3	13.9	14.6	15.5	16.1	16.5	16.7	17.0
Oceania	0.7	0.9	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.3	1.2	1.3	1.3
<b>WORLD</b>	<b>58.7</b>	<b>70.3</b>	<b>72.3</b>	<b>76.2</b>	<b>80.7</b>	<b>83.4</b>	<b>87.4</b>	<b>90.6</b>	<b>93.3</b>	<b>96.3</b>	<b>97.5</b>	<b>99.0</b>	<b>100.6</b>
Broiler meat production (million tonnes)													
<b>WORLD</b>	<b>50.1</b>	<b>63.1</b>	<b>64.3</b>	<b>68.3</b>	<b>72.8</b>	<b>73.6</b>	<b>78.2</b>	<b>81.2</b>	<b>83.3</b>	<b>84.5</b>	<b>86.6</b>	<b>87.9</b>	<b>89.3</b>

\*Meat from the slaughter of birds originating in a country, plus the meat equivalent of any such birds exported live.  
 E 2014, F 2015 and F2016 author's estimates and forecasts for chicken meat, F 2015 and 2016 USDA forecast for broiler meat.  
 Regional figures may not add up to the world totals due to rounding.  
 Sources: FAO for chicken meat, USDA for broiler meat.

region of 119 million tonnes. Chicken meat production in all the countries in the Americas (Table 2) reveals that between 2000 and 2013 output expanded by 3.5 per cent per year from 27.1 to 42.1 million tonnes.

The USA was the leading producer with 17.6 million tonnes in 2013, though the rate of growth here was less than 2 per cent per year. In contrast Brazil's industry expanded by nearly 6 per cent per year to reach 12.4 million tonnes over the same period.

In 2013, seven countries in the region produced more than a million tonnes a year (Table 3) giving a combined total of 38.3 million tonnes or almost 91 per cent of the regional total.

More recent data provided by the USDA on broiler production shows that in 2016 output in the USA is expected to reach a record 18.4 million tonnes, while for Brazil, production could come close to 13.5 million

"The USA was the leading producer with 17.6 million tonnes in 2013, though the rate of growth here was less than 2 per cent per year"

tonnes as this country replaces China as the world's second largest producer for the second successive year (Table 4).

In contrast, little change is anticipated in production levels in both Mexico and Argentina at around 3.2 and 2.1 million tonnes respectively.

For other significant producers such as



Table 2. Chicken meat production in the Americas ('000 tonnes eviscerated weight)

Country	2000	2005	2009	2010	2011	2012	2013
Antigua/Barbuda	0.3	0.3	0.2	0.1	0.1	0.1	*
Argentina	957.0	1008.9	1500.2	1597.4	1648.2	1664.2	1779.1
Bahamas	4.5	5.8	6.1	6.2	6.3	6.4	6.6
Barbados	11.4	16.0	15.1	14.7	15.0	15.4	15.4
Belize	8.5	13.7	12.8	13.5	13.5	14.2	15.8
Bermuda	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Bolivia	133.9	183.0	318.9	380.8	373.3	373.3	376.5
Brazil	5990.6	7890.1	9968.9	10733.0	11476.3	11588.1	12435.5
Canada	900.0	998.0	964.8	971.6	969.6	979.7	992.3
Chile	380.4	457.4	513.8	503.7	555.1	565.4	576.6
Colombia	506.6	764.0	1026.8	1067.4	1075.7	1113.7	1276.8
Costa Rica	72.8	98.7	112.8	112.2	107.0	113.3	108.4
Cuba	73.4	29.5	33.2	33.6	35.4	37.5	34.7
Dominica	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Dominican Rep	209.6	296.3	320.7	330.5	270.3	249.3	269.5
Ecuador	191.0	205.3	304.6	334.1	325.0	325.0	335.0
El Salvador	85.5	110.3	109.4	118.9	125.8	126.9	131.8
Falkland Isl (Malvinas)	*	*	*	*	*	*	*
French Guiana	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Grenada	0.3	0.4	0.5	0.5	0.4	0.4	0.4
Guadaloupe	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Guatemala	133.4	137.2	170.9	161.4	162.0	170.0	171.8
Guyana	11.8	22.7	27.1	24.8	25.5	30.3	29.2
Haiti	7.9	7.7	7.9	8.1	8.2	7.7	7.7
Honduras	74.0	139.0	143.6	130.7	144.6	153.2	153.5
Jamaica	76.8	99.8	104.2	102.2	100.7	102.2	103.8
Martinique	1.1	0.7	1.1	1.2	1.3	1.3	1.4
Mexico	1819.4	2432.0	2632.4	2675.8	2758.0	2785.6	2801.3
Montserrat	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Netherlands Ant	0.3	0.2	0.3	0.3	0.3	0.3	0.3
Nicaragua	45.7	70.2	87.3	90.1	88.0	75.7	111.0
Panama	80.2	92.5	116.2	123.5	133.5	141.6	143.8
Paraguay	30.1	40.7	23.3	20.8	20.5	25.2	25.0
Peru	540.8	656.5	965.6	1021.0	1085.4	1172.2	1203.2
Puerto Rico	59.6	49.6	52.2	55.0	58.0	58.0	58.0
Saint Kitts/Nevis	0.1	0.1	0.2	0.2	0.1	0.1	0.1
Saint Lucia	0.4	0.7	1.4	1.4	1.5	1.5	1.5
Saint Vincent/Gren	0.3	0.2	0.5	0.5	0.5	0.5	0.5
Suriname	4.0	6.4	9.2	11.2	10.0	10.8	7.9
Trinidad/Tobago	38.7	56.7	57.9	64.8	63.6	65.2	66.3
USA	13947.0	16046.3	16338.1	16974.0	17114.0	17183.0	17546.1
US Virgin Isl	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Uruguay	56.5	51.8	72.6	68.9	85.1	84.1	43.7
Venezuela Bol Rep	664.6	736.4	891.1	1077.5	1164.1	1212.2	1273.0
<b>AMERICAS</b>	<b>27120.6</b>	<b>32727.4</b>	<b>36913.9</b>	<b>38834.0</b>	<b>40024.1</b>	<b>40451.0</b>	<b>42105.5</b>

\* less than 50 tonnes  
Source: FAO





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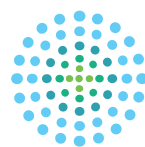
### REGISTRATION

Early Bird OPENS

21 January 2016

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31 March 2016



ICE

INTERNATIONAL CONFERENCES & EVENTS

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**Table 3. Chicken meat production ranking in the Americas in 2013 ('000 tonnes)**

USA	17546.1
Brazil	12435.5
Mexico	2801.3
Argentina	1779.1
Colombia	1276.8
Venezuela Bol Rep	1273.0
Peru	1203.2
Canada	992.3
Chile	576.6
Bolivia	376.5
Ecuador	335.0
Dominican Rep	269.5
Guatemala	171.8
Honduras	153.5
Panama	143.8
El Salvador	131.8
Nicaragua	111.0
Costa Rica	108.4
Jamaica	103.8
Trinidad/Tobago	66.3
Puerto Rico	58.0
Uruguay	43.7
Cuba	34.7
Guyana	29.2
Paraguay	25.0
Belize	15.8
Barbados	15.4
Suriname	7.9
Haiti	7.7
Bahamas	6.6
Saint Lucia	1.5
Guadeloupe	1.4
Martinique	1.4
French Guiana	0.5
Saint Vincent/Gren	0.5
Grenada	0.4
Dominica	0.3
Netherlands Ant	0.3
Bermuda	0.1
Montserrat	0.1
Saint Kitts/Nevis	0.1

Source: FAO

"The prospect of lower feed prices has prompted a 2.2 per cent increase in the forecast for broiler output in 2016 pushing the total towards 18.5 million tonnes"

Peru, Columbia and Canada production estimates continue to hover around a million tonnes a year.

According to World Agricultural Supply and Demand Estimates (WASDE) broiler production in the USA this year will amount to a shade under 18 million tonnes. The prospect of lower feed prices has prompted a 2.2 per cent increase in the forecast for broiler output in 2016 pushing the total towards 18.5 million tonnes.

Average slaughter weights have increased such that over the first four months of 2015 the average live weight was 6.1lbs (2.8kg) or 1.8 per cent higher than in the same period in 2014 and close to the average gain for the whole of 2014.

Broiler production in Brazil is expected to expand by 2.5 per cent to reach a record 13.1 million tonnes in 2015, as a result of higher exports stimulated by depreciation of the Real. According to a USDA report, margins are expected to continue positive but at a declining rate as production costs increase.

The report also notes that there are uncertainties regarding Brazil's economic outlook



Table 4. Leading broiler meat producers in the Americas ('000 tonnes eviscerated weight)

Country	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015F	2016F
USA	13703	15870	15930	16226	16561	15935	16563	16694	16621	16976	17299	17966	18365
Brazil	5980	9350	9355	10305	11033	11023	12312	12863	12645	12308	12692	13080	13480
Mexico	1936	2498	2592	2683	2853	2781	2822	2906	2958	2907	3025	3100	3160
Argentina	870	1030	1200	1320	1435	1500	1680	1770	2014	2060	2050	2060	2100

F forecast  
Source: USDA

which could put a brake on expansion. In the five years 2009 to 2014 broiler production is calculated to have grown by 2.8 per cent per year, but at least one forecast suggests that it might grow by as much as 3 per cent in 2016 to 13.5 million tonnes.

Ricardo Santin, Vice-President of the Poultry Division of the Brazilian Association of Animal Protein (ABPA) considers that the greatest challenge facing the chicken industry in the next 10 to 20 years is balancing environmental and animal welfare concerns with an increasing demand.

Measures taken by Mexico to counter avian influenza outbreaks in 2012 and 2013 appear to have been sufficient to allow the poultry sector to rebound to record production levels according to a USDA Gain Report. So far as the broiler sector is concerned, its 2 per cent per year expansion rate is being maintained which could push output in 2016 close to a record 3.2 million tonnes.

Between 2009 and 2012 Argentina's broiler industry grew at the rapid rate of more than 10 per cent per year to exceed 2 million tonnes. Provisional data for 2015 indicate a further 0.5 per cent gain at 2.06 million

tonnes. Since then growth has been relatively slow with the most recent estimate for 2016 of 2.1 million tonnes.

Broiler production in Canada is expected to rise by 3 per cent this year and a further 2 per cent in 2016 when output will likely exceed 1.1 million tonnes. ■

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# Avian Influenza in the US: What Really Happened?

**Dozens of recent news articles have reported on the facts, findings and frequent updates regarding the recent outbreaks of avian influenza in the United States. By Guillermo Zavala, DVM, MAM, MSc, PhD, Dipl. ACPV Founder of Avian Health International, LLC Adjunct Professor at the University of Georgia.**

But rather than counting the confirmed cases once again, or illustrating such cases in elegant maps produced by geographic information systems, we should ask ourselves: what really happened? Could this happen again in the future? And what has to happen to allow this to materialise again?

If we can answer these questions, which is admittedly quite a difficult task, perhaps we can respond in a better way should a catastrophic event of this nature ever occur once again. We could even possibly answer the obligatory question: what should we do to prevent and control a similar event in the future?

These are not the only key questions that require answers, but they are certainly some of the most important.



## What really happened?

At this point we can only speculate on the actual mechanism(s) that took place to allow the emergence of the highly pathogenic H5N8 and H5N2 avian influenza viruses (AIVs) that caused the largest and most far-reaching outbreak of avian influenza in the history of the modern poultry industry in North America. Although we don't have the complete story, research done at USDA/ARS has revealed that what is most likely, is that the H5 component of the novel viruses stemmed from Eurasian AIVs, and that the N8 and N5 genetic components of these viruses originated from North American strains that recombined with their Eurasian cousins; thereby resulting in H5N8 and H5N2 recombinants.

However, we are then left questioning just how could this have happened if common knowledge tells us that wild birds migrate primarily North to South and vice versa? How could Eurasian viruses carried by European and Asian wild birds reach North America? Science again has been able to tell us that the migratory routes of some European wild

bird species coalesce with the migratory routes of Asian wild birds; and these in turn might come into contact with bird species that migrate North to South, and vice versa along the meridians that cover the American continent.

Specifically, the Eurasian viruses jumped from Asia to Europe, back to Asia, and then to North America. Up until this point, the novel recombinant AIVs remained in the wild bird compartment (as far as the American continent). So, for such viruses to reach the commercial bird population, we can see that a primary pre-requisite must be fulfilled: the viruses must be brought into commercial poultry houses.

We know that this can happen in a number of ways, and perhaps the initial form of introduction is through wild bird droppings being present in and around commercial poultry farms. It is even possible that small wild birds with access to the interior of commercial poultry houses can also carry infectious viruses, either mechanically or while shedding viruses.

Everyone would agree that one of these mechanisms or a similar one must have been the initial introduction event.

The next important item to think about, then, is: were there over 200 "natural" introductions from wild birds to commercial poultry farms? The answer, almost self-evidently, is no. Most of the secondary trans-



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mission was due to careless movement of personnel, vehicles, equipment, birds, and eggs - to mention but a few.

In other words, the outbreak was initiated by wild birds, but it was dramatically expanded by people. This is a bitter lesson that should be learned by all of those who experienced the outbreak, as well as the lucky ones who have not yet come across such devastation. Specific biosecurity operating procedures must be followed from top to bottom: from the corporate office down to the personnel that perform the day to day operations in the poultry industry and its allied businesses.

### Could this happen again in the future?

Worryingly, this kind of outbreak could certainly happen again, and not just once but many times over. Our industry has grown

dramatically over the last few decades, and it continues to grow to satisfy a growing demand for affordable, high-quality, and safe sources of animal protein.

The larger the industry, the more significant the risks, including outbreaks of disease such as avian influenza. The higher the bird concentration in a geographical area, the larger the potential economic impact of avian influenza will be. Put simply, it will happen again. The question is: did we learn from our recent experiences? And are we better prepared?

### What has to happen for avian influenza to occur again?

For another outbreak of highly pathogenic avian influenza (HPAI) to occur (H5N2 or any other), there has to be a virus in the envi-



Veranda Breeder



Ovosec Pro

For over 30 years, all around the world Vencomatic Group customers collect perfect hatching eggs with our housing systems and egg handling equipment.

The Veranda Breeder, a multi-tiered housing system, allows efficient hatching egg production and maximum bird health.

The Ovosec Pro, a new generation hatching egg packer, offers an effective operating capacity of 30,000 eggs per hour.

**Please visit our booth at IPPE Atlanta:**  
Hall A - Booth 321 (for layers) & 421 (for broilers).

For more information visit [www.vencomaticgroup.com](http://www.vencomaticgroup.com)







turn, but this time it will face an industry that is far better prepared.

### Where are we now?

The recent outbreak of avian influenza in the US resulted in massive deaths and bird losses due to necessary euthanasia; it caused enormous losses due to lost exports; and it also created a nightmare for primary breeders to be able to ship breeding stock to many

environment; poor biosecurity must be in place; timely and accurate diagnostic systems must not be available; and industry and authorities should not have a contingency plan.

Is this currently the case? Thankfully, no. Every single state with sizable commercial poultry production now has a clear and detailed plan to deal with high and low pathogenic avian influenza. In addition, the local authorities have a set plan and budgets for such a contingency. Every poultry company (at least in the South Eastern US) has held educational meetings with poultry growers as well, to enable everyone to understand how they can recognise the first signs of disease, who to report them to, how to prevent the spread of the virus, and if necessary, what the procedures for quarantine, euthanasia and sanitary bird disposal would be in the event of an outbreak.

As per USDA guidelines, every commercial flock must be tested for avian influenza prior to slaughter, and long-lived flocks such as layers and breeders must be tested various times. Thus, avian influenza may indeed re-

other countries that depend on the breeders produced in the United States. Needless to say, the scarcity of table eggs after the loss of some 30 million egg layers caused a dramatic increase in egg prices directly to the consumer, and indirectly through the increased prices for industrialised eggs. Likewise, turkey products became scarce and more expensive, in addition to breeding stock having difficulty being mobilised between countries.

The US industry certainly does not want a repeat of a widely distributed avian influenza outbreak. Vaccination has been considered as a tool for prevention and eradication in the event of another outbreak, and it may very well end up being used in the field, but the work horse of the prevention and control program should be a combination of effective biosecurity that is properly implemented and enforced; preparation to promptly recognise the disease; testing for avian influenza regularly and effectively; and designing and implementing a detailed contingency plan for use in the event of another outbreak. ■





# Our feed additives are food additives too.



The feed additives Nutriad produces are as natural as they are effective. Quite normal, come to think of it: all our products ultimately end up in a belly - a human belly, that is. That's why we call them 'future generation proof': they are part of a cycle which has to last more than one generation.

Interested in our products? [Visit \*\*nutriad.com\*\*](https://www.nutriad.com) for your local contact.







### Hygienic Wall Protection Solutions in a Food Safe Environment

GLOBAL - Twenty five years ago, sandwich panel construction became the most popular way to construct food safe rooms.

Fast installation and good isolation values were some important assets to this success. Nevertheless sandwich panels are vulnerable and quickly damaged and therefore should be well protected by impact resistant, easy to clean, smooth, chemical resistant and water proof PolySto curbs.

In the beginning curbs were constructed with on-site-made concrete and later covered by the floor finishing. But this system is labour intensive, not very hygienic and expensive, slowing down the construction process.

Concrete covered by resins is never a monolithic system, and after a while the bond-

ing between concrete and floor material will break because of infiltration of humidity and acids through hair cracks caused by impacts.

PolySto prefabricated curbs are made of a very strong mixture of polyester resins and quartz granulates.

This creates a monolithic, very strong, water resistant, easy to clean, chemical resistant and repairable curb. Thanks to the unique PolySto pre-fab system with accessories, installation is very fast.

Different types, sizes and thicknesses are available for any type of protection level. PolySto curbs are bonded together with the sandwich panel with a flexible; water resistant PolySto Hard Fix glue and/or chemical anchorage.

The joints can be seamless finished with a





PolySto IP40F Natural installed on top of a concrete floor.

2-component Hygiseal cleanseam or food safe flexible sealant. To avoid any leakage behind the PolySto curb, a second water barrier is created by the PolySto Hard Fix glue.

PolySto bvba, Maesbossen 3, 9160 Lok-  
eren, Belgium.

Tel.: +32 (0) 9 33 77 660

Fax: +32 (0) 9 33 77 669

**info@polysto.com**

**www.polysto.com**

## Studies Show Broilers Fed Probiotics Maintain Performance on Energy-reduced Diets

GLOBAL - New research from Chr. Hansen confirms that GalliPro® (GalliPro®Max in the US) — a probiotic for poultry containing *Bacillus subtilis* — allows producers to reduce energy, protein and amino acid content in feed, without reducing the performance of their flocks.

The studies, along with Chr. Hansen's full range of microbial products and services for poultry, will be showcased at the 2016 International Production and Processing Expo in Atlanta, Georgia, USA.

In several trials conducted under commercial conditions in the US and Brazil, GalliPro® was shown to add 40 to 100 kcal/kg feed, depending on feed composition and health conditions.

That means producers can reduce dietary energy by 1-3 per cent, without compromising weight gain or feed conversion in commercial broilers.


“At Chr. Hansen, we are committed to supporting successful and sustainable poultry production with solutions that help our customers produce more with less,” said Mickaël Rouault, Global Product Manager for Chr. Hansen.


“Feed can account for up to 70 per cent of the cost of broiler production, with energy representing one of the costliest components.

# FLEXIBLE

## FEED FORMULATION

with GalliPro® Max





improving food & health

**Rooted in science, grounded in agriculture. Since 1874**

It all started in a rural Danish farming community in 1874. Today, thanks to our team of scientific specialists, Chr. Hansen has the largest collection of microbial strains for probiotics and silage inoculants in the world. So we can help you boost efficiency and profitability, while meeting all regulatory requirements for safety, stability and efficacy. [www.chr-hansen.com](http://www.chr-hansen.com)



“By boosting enzyme production while enhancing intestinal function, GalliPro® increases both the availability and uptake of dietary energy,” he added, noting that previous studies have demonstrated that GalliPro® can also compensate for a 1-5 per cent reduction in protein and amino acids.

“As a result, GalliPro® allows producers to maintain broiler performance on diets that are lower in energy, protein and amino acids - and consequently, lower in cost.”

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## Big Enough to Cover the World, Small Enough to Care

GLOBAL - The global population increases 50 per cent in the next 4 decades. Livestock production and aquaculture have never been more challenging.

Limited availability and changing quality of raw materials challenges intake, growth and performance. Growing customer awareness and governmental regulations, especially

related to health and safety, challenge your business. As a manufacturer of state-of-the-art feed additives for more than 50 years, we know the agricultural market. Still every day we are passionate about our work.

Our ambition is to be our customers' first choice in palatability, mycotoxin management and digestive performance. Around the world our people work on finding ways to improve your production. Being active in more than 80 countries, we understand the global issues thoroughly.

The experience of our dedicated local product specialists is available for you. In direct contact with you, we create the best practical solutions for today and tomorrow.

Find out more at **[www.nutriad.com](http://www.nutriad.com)**

The Nutriad team would be delighted to meet with you at IPPE at our booth – Hall A - #A805 – for a meeting with any of our global and/or local specialists. Please contact us at **[info.usa@nutriad.com](mailto:info.usa@nutriad.com)** if you would like to schedule a meeting in advance, or stop by at your convenience.





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Delivery of CPD,  
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## PUBLISHING

Technical expertise; books,  
DVD's and media.



## How to Model Hindgut Fermentation in Chickens

GLOBAL - The hindgut of chickens and other monogastric animals produces beneficial volatile fatty acids, including butyrate. Diamond V's 'Intestinal Activity Modifier Model' (IAMM) helps us know how.

Scientists at Diamond V began developing the IAMM nearly a decade ago, based on the company's successful 'Rumen Activity Modifier Model' (RAMM). The goal of both models is to mimic anaerobic fermentation and other microbiological activity *in vitro* – in the lab, not in animals – and thereby control for critical variables that affect the gut environment.

The IAMM is a great advantage in isolating and studying the effects of existing Diamond V products as well as new prototypes. For

example, Original XPC™ has well-proven beneficial effects in chickens and pigs. Yet gut microbial populations are complex and dynamic. They include hundreds of species of commensal and pathogenic bacteria in proportions that change with an animal's age and many other factors. What, exactly, is happening with these diverse microbial populations?

Today we use IAMM in many iterations to accurately simulate anaerobic fermentation in the hindgut – cecum plus large intestine – and control most variables affecting the experiment.

Lab experiments in micro fermentation arrays make test replication and screening much quicker and cost-effective than trying to do the same work in animals. IAMM also helps in the design of follow-up *in vivo* studies and accelerates product research and

# Strengthen Your Chain.

Responsibility lies within each link of the food supply chain.

Insist on Diamond V pre-harvest technology today.



For more information, call 800-373-7234 or visit [www.diamondv.com](http://www.diamondv.com)



development. In addition, the IAMM assay is a valuable tool for quality control and assurance during manufacture of Diamond V products.

**Click here** to read the full article

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## Nothing is More Precious Than Life, and that's the Philosophy that Drives Phileo

GLOBAL - As global population continues to increase, the world faces a growing demand for food and greater sustainability challenges. Backed by 30 years of experience and a global staff of 120 people, Phileo is viewed as a major player on the animal nutrition, health and welfare market.

Health through Nutrition, Phileo is committed to delivering future evidence-based solutions that enhance animal health and performance. Thanks to its global presence, Phileo is connected with its markets and is able to adapt readily to its customers' needs. In each and every country, its team's progress is led by the most advanced scientific outcomes as well as the field input of experienced farmers.

### A complete range of innovative solutions

#### Probiotics

- Actisaf
- Premium thermostable live yeast concentrate
- Procreatin 7
- Live yeast concentrate

#### Yeast fractions

- Safmannan
- Premium yeast fractions rich in active

ingredients

- Nucleosaf
- Yeast extract rich in nucleotides

### Specific active ingredients

- Selsaf
- Premium selenium yeast
- Nutrisaf
- Sustainable protein source with added-value functional properties

### Formulated innovative solutions

- Optisaf
- Innovative nutritional solutions to meet the specific livestock requirements
- Aquasaf
- Innovative nutritional solutions to meet the specific needs of fish and shrimp farming systems

Read more: [phileo-lesaffre.com](http://phileo-lesaffre.com)

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## Jefo Affirms its Corporate Positioning and Reveals its New Philosophy

GLOBAL - Jefo is a global leader in the field of non-medicated performance feed additives. Founded in Canada in 1982 by Jean Fontaine, BSc, agr., Jefo has grown exponentially over the years, with its products now sold in 57 countries.

From the beginning, Jefo has concentrated on innovation – understanding and contributing to the science, economics and practices of livestock production and management.

Today, Jefo is a world leader and global partner in the field of feed additives, with its pioneering, cost-saving and efficient solutions, that also promote sustainable development.

### A new global corporate philosophy:

Our new philosophy is based on our company's history and strong corporate values. We're convinced it was time to step-up and differentiate ourselves says president, Jean Fontaine.

Life. It's health. It's reproduction. Calving, farrowing, laying, hatching. It's milk. It's growth. It's animals feeding the hands that feed them.

Life, made easier is nutrition delivered as it should be, through vitamins, minerals, yeasts, and organic acids. It's better balance, better metabolism. It's just a little more comfort.

Life, made easier is a promise of health solutions that are easy to administer. Right in the feed, as it should be. Without fuss or pain or

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**#713 EXHIBIT HALL A**



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Meet our international technical specialists and discover our synergistic programs for poultry.



# Jefo

Contact us for more information  
[poultry.team@jefo.ca](mailto:poultry.team@jefo.ca) | [www.jefo.com](http://www.jefo.com)



risk to the animals. It's a promise that with better nutrition, animals are more comfortable, easier to raise. That each stage of life is just a little less complicated, with a lower risk of disease, weight loss and mortality due to stress and malnutrition. It's just a little more peace of mind.

Life, made easier is a promise that Jefe is constantly searching for solutions to animal nutrition challenges, offering a full range of products and programs to satisfy the needs of the different life stages of each species. It's a lot more confidence and a true partnership.

Life, made easier is a promise of excellent service and expert technical support. It's a promise that doing business with Jefe is easy, with immediate response and efficient communication. It's an entire solutions-oriented team at your service.

Life, made easier means programs and solutions for real-life situations, for different life stages and challenges.

Life, made easier with Science. Through its applied scientific research, Jefe continues to innovate and develop additives that take into account the genetic make-up, physiology and metabolism of each species, as well as the varying requirements of the market: Jefe Matrix Technology for safe and targeted delivery of active compounds and nutrients, enzymes for improved feed conversion and increased body weight and liquids for optimal animal performance.

Life, made easier is about timely technical support and practical advice worldwide. It's experienced, dependable and friendly professionals at your service.

Life, made easier means healthy animals

feeding the hands that feed them. This is the circle of life. This is what sustains us. This is Jefe.

This new positioning is sustaining the idea and the rationale of our logo: a natural cycle, an easier continuity of life.

Both humans and animals are part of this cycle, and their interaction is an apt example of balanced responsibility; giving the best to the animal because it is ultimately, given back to us. With this in mind, Life, made easier means healthy animals feeding the hands that feed them. This is the circle of life. This is what sustains us. This is Jefe.

The new philosophy will be rolled out in all communications in the many countries where Jefe is present. New kiosks, stationery, business cards and corporate communications including advertising, promotions and website have been designed. Now again, with this new philosophy, the two elements, the world of nature and the world of science, come together in an expressive way.

### **A word about Jefe's graphic logo:**

It starts with a connecting line, which represents the notion of give-and-take, of how everything in the world, including animal and human nutrition, is interconnected. It also represents Jefe's commitment to ensuring that the connection is maintained in a responsible, healthy way.

Clockwise around the unbroken circle, the size of the animals increases to represent the company's main objective: healthy, strong growth. Finally, the hand in the symbol speaks to the company's promise to



be actively and responsibly engaged. Jefe chose the circle to stand for the world, and for the company's place in it: as a global company that cares about the planet.

To learn more about our new corporate philosophy, visit **[www.jefe.com](http://www.jefe.com)**

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## **ShuBee® is Your Partner in Preventing Cross Contamination**

US - Whether you're dealing with food safety or animal life and health, it is important to make sure you are taking measures to reduce risk of cross contamination.

ShuBee® has a full line of disposable products that will protect you, your workers and your animals while working with livestock, food processing, packaging and trucking within the agriculture industry.

ShuBee's® shoe and boot covers are perfect for farm and plant workers needing a larger, more durable options compared to what is currently on the market. Most covers fit up to a size 18 work boot and all offer an elastic opening that provides a secure fit when you need it most. ShuBees come in up to 10 different colors and varying levels of grip perfect for processing and plant jobs requiring color-coding.

ShuBee's® exclusive coverall design provides a larger, more durable option from your standard disposable coveralls.

All coveralls offer an elastic, extended torso with style options that include economy, triple layer and waterproof materials, free included or attached booties, collared or

hooded options and elastic wrists and ankles for barrier protection.

Make sure you go above and beyond to protect your business with ShuBee® by keeping a supply of products available to your workers and other visitors who enter your farms and facilities.

Call ShuBee® today at 866.765.6061 or visit their website at **[www.shubee.com](http://www.shubee.com)** for their full disposable product line.

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## **AMINODat® - Deep and Broad Feed Ingredient Analysis on a Global Scale – at Your Fingertip**

Global - Whether you're dealing with food safety or animal life and health, it is important to make sure you are taking measures to reduce risk of cross contamination.

Up to the task – day in, day out.

Screening and monitoring incoming raw materials for feed formulation while meeting the highest feed quality standards – it's the tough challenge you are faced with on a daily basis.

AMINODat® 5.0, the most comprehensive amino acid database in the world, is designed to help you meet that challenge:

- **Most up-to-date** - All samples collected within past five years.
- **Most relevant** - Analyses based on over 140 raw materials actually used by the feed industry.





Your Partner in Preventing

# CROSS CONTAMINATION



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- **Widest scope** - Includes over 21 000 samples from all over the world and is based on over 530 000 results.
- **Most comprehensive database** of digestibility coefficients - Includes updated and expanded coefficients for pigs and poultry.

Evonik Nutrition & Care's Animal Nutrition Business Line translates over 60 years of experience in manufacturing essential amino acids for animal nutrition into solutions that meet the evolving needs of our customers in over one hundred countries.

As we now expand our scope to innovative nutritional feed additive solutions beyond amino acids, our customers can continue to count on us to take nutrient effectiveness ever further and keep delivering value along with consistent quality.

Around the planet, our products and services are and will continue to be key to producing healthy, affordable food with fewer natural resources and a smaller environmental footprint.

**[www.aminodat.com](http://www.aminodat.com)**  
**[animal-nutrition@evonik.com](mailto:animal-nutrition@evonik.com)**

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## **Aviagen Marks a Special Milestone at IPPE 2016**

US - As poultry professionals from around the world gather in Atlanta for the 2016 International Production Processing Exhibition (IPPE), Aviagen®, the world's leading poultry breeding company, looks forward to another successful show.



IPPE 2016 will mark a special milestone for Aviagen as they celebrate 60 years of the Ross® brand in 2016. Since its foundation in Scotland in 1956, Ross has grown to be the world's most popular brand with a product range including the Ross® 308, Ross® 708 and Ross® PM3.

Aviagen will exhibit all three of its main commercial brands at this year's show, including Arbor Acres®, Indian River® and Ross® at its booth B4411.

This year's theme 'Global Reach, Local Touch' will be supported by Aviagen service teams from more than 30 countries.

IPPE provides an excellent venue for business discussions with both customers and suppliers from across the world. The focus of these relationships - both globally and locally - is the cornerstone of the business and presence at the show.



## ORFFA

GLOBAL - ORFFA, a leading supplier of feed ingredients and additives, combines unmatched sourcing strength, high quality standards and scientific product development capabilities to meet with the ever increasing requirements of the global animal health and nutrition market.

Europe is ORFFA's home market but big steps in global expansion have been made over the last decade, resulting in own offices in all major animal feed markets worldwide and creating a large global network of customers, distributors and suppliers.

In house developed speciality products are offered under the EXCENTALIS brand, amongst others innovative products such as nutritional emulsifier and L-selenomethionine. Besides, a complete portfolio of high quality generic feed additives such as pure vitamins is available.

ORFFA represents leading Chinese vitamin producers, which allows ORFFA to be competitive and to guarantee quality and availability.

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## Clean Water for Your Poultry House

Impex Barneveld is a pioneer and specialist in the production of automatic drinking equipment for poultry and other livestock for more than 45 years.

Impex drinking systems are primarily designed to supply birds with sufficient clean

water at all times, and are suitable for various types of poultry.

As there are various drinking nipples in our product range, the correct nipple to be used depends on the specific type of poultry. It is important to select the correct nipple to suit specific requirements.

The closed water drinking systems are economical, as they are easy to clean and need little maintenance. Due to the closed water system, hygiene is optimal resulting in a better house environment. There are always enough watering points over the entire floor area.

Advantages of Impex closed water drinking systems:

- Optimal hygiene;
- Better water temperature;
- Minimal water wastage;
- Easy to clean;
- Little maintenance;
- Always enough watering points;
- Optimal supply of medication and additives;
- Dry manure;
- Lower humidity, less ammonia.

In addition to closed water drinking systems, Impex also supplies open drinking systems, such as round drinkers, mini-drinkers and fountain drinkers. Other items available are feeders, feed trays, Lyon debeakers, incubators, egg washers and pluckers.

Impex continually strives to innovate and improve its products to achieve optimal production results in poultry houses. The I-Control flush unit, I-Flow pressure regulator and Dirty water sensor are such innovations



which improves the quality of water in the poultry house.

For further information, please visit **[www.impex.nl](http://www.impex.nl)** or follow us on social media.

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## PIX/AMC 2016 to Focus on Sustainability

AUSTRALIA - The 27th Poultry Information Exchange (PIX) and Australasian Milling Conference (AMC), PIX/AMC 2016, is the biggest and most important poultry and milling event in Australia.

It will be held at the Gold Coast Convention and Exhibition Centre from Sunday, 29 to Tuesday, 31 May 2016.

Around 1,400 delegates from every segment of the industry are expected to participate in PIX/AMC 2016 and enjoy three days with the latest in innovation and information.

Delegates and exhibitors will be able to take advantage of private meeting rooms, a new feature of this edition, to discuss and finalise matters in comfort.

The theme of this year's conference is 'Sustainability – Key concepts for our future' and the program will include the following topics: chicken meat, egg production, free range and organic farming, flour milling and feed milling.

There will be several workshops and a scientific meeting organised by the Australasian Veterinary Poultry Association (AVPA) to take place after the conference.

Fantastic sponsorship and exhibition opportunities exist at all levels. The packages have been designed to provide excellent marketing exposure and enable access to valuable target markets, prior, during and long after the conference.

For further information please contact: International Conferences & Events on +61 2 9368 1200 or **[info@pixamc.com.au](mailto:info@pixamc.com.au)**

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## EggTester.Com Participates in IPPE 2016 in Atlanta

US - EggTester.Com (officially known as "ORKA Food Technology") will participate at the 2016 International Production & Processing Expo (IPPE) on January 26-28, 2016 in Atlanta Georgia.

This follows great success at previous shows, introducing EggAnalyzer™, Eggshell Thickness Gauge, Egg Force Reader, Digital Haugh Tester and Egg OR Candler.

In addition, this year we are introducing a new product called Wireless Egg Node which enables simultaneous, high-speed sensing and real time data aggregation from multiple wireless eggs!

We invite you to visit us at Booth A2628, A-Hall (under the company name of "ORKA Food Technology") to look and feel our devices with your own eyes!

The current ORKA range comprises:

- **Egg Analyzer:** this instrument determines the weight of eggs, albumen height, Haugh units, yolk color and



USDA grade for routine quality control and regulatory compliance;

- **Egg Force Reader:** this device measures the force required to crush a shell and is a direct measure of marketability
- **Eggshell Thickness Gauge:** this instrument uses ultrasound to measure the thickness of shells for quality control and research applications;
- **Digital Haugh Tester (New!):** this instrument is extremely precise and friendly to use in order to assist you with the correct process of reading of the albumen height;
- **Egg OR Candler:** this instrument is a portable LED battery/mains operated egg candling lamp, allowing the user to candle both white and brown eggs in any environment.

The ORKA range of instruments is used extensively in QC laboratories operated by egg producers, packers, universities, regulatory authorities, and primary breeders.

---

## Measurement of Air Pressure, Wind Direction and Wind Speed in a Single Compact Unit

DENMARK - DOL 58 from dol-sensors a/s is a truly remarkable product in the sense that wind direction and wind speed are measured using ultra-sound, so it has no moving parts like propellers or indicators, which will eventually wear over time.

“The lack of moving parts also means that the accuracy of DOL 58 will remain the



same in the lifetime of the product, while at the same time, the entire weather sensor can be kept very compact and with minimal installation time,” said Niels Peter Andersen, Product Manager, dol-sensors a/s.

When asked where the weather sensor can be used, Niels Peter Andersen replied: “dol-sensors a/s has its heritage in the agricultural business, and surely that is where we see DOL 58 being used the most. But having said that, the weather sensor can be used in any business, where a reliable weather sensor is required.”

DOL 58 weather sensor is delivered as a complete package, comprising:

- Weather sensor
- Connection box
- 5 m/16 feet cable for connection between weather sensor and connection box
- Mounting bracket made from stainless steel for the weather sensor for wall or pole mounting

DOL 58 comes without a display, but with three 0-10 V analog outputs, which can easily be integrated into any controller or display unit that accepts analog signals.

Optionally, the weather sensor can be delivered with air temperature instead of air pressure, as one of the three outputs.



## BNL is The World Leader in Specialist Plastic Bearing Solutions

GLOBAL - Established in 1970, we have over forty-five years' experience of innovation in this field and we support customers in wide-ranging markets across the globe.

We focus on providing our customer with bearing designs that will achieve their desired objectives. More than just a bearing, our engineered solutions can provide operational savings, improved performance and longer product life.

We offer design flexibility, reduced costs, maintenance, assembly, along with lower torque and weight. We supply products in numerous plastic materials capable of non-magnetic, conductive, non-lubricated, and corrosion resistance.

With value added design: Our integrated designs add value while reducing component count, assembly operations and product weight, by combining multiple components and functions into a single molded part.

We are ISO 9001, ISO 14001 and TS 16949 accredited at all molding production sites, reflecting our commitment to stringent quality standards and ensuring we deliver quality and value from concept to production.

Our bearings are fully molded to maintain the fine crystalline layer on the surface area of the bearing race-way, significantly improving wear resistance and increasing the efficiency and life of our products.

BNL has three manufacturing sites worldwide, in the UK, Thailand and China; and sales and engineering offices in Knaresbor-

ough (UK), Tokyo (Japan), Shanghai (China) and Foxboro (USA). Our global team offers support to all of our customers worldwide throughout our relationship with them.

Please visit **[www.bnl-bearings.com](http://www.bnl-bearings.com)** for more information and to contact us for your next application.

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## Highlighting the Importance of Detecting Coccidiostat Drug Residues

GLOBAL - The poultry industry has highlighted coccidiosis as one of the most prevalent factors adversely affecting producers and processors globally.

This disease can affect any poultry house, damaging the intestinal tract, stunting the growth of infected birds, this in turn then reduces the economic return for the producer.

Traditionally antiprotozoals and feed medications are used to treat it and prevent the development of secondary bacterial disease. These treatments are vital in the efforts to reduce the impact of coccidiosis on poultry production.

As treatment is required, the EU and FDA have enforced strict regulations regarding the use of these antiprotozoals in order to protect the end consumers.

Before processing poultry for human consumption, processors are lawfully required to ensure that the antiprotozoal used in the treatment of coccidiosis has left the system of the animal to the acceptable limits.



How then can processors ensure they are meeting these drug residue requirements?

### **Simultaneous detection**

For the detection of coccidiostat drug residues, Biochip Array Technology (BAT) has been identified as an industry leader.

The Randox Food Coccidiostat Array produces a semi-quantitative result for all of the following 12 analytes: Lasalocid, Nicarbazin, Imidocarb, Toltrazuril, Maduramicin, Salinomycin, Clopidol, Monensin, Robenidine, Decoquinate, Halofuginone & Diclazuril from a single sample.

BAT uses competitive chemiluminescent immunoassays and in conjunction with the semi-automated Evidence Investigator analyser determines a concentration within a sample. With BAT detecting up to 22 analytes from a single sample in less than 2 hours and with less than 5 per cent false positives and no false negatives, users can enjoy increased efficiency as well as confidence in results.

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### **IPPE Offers Free Attendee Activities/Networking Opportunities**

US - The International Production & Processing Expo (IPPE) is planning a variety of free Meat Me in @LANTA activities and networking opportunities for IPPE attendees. IPPE will be held at the Georgia World Congress Center in Atlanta, Georgia, from January 26 – 28, 2016.

A Poultry History Museum/Hall of Fame display can be viewed in Booth A-27 in the

A-Lobby. Go back to the beginnings of the American poultry industry and follow how the industry became the world's largest producer of poultry products.

Stop by Booth B-7075 in the B-Hall to see firsthand the iconic Oscar Meyer Weinermobile. Dating back to 1936, the vehicle has evolved through several generations of design to provide a reflection on the styles of the times.

IPPE is welcoming back Steve Olson and Chef Francesco Abbinanti, CEC, for an encore "Speciality Cuts and Recipes: The Latest in Pork and Beef" presentation as they demonstrate and prepare the latest trends in cuts of meat products for creating convenient meals. Join them from 11am – 12:30pm at Booth B-8849 on Tuesday, January 26, 2016.

The 4th Annual Chili Cook-off contest is planned for 2:30pm on Tuesday, January 26, 2016. A group of highly competitive Atlanta chefs will prepare their favorite chili recipes featuring beef, pork and poultry. Attendees can sample and vote on their favorite chili at Booth B-8849, the Meat Me in @LANTA ring. The "Best Chili" award will be presented by 2016 Miss America, Betty Cantrell, at 4:30pm to the winning chef. At 4:35pm, Cantrell will sing in the event area.

The Welcome Reception at the Georgia Aquarium will be held at 5:30pm on Tuesday, January 26, 2016, with Bock Industries and Georgia Poultry sponsoring the event. Complimentary tickets will be available on a first-come, first-serve basis to all IPPE attendees. Tickets will be distributed at a special desk in the registration lobby on Monday and Tuesday of the Expo.



# Can PEDv Be Successfully Contained in the US?

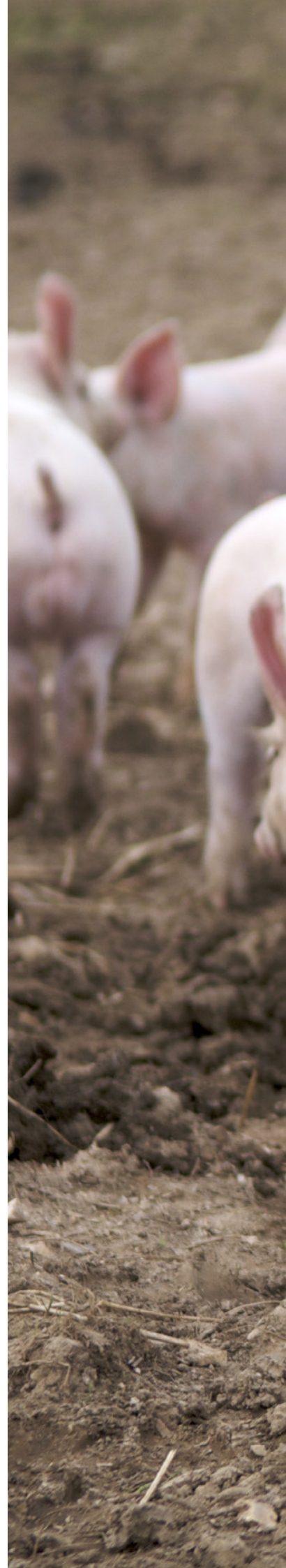
**After the US was hit hard by Porcine Epidemic Diarrhoea virus (PEDv) in late 2013 and 2014, there was much uncertainty about what to expect in 2015. However, last year held few surprises for several reasons, writes Sarah Mikesell.**

First, a little more than half of the US sow herd had been exposed to PEDv and developed herd immunity in 2015.

“We know from research that the immunity was very protective, not only for the sow but then also for the piglets through the sow's milk. Once you get that large percentage of the population that is carrying immunity, you expect the impact and spread of the disease to slow because the virus doesn't have a host,” said Dr Tom Burkgren, DVM and Executive Director of the American Association of Swine Veterinarians (AASV).

Next, Dr Burkgren said the industry learned a lot about the virus - how it spread, its infectivity and its pathogenicity.

“Containment of PEDv is all about biosecurity aimed at keeping the virus out,” he said. “The virus survived very well under the circumstances that we used to transport pigs in trailers and trucks, while slaughter plants spread the infection back out to farms.”









Then, PEDV's connection to feed was made - the entrance of the virus into the feed mills, going back out on trucks and then in feed.

"Producers and veterinarians started paying much more attention to what was coming on the farm, making sure that they maintained a clean side and a dirty side and all employees were trained," he said. "A heightened sense of keeping the virus out and being aware of all possible risks for entrance of the virus into the farm was critical."

Last, the process of clearing the virus from the herd and reducing the length of time it was in the herd has greatly improved versus 2013-2014. The pork industry has advanced its ability to get a farm back to normal production when it has an outbreak of PEDv, noted Dr Burkgren.

"We continue to see virus pop up here and there at some sow farms, and there is a fair amount of virus still circulating in some of the finishers, but I think that knowledge serves us very well in maintaining separation between finishers and the rest of the pig flow, the sow farms and the nurseries," Dr Burkgren said.

### **Containing PEDv On-farm**

Within a herd, the first sign a farmer will see is scouring pigs.

"Wherever the virus enters, if that is through the nursery or if it's in the gestation or farrowing, you're going to see the pigs scour and have diarrhoea" he said. "The big impact is when it enters the farrowing rooms, but it can enter any place on the farm - from gestation through farrowing into the nursery and certainly out into the finishers."



Dr Tom Burkgren

Diagnostics, which are significantly better now than at the initial disease outbreak, are used to determine which of the viruses you have and then the clean-up process begins. Cleaning up the farm is focused on a few steps. First, avoiding a very large viral load.

"Those infected baby pigs that are scouring are virus factories, and they kick out an enormous amount of virus in a very short period of time," he said. "Once we confirm the diagnosis, then the focus moves to decreasing the viral load, which might mean euthanising baby pigs on first recognition, so they can't increase your virus load."

The next step is increasing PEDv exposure to the entire farm usually through backfeeding of manure or intestines from infected pigs to develop uniform and stable immunity throughout the farm so all the pigs go through the disease pretty much at the same time.



The third step is cleaning and sanitation of all areas to decrease the environmental load of the virus and get your farm back to normal production.

“It's a big effort. Nobody likes to clean, disinfect and dry those farrowing rooms, and then you need to take environmental swabs looking for the virus,” he said. “It's a real effort, but it's needed to decrease the environmental load, and then producers must continue to monitor pigs, looking for clinical disease but also doing diagnostic swabs in pigs to see if they're shedding virus.”

Dr Burkgren said it takes about six to seven weeks to get the virus under control and get the viral load down and stabilised, uniform immunity throughout that herd.

### **PEDv Best Management Practices**

Basically, farmers need to know what's clean and what's dirty, which begins with knowing everything that comes on the farm - vehicles, people, feed, supplies, new animals, etc.

“You have to change your mindset to think of your farm with a dirty side and a clean side, and everything on the dirty side should stay on the dirty side and must not enter the clean side until you are certain it's clean,” Dr Burkgren said.

Consider anything to be dirty that would have a potential to transmit the PED virus into or throughout the farm. First and foremost, be sure new animals coming onto your farm are not shedding PEDv, and that can be done through diagnostics.

“If you bring a live pig that's shedding PEDv

“You have to change your mindset to think of your farm with a dirty side and a clean side, and everything on the dirty side should stay on the dirty side and must not enter the clean side until you are certain it's clean,” Dr Burkgren said.

onto your farm, that's the dirtiest you can get,” he said.

Everything has to be suspect. On sow farms, people don't enter without showering in and leaving their dirty clothes on the dirty side and then changing into clean clothes on the clean side and being clean themselves.

“The same goes for trailers; there shouldn't be a dirty trailer entering your farm,” Dr Burkgren said. “Those trailers should be washed, disinfected, and dried before they come back onto a sow farm. We know that slaughter plants are sources of virus coming back to the farm both from the finishing side and also the cull sow side.”

If the trailer is backed up to a packing plant to unload pigs and personnel for the packing plant come on your trailer to move the pigs off or if a pig runs off and then runs back on, that trailer is now dirty. Any time there's a potential transfer of virus - manure from the loading dock back into your trailer by animals or people - you're bringing potentially PED-infected manure back to your farm.





Dr Burkgren said it takes is a suspicious mind that looks at every input coming onto your farm with a jaded eye, including supplies.

“If a box of supplies comes in - maybe a box of medication - where's that box been before? Who's delivering it? You want to make sure that person stays on the dirty side. If you're suspect about the box, you may want to do a gas sterilisation,” he said. “Wood pallets are often overlooked as well.”

### **Transmission of PEDv**

Transfer of PEDv is through faecal oral transmission, but a very, very small amount of manure can transfer the virus. It's not just the manure, but it's anything that may have touched the manure certainly can carry the virus, including your pant leg or your boots.

Pig saliva can also contain the virus. Pigs explore their environment with their mouth, so if the virus is present, pigs will pick it up





with their mouth by chewing on something. It's an efficient way of transmitting the disease.

“The virus likes cool weather but is heartier than first thought. It survived the trip all the way from China to the US, so it isn't hard to imagine the transfer of it from a packing plant to a sow farm,” he said. As for seasonality of the virus, Dr Burkgren said it's not an absolute that it lessens in the summer.

“In the summer of 2013, Oklahoma saw the virus move pretty rapidly through sow farms during the summer when it was hot and dry,” he said. “We continue to see the virus circulate in the summer time as well, but it does seem to circulate more efficiently and more widely with the advent of cooler, moister weather.”

### **Expectations for 2016**

What happens in 2016 is still the big question, but Dr Burkgren expects the US will continue to see cases of PED pop up.

“We know there's still virus circulating out there and the same risk factors are present,” he said. “And herds may not be as immune as they were going into 2015, which is a concern.

“As sow herd immunity declines because they're not exposed to the virus that leaves a naïve or vulnerable population.

“We could see PED rear its ugly head again, but certainly not with the impact we saw with the initial entry of PED in the winter of 2013/2014.”

The rules of biosecurity must be heeded, and anyone handling pigs needs to pay attention to the detail.

“You always worry when we're not seeing a lot of PED that people will get a little lax - cut some corners, maybe don't wash that trailer as good as they should - and the next thing you know, then we start seeing the virus pop up again. Biosecurity compliance is critical.”





# PEDv Impact on Pig Prices and Supply – A Look at 2015, 2016

**Porcine Epidemic Diarrhea virus (PEDv) drove supply down in 2014 and boosted prices to all-time highs. However, the lack of PEDv in 2015, as producers feared and prepared for continued high levels of PEDv but didn't see them, has left the US with abundant supply levels and plummeting prices, writes Sarah Mikesell.**

“The market anticipated this scenario to some degree and could handle it, which is why when you look at US prices, especially the last couple months, they have been at very low levels,” said Will Sawyer, Protein Analyst, Rabobank. “When we think about 2015, it's the lack of PED that is really the story - it's a yin and yang where we had such tight supplies in '14, but now we've got more than we were expecting in 2015, so

the volatility has been unbelievable in supply but especially in prices.”

Looking into 2016 and the next three to five years barring any disease issues, Mr Sawyer expects to see a much more normal level of price volatility and overall supply growth than what the industry has seen the last two years.

The US saw about an 8 per cent increase in pork supply, made even more challenging in a year that exports were challenged by the US dollar and by the West Coast ports slow down.

“Several issues drove trade down nearly double digits during the first half of 2015. We had supply growth, or production growth,



and then without the exports we had even more pork supply in the US to deal with,” Mr Sawyer said. “When you put that together with an 8 per cent increase in domestic pork supply, that's pretty significant. It's by far the biggest in probably the last decade if not more than that, and that's the major driver of where pork prices are today.”

What's significant from a producer standpoint is, even with these lower prices, US feed costs have been much more manageable than they were four or five years ago. Despite lower prices, profitability is likely to be at break even or slightly above that level for a 2015 average basis.

Steve Meyer, Vice-President, Pork Analysis, EMI Analytics, said the PEDv production impact this past year has not been significant with a lot fewer sow farm cases being reported the winter of 2014/2015.

“If we look at US litter sizes since the fall of 2013 and the first half of 2014, we're moving back on track. In fact, per the USDA the September-November pigs per litter was record large,” Mr Meyer said. “We've lost a year or so in our upward trend for litter sizes, but at least going into this winter, we're back on about a 1.8 to 2 per cent growth curve. That trend was 7 years old when we got hit with PEDv in 2013.”

Prices are significantly lower in 2015 compared to year-ago when they were driven sharply higher by the shortage in market hog supplies because of PEDv losses. However in 2014, production ended up only 1.4 per cent smaller than in 2013, Mr Meyer noted. “We still ended up with pounds of pork close to the year before, but we did that largely by adding weight,” Mr Meyer said. “There was

some panic buying, and we saw record-high prices. Prices in 2015 have been much more normal.”

Lower cash prices are in part due to issues with exports and the stronger US dollar, Mr Meyer said. Barring any resurgence of the kind of death losses seen in 2013 and 2014, 2015 prices are much more in-line with prices moving into the future.

## **Global Drivers**

Globally, the story is China, who drives the market more than any other country.

“China controls about half of world pork consumption, and the fact that supply there has fallen so significantly the last two years means that prices have risen,” Mr Sawyer said. “We, as a bank, see a lot of opportunity for the west - Canada, the US, Europe - to really fill that void.”

Economically, China's in transition, but what Mr Sawyer finds interesting is that a lot of Chinese producers are now entering the pork industry.

“It's a process of China becoming a more commercial, industrial producer instead of the backyard producer as it has been for decades, but it's going to take time. We've seen a lot of producers exit the industry - about 20 per cent of their breeding herd has come out of supply,” Mr Sawyer noted.

The lower Chinese supply has meant a lot of countries, especially in the European region, have sent significantly more pork supplies into China, especially in the last few months. This is expected to continue into 2016 if pork prices remain quite high.





To be clear, disease is always a problem for livestock producers in China, but PEDv was not an abnormally big issue this year.

“PEDv isn’t a disease that’s ever going to go away in China - at least not in the next several years. While we did see the supply contraction, it wasn’t driven by disease,” Mr Sawyer said.

### **Mexico**

In 2015 Mexico continued to deal with PED. By all reports, it appears they were hit similarly to the US, but their recovery has been slower, and it’s still a challenge for many Mexican pork producers.

“While Mexico is very similar to the US in many ways, from a commercial industrialisation standpoint, they’re not where the US is, so eradicating the virus has been tougher for them,” Mr Sawyer said. “While that’s a challenge for Mexico, it has actually been a good thing for the US because as we’ve recovered, we were able to send more pork product into the Mexican market.”

### **Canada**

Canada has experienced far fewer issues with PEDv, with a few cases reported in the Ontario region. And Canada didn’t see a supply hit in the same way that the US did.

“Time is on everybody’s side when it comes to these viruses, and being the first one hit is never much of a benefit. The fact that Canada saw what the US experienced and how to deal with it - how to try to minimise it - that was a big benefit,” Mr Sawyer said.

Spreading the virus through the feed supply was one that Canada identified quickly and addressed it. Another benefit on Canada’s side is that from a geographic concentration, their production is far more dispersed than in the US, so there’s less of a density issue.

### **Europe**

As for Europe, Mr Sawyer said they are dealing with African Swine Fever outbreaks in eastern Europe, but PEDv has not been a significant issue in that region.



## PEDv Forecast for 2016

From a production standpoint, Mr Meyer said the jury is still out on 2016.

“We've just gone into the season for this virus to be much more easily spread. It lives outside of the host much better in cool, damp conditions than it does in the summertime, so we've seen the number of sow farms and the number of case accessions going up over the last 5 to 6 weeks,” Mr Meyer said. “The number of sow farm cases breaking is higher than it was a year ago, which we expected.”

Mr Meyer said the US industry went into last winter with a lot of sow farms immune to PEDv because they'd been through a break the winter before, but this year the immunity to PEDv isn't there. The expectation is that there could be more sow farms with PEDv.

Mr Sawyer said US cases of PEDv need to be taken at a far discounted level than a year or two ago, and that's because producers are much better at handling and containing the virus, and vaccines are available now that weren't around when the outbreaks began, Mr Sawyer said.

Because producers are confident that they can manage PEDv, they don't need to build any cushion in supply like they did going into 2015.

The only concern might be a new strain outbreak, but even if that occurred, vaccines should be able to be developed in a relatively short time to counter it.

“PEDv could impact supply to some degree, but I don't see it as a major constraint,” Mr

Sawyer said. “Obviously there's a lot of risk out there, but I really think that the volatility the producers have been through is going to come down. When we see opportunity, it's more on the trade side than spreading disease that's going to limit supply.”

In creating Mr Meyer's initial forecast for 2016 coming out of the September Hogs and Pigs Report, he didn't make any adjustments to the USDA numbers due to PEDv on the assumption that the pig losses would be the same as a year ago. And he is still making no adjustments to the December report data released recently.

“I don't think we're far enough ahead that I'm going to make much change yet,” Mr Meyer said. “We're going to be watching very closely to see if this year's number of PEDv cases and reports of pig losses are greater than a year ago.”

The consensus right now is that it's likely to be worse than last year but not nearly as bad as the first year.

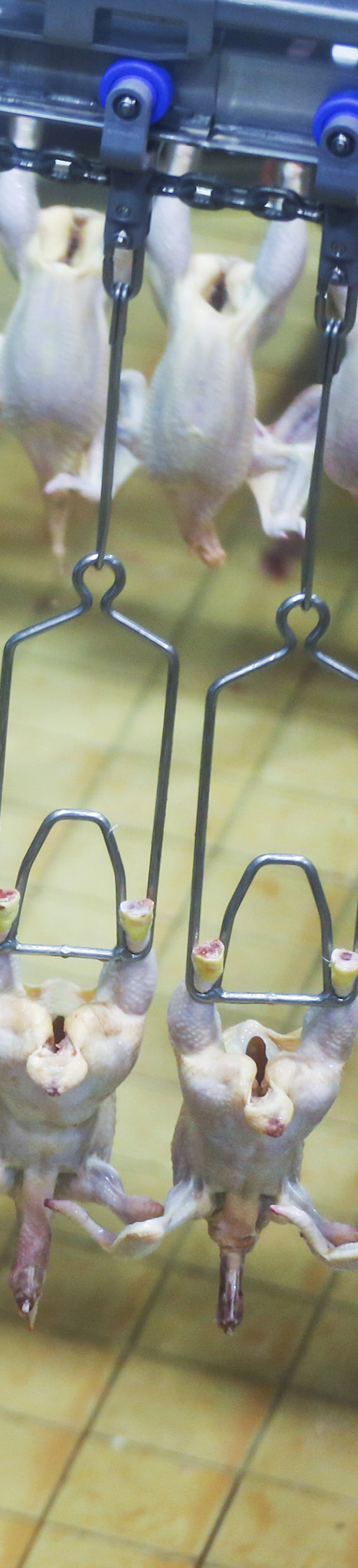
“I would guess that we're going to have a little bit more piglet loss this winter, but remember that doesn't start impacting slaughter until the summer,” Mr Meyer said.

“Not only did we have a naïve swineherd in 2013, we also had naïve producers and that isn't the case anymore. Everybody knows so much more now than what they did, and that's one of the reasons I'm going to say, ‘Show me the damage before I start trying to put any impact on it’,” Mr Meyer said. “I think that will be a huge factor in what happens this winter. As long as people don't get complacent, I think we will be fine.” ■









# Reducing the Threat of Salmonella and Campylobacter on the Processing Line

**Pre-harvest interventions, adequate sanitary dressing procedures at slaughter and adequate sanitary conditions during further processing are a part of an integrated approach to reduce the public health impact of *Salmonella* and *Campylobacter* in poultry processing plants, writes Chris Harris.**

These pathogens are a hazard that processing plants producing raw poultry products should control through a HACCP plan or prevent in the processing environment through Sanitation Standard Operating Procedures (SOP) or other programmes.

In the US, the USDA Food Safety and Inspection Service has just issued comprehensive guidelines designed to help poultry processors to:

- Comply with regulatory requirements related to HACCP and the control of *Salmonella* and *Campylobacter*



- Identify and implement pre- and post-harvest interventions to control *Salmonella* and *Campylobacter* as part of their food safety system
- Use microbial testing results to monitor the performance of their HACCP system and inform decision-making.

While rates of foodborne illness overall have fallen, *Salmonella* rates in the US have remained relatively stagnant, which has prompted FSIS to take an all-hands on deck approach to addressing the pathogen in meat and poultry products.

The guidance, along with development of new performance standards for raw chicken breasts, legs and wings as well as for ground and other comminuted chicken and turkey products unveiled in January, are a major step in FSIS' *Salmonella* Action Plan.

FSIS says that its science-based risk assessment estimates that implementation of the new performance standards will lead to an average of 50,000 prevented illnesses annually.

How well a poultry processing plant conducts its slaughter dressing procedures has a direct bearing on whether the decontamination and antimicrobial interventions in the operation will work effectively.

FSIS says that whether a processor's food safety systems are effective as the hazard analysis programmes lay down relies on monitoring and documenting the procedures and having effective intervention treatments at slaughter.

Problems of *Salmonella* and *Campylobacter*

"As the feathers, skin, crop, colon, ceca and cloaca of the birds brought to slaughter are often highly contaminated with *Salmonella* and *Campylobacter* the crates and cages that they are brought to the plant in can be sources of cross contamination."

contamination can start right at the start of the process when the birds are received into the plant and during the hanging on the line.

As the feathers, skin, crop, colon, ceca and cloaca of the birds brought to slaughter are often highly contaminated with *Salmonella* and *Campylobacter* the crates and cages that they are brought to the plant in can be sources of cross contamination.

Wash down of the cages and strict disinfection regimes at this point can help to reduce the threat despite being a cost in time, money, labour and water.

At this early stage, plants should also monitor and restrict the movement of staff, who might transfer contamination from these "dirty" areas to "clean" areas within the plant on boots and clothing.

The FSIS guidelines suggest that action taken on the farm by having good feed withdrawal practices can reduce problems with excess faeces that might be expressed during the hanging, stunning and slaughter pro-



cess, reducing the levels of *Salmonella* and *Campylobacter* on the carcase and feathers that get carried forward to the subsequent stages of the slaughter process.

While stunning reduces struggling and convulsions, wing flapping and quivering that happens because of the electrical stunning can transfer bacterial pathogens from the inside to the outside of the bird and to nearby birds and equipment.

Poultry processing systems manufacturer Marel stressed the importance of ensuring high safety protocols at the start of the line.

“Attention to food safety starts at the very first beginning of poultry processing, the condition of the supplied birds: a dry, stress-free and injury-free chicken in good shape will have much less chance of cross contamination. Regarding bacterial infection, there's a very close relationship between what comes in the processing plant and what goes out,” a spokesman for the company said.

“Another point of attention at the beginning of the process is the transport of live birds. Transport modules and trucks need to be clean to prevent contamination from one farmer to another. Strong emphasis will be continuously placed on food safety, up to the cold storage and transport of end products. The complete processing chain should focus on food safety to achieve the highest quality possible. When the start is right and process discipline is respected from beginning to end, the risk of cross contamination is at its lowest.

“The foundation of securing food safety is also formed by the right layout of the processing plant. The processing departments



should be separated, while logistics and product flows should be optimised. Ventilation flows, temperature and humidity should be secured for optimal conditions. In fact, the entire building should be constructed with food safety in mind.

“Trained and skilled employees should follow hygienic procedures.”

Following stunning and slaughter, the next process on the line of scalding to loosen the feathers can be seen as a two-edged sword. In some circumstances, the scald tanks in which the birds are immersed can act as a carrier for bacteria to transfer from one carcass to another.

However, it can also help to reduce levels of *Salmonella* and *Campylobacter* as much of the dirt, litter and faeces are removed.

FSIS says: “*Salmonella* and *Campylobacter*





contamination consistently decrease when scalding is well controlled.”

Much can now be done through the technology that now exists to reduce the potential for contamination in the scalders.

For example, Dutch poultry processing equipment manufacturer Meyn has developed the jet stream scalders that has a unique water flow system that pulls the carcasses down in a stream that moves with the line direction.

As the water floats with high velocity along the entire skin, the heat exchange is optimised resulting in a shorter processing time.

The water not only pulls the bird down, but also makes it move along with the line direction. This way, scalding at high line speeds is no longer an issue as products are not dragged to the surface and scalded on only e.g. one side. The Meyn jet stream scalders deliver an extremely uniform scalding result, independent of weight range or line speed and the company says that it is easy to clean without any dirt traps.

Scald water that contains high levels of fae-

cal contamination is a problem, as the bacteria gets massaged into the skin and open feather follicles.

A bird brush and washer used before the scalding process can help to reduce contamination and the use of counter flow systems in the scald tank and multi stage scald tanks that see the birds moving into ever cleaner water can help to reduce contamination.

The pH of the water also needs to be tested as a high alkaline content in the water is better for reducing *Salmonella* and *Campylobacter* contamination.

FSIS says that scalding can be used as an intervention if the pH is properly maintained in the scald tank.

Most poultry processors in the US prefer a hard scald to a soft scald, which has a shorter scald time at higher temperatures.

This allows better removal of the outer layer of skin.

The correct water temperature for the appropriate amount of time is important to prepare the carcasses for feather removal. It also reduces defects during dressing.

When the water temperature is too high, the carcasses become oily. This oiliness makes it easier for *Salmonella* to stick to the surface of the skin. Also, if carcasses are over-scalded, the meat may start to cook, and the carcasses may be marked unacceptable and rejected by inspectors.

If the temperature is too low, the tank becomes a breeding ground for bacteria.



Good process controls during the picking to remove the feathers are critical as cross-contamination occurs through contact with contaminated rubber picking fingers and contaminated reuse water.

There needs to be regular maintenance and sanitation of equipment at this stage of the process including prevention of a build-up of feathers.

The process also sees faecal material released when the picking fingers agitate and rub the carcasses, leading to potential for cross contamination.

FSIS recommends that in US plants post-feather removal rinses should be maintained at 160°F and chemical rinses such as chlorine, acetic acid and hydrogen peroxide can be used.

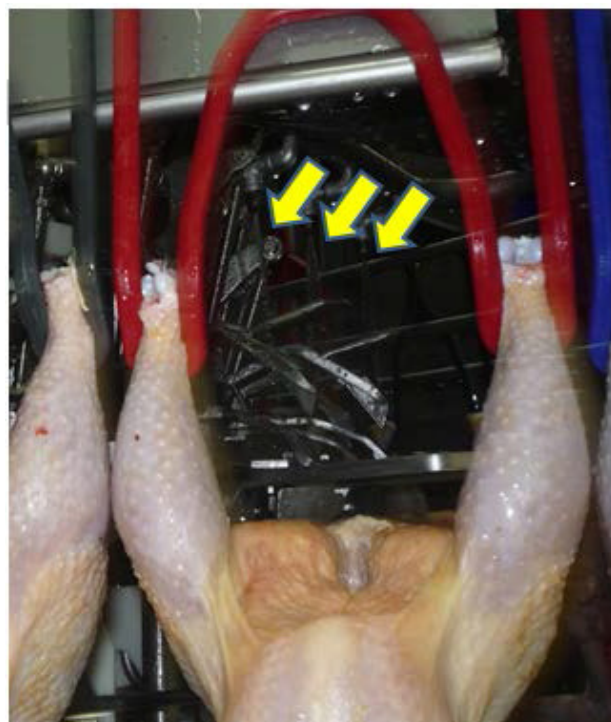
The spokesman for Marel said: “First of all it is most important that the input of live birds is as clean as possible. The farmer should make sure that the birds are treated in optimal conditions.

“There are two stunning possibilities; water bath stunning and controlled atmosphere stunning. Water bath stunning can contaminate the product via water to a certain extent, but to my personal interpretation the direct influence of a water bath stunner on the micro-biological end quality is limited. Nevertheless, controlled atmosphere stunning has considerably less risk of contamination.

“The most occurrences of cross contamination find their origin in the scalding, picking and evisceration departments. When using multi-tank immersion scalding, it is very important to use the counterflow principle and

therefore enough fresh water should be applied in the last scalding tank.”

The new Marel Stork AeroScalder, which will have its US launch at the IPP, virtually prevents cross contamination in the scalding process; it doesn't make use of immersion, but blows moisturised hot air onto the products.



“Pickers have the key job to eliminate micro-organisms through feather and manure removal. Picking needs to be done profoundly, processors should not risk applying too less picking machines in relation to capacity.

“After picking it is most important to wash the product thoroughly adequately to reduce microbiological count,” the Marel spokesman added.

The next critical point along the processing line is evisceration, because if viscera is not handled correctly during removal, and employee hygiene practices are not followed



"While feed withdrawal practices can help in reducing potential for contamination, for the evisceration process to work well, carcasses need to be placed on the shackles correctly and monitored as they move through the system. Blades need to be kept sharp and attention given to routine and thorough cleaning."

correctly, an increase in microbial contamination can occur.

While feed withdrawal practices can help in reducing potential for contamination, for the evisceration process to work well, carcasses need to be placed on the shackles correctly and monitored as they move through the system. Blades need to be kept sharp and attention given to routine and thorough cleaning.

The equipment needs to be maintained in good sanitary condition, free from intestinal contents and segments.

Automated re-hanging of carcasses between the defeathering and evisceration lines can reduce external surface cross-contamination.

The time between picking and chilling has to be as short as possible to keep bacteria in their lag phase.

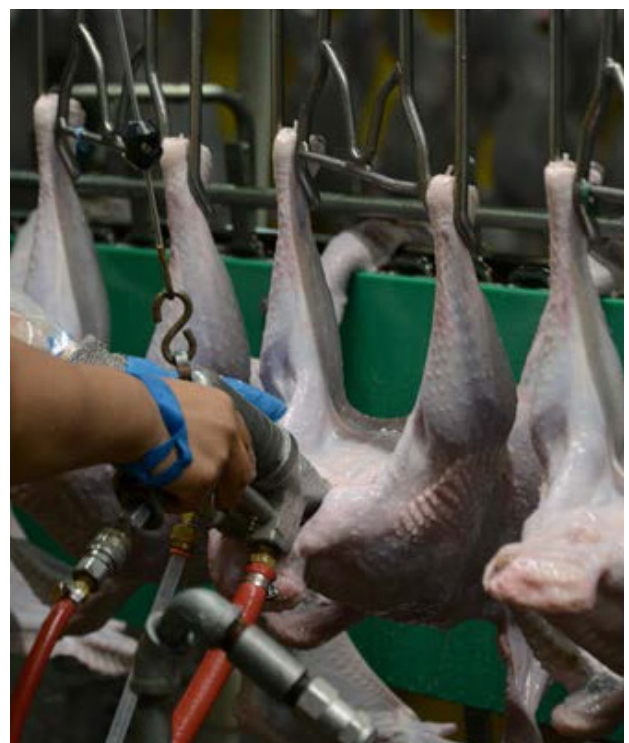
"By keeping the water film intact, continuously refreshing it on the product's surface, the process is optimised to prevent bacteria from attaching," the Marel spokesman said.

"Water bath chilling may have a stronger washing effect, but at the same time water chilling provokes the transfer of bacteria

from the surface to the deeper parts of the meat, endangering human consumption. Furthermore the counterflow principle is of utmost importance in case of water chilling. On the contrary, air chilling has virtually no risks of cross-contamination."

The equipment that is used during evisceration has to be installed, adjusted and the machine performance calibrated effectively to handle the size, shape, gender, feed digestion capability, and live average weights of the birds being processed.

If the machines and equipment are not set







up to optimum effect, the gastrointestinal tracts can be split resulting in contamination. “Most important food safety aspect in EV is preventing damaging the intestines when opening the carcass and removing the viscera pack,” said the Marel spokesman.

The Stork Nuova eviscerating system not only removes the viscera pack safely from the carcass, it also separates the viscera pack by transferring it to a separate viscera pack line, securing maximum food safety.

“Hanging in this line, the valuable organs and by-products can safely and easily be processed,” the spokesman said.

“After each processing step with a microbiological risk in the eviscerating department, the carcass and the related machine parts should be cleaned with water.”

The USDA guidance says that equipment such as crop removal devices can easily become contaminated with *Salmonella*, causing carcasses to become cross contaminated and in some operations, at least half of carcass surfaces are contaminated with crop and upper gastrointestinal contents immediately before evisceration.

By retracting the viscera from the body cavity, crop and upper gastrointestinal contents can be transferred to the interior body cavity, leaving a potential risk.

Carcass rinses or sprays can be effective interventions for removing incidental contamination from the carcass surface during evisceration.

Studies have shown that *Salmonella* prevalence on carcasses can be reduced by be-



tween 50 and 90 per cent following rinses. However, the USDA says that the poultry processor should aim to implement consistently sanitary dressing procedures rather than rely on carcase rinses or sprays to control pathogens.

Research has shown that the incidence of *Salmonella*-positive carcasses can fall by a third when carcase rinses are incorporated into the evisceration process.

Rinses can also reduce *Campylobacter* as well.

The advice, however is once again that antimicrobial interventions are not a substitute for consistently implementing sanitary dressing practices.

The USDA says that multiple *Salmonella* and *Campylobacter* controls throughout the evisceration process are recommended as pathogens are not effectively removed by using one carcase rinse and a multiple approach works best against pathogens.

The spokesman for Marel said: "Concerning the process, continuous monitoring of all processes is necessary.

"Keeping the production processes inline and preventing product buffering ensure a controllable process which maximises food safety.

"Maybe even more attention has to be paid to the flow of by-products as well as people and tools, knowing that these can be risky sources of contamination.

"The design of the process line should observe a clear separation of manual and

equipment processes, creating optimal working conditions for both people and machines.

"Concerning equipment, the maintenance schedules need to be respected. Furthermore the product range and processing capacity may not exceed the equipment's specifications, especially in the eviscerating department, to maintain maximum food safety.

"The equipment itself should be built with high quality stainless steel and non-corrosive materials. A well thought-out machine design should prevent blind spots and horizontal surfaces. Cleaning schedules should be respected."

With regard to cut-up and deboning, Marel said that the prevention of cross contamination is an important issue.

"During cut up and deboning, parts of products are being surfaced, which were protected by skin or product tissue before," the spokesman said.

"The logistic process should be designed to separate skin on product flows to prevent contamination of sterile skinned products or deboned product parts.

"Optimal equipment performance, reducing manual interference and keeping processing flows inline, decrease the risk of cross contamination to its minimum."

The final chilling process at the end of evisceration is the end of the slaughter line where the chilling further inhibits microbial growth.■



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### **Influenza aviar: mayor reto para la industria avícola en 2016**

Rabobank publicó un informe sobre la avicultura mundial en el que observaba el exceso en el aumento de la oferta de carne de ave, que viene motivado por una demanda fuerte, precios bajos en los alimentos balanceados y precios altos en las carnes competidoras. Señaló la necesidad de equilibrar la oferta y la demanda en los mercados con un exceso de oferta, como EUA.

El pronóstico de crecimiento para el sector es positivo. Sin embargo, se destaca que la influenza aviar será el mayor reto para el 2016. Indica que la inversión en bioseguridad será necesaria, así como la mejora de la estructura de la industria y de los modelos de negocio.

Regresa el frío y también los temores por la reaparición de la enfermedad. Todavía más cuando el año pasado afectó tan gravemente a la industria avícola estadounidense.

Rabobank señala que el pronóstico de crecimiento para EUA puede variar si se produce un nuevo brote pero también la previsión para México, con un crecimiento estimado del 2% para 2016, y ya recuperado del último gran brote de la enfermedad en el país (en 2012).

En Europa, el frío ya trajo consigo al virus de la influenza aviar: en Francia está afectando ya a varios departamentos del suroeste francés. Queda por ver si el virus reaparece en las Américas y si las lecciones aprendidas no merman el buen rendimiento estimado para la producción avícola mundial.



## **IPPE 2016 se celebra en Atlanta en enero**

La Expo Internacional de Producción y Procesamiento 2016 (IPPE) se celebrará del 26 al 28 de enero en el centro de congresos Georgia World en Atlanta, Georgia (EUA).

Cita anual obligada para todos aquellos que trabajan en las industrias avícola, cárnica y de alimentos balanceados, la IPPE se ha consolidado como la exhibición anual más grande del mundo para estos sectores.

El Sitio Avícola y El Sitio Porcino estarán en el stand 1351 (salón A). Compartimos con The Poultry Site, nuestra página homóloga en inglés, y 5m Publishing, empresa a la que pertenecen todas ellas.

Este año la IPPE se ubica en los salones A y B del predio ferial. El primero se dedicará a la nutrición animal, los alimentos balanceados y la salud animal. El segundo, a la producción animal, la genética, la incubación y al procesamiento y el empaquetado.

Se esperan más de 1.250 expositores y más de 30.000 visitantes.

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## **Soluciones para la protección higiénica de muros en un entorno inocuo para alimentos**

Hace 25 años, la construcción con paneles sándwich se hizo popular en la construcción de salas inocuas para alimentos. La instalación rápida y el buen aislamiento fueron activos importantes para su éxito. Sin embargo, este tipo de paneles son vulnerables y se estropean rápidamente. Por lo tanto, deberían protegerse bien con

zócalos PolySto, resistentes a los impactos, fáciles de limpiar, lisos y resistentes a los productos químicos y al agua.

Al principio, los zócalos se construían con hormigón fabricado en el mismo lugar, que más tarde se cubrían con materiales de acabado para suelos. El hormigón cubierto con resinas nunca es un sistema monolítico y, después de un tiempo, la adhesión entre el hormigón y el material del suelo se rompe por la infiltración de la humedad y de los ácidos a través de las fisuras que se forman por los impactos en los zócalos. Los zócalos prefabricados PolySto están hechos a partir de una mezcla fuerte de resinas de poliéster y gránulos de cuarzo. Así se crea un zócalo monolítico, muy fuerte, resistente al agua, fácil de limpiar, resistente a los productos químicos y reparable. Gracias al sistema de prefabricación único de PolySto con accesorios, la instalación es muy rápida. Hay disponibles diferentes tipos, tamaños y grosores, para cualquier nivel de protección.

Los zócalos PolySto se unen al panel sándwich gracias al pegamento PolySto Hard Fix, flexible y resistente al agua, o con un anclaje químico. Las uniones pueden acabarse sin soldadura con el producto Hygiseal cleanseam de dos componentes o con un sellador flexible e inocuo para alimentos. Para evitar fugas por detrás del zócalo PolySto, se crea una segunda barrera acuosa con el pegamento PolySto Hard Fix.

Instrucciones de instalación de PolySto - zócalos APPCC prefabricados (Youtube)

<https://www.youtube.com/watch?v=wX0ChNXFr6o>

<http://www.elsitioavicola.com/poultrynews/31009/>





# Las 10 noticias más impactantes de 2015

**Comenzamos nuevo año y no podemos hacerlo sin echar la vista atrás para revisar qué fue lo más importante que aconteció en la industria avícola. A continuación, les ofrecemos nuestra selección de las noticias más impactantes, con un enfoque especial en la industria avícola de Latinoamérica y España.**

**1. La influenza aviar en EUA:** Sin duda, la noticia con más repercusión para la avicultura mundial. El brote de influenza aviar que azotó la industria avícola estadounidense provocó pérdidas millonarias para el sector. El valor de las exportaciones de carne de ave y huevos cayó, se perdieron millones de aves

e, incluso, se registró escasez de huevos en el mercado estadounidense, obligando a abrir la importación desde nuevos mercados para poder abastecer al mercado nacional.

En países como México, con una industria avícola muy importante y antecedentes de influenza aviar, los temores por la proximidad de los brotes en Estados Unidos fueron muchos.

Y la reciente llegada del invierno en el Hemisferio Norte levanta ahora nuevos temores por el posible resurgir de la influenza aviar.





## **2. Bimbo dejará de usar huevos producidos**

**en jaula:** El Grupo Bimbo, empresa líder en panificación en México y el mundo, dueña de marcas como Bimbo, Marinela y Tía Rosa, se comprometió a eliminar el huevo, tanto líquido como en cascarón, que provenga de instalaciones donde las gallinas ponedoras se alojan en jaulas en batería.

Únicamente se abastecerá de huevo de gallina libre de jaula, tanto en México como en el resto del mundo. Es la primera vez que una empresa grande Latinoamericana hace esta demanda. Las empresas latinoamericanas que quieran vender al Grupo Bimbo tendrán que hacer cambios antes de 2025 en la forma que alojan a sus gallinas.

## **3. Vuelve el Niño, más “revoltoso” que**

**nunca:** La Organización Meteorológica Mundial (OMM) alertó en septiembre de que

el fenómeno climático de "El Niño" sería el más intenso desde 1997-1998, y no erró en la previsión. Varios países en Latinoamérica han realizado simulacros para intentar paliar los efectos de su llegada, como es el caso de Perú o Colombia. La prolongada sequía asociada con el fenómeno de El Niño ha reducido drásticamente la producción de cereales de este año en El Salvador, Guatemala, Honduras y Nicaragua, según la FAO.

Las primeras estimaciones de la cosecha principal de primera de Centroamérica indican descensos de hasta el 60 por ciento de la producción de maíz.

La República Dominicana se enfrentó a la peor sequía de los últimos 20 años. La repercusión para el sector pecuario es muy grande, dado que malas cosechas no auguran buena disponibilidad de alimentos balanceados.

## **4. Se confirman multas del “Caso pollos”**

**en Chile:** A finales de octubre, la Corte Suprema confirmó las multas impuestas a todos los acusados de colusión en el ya conocido como "Caso pollos" o "Cártel de los pollos". Se confirman así las multas que ya impuso en 2014 el Tribunal de Defensa de la Libre Competencia (TDLC) a Agrosuper, Ariztía, Don Pollo y a la Asociación de Productores Avícolas (APA) por colusión.

Además, la Corporación de Defensa de Consumidores y Usuarios (CONADECUS) y el Servicio Nacional del Consumidor (SERNAC) presentaron demandas colectivas para solicitar que se compense a los consumidores. Los efectos sobre el sector avícola chileno después de poner punto y final a este caso están aún por verse.



**5. Buena previsión de crecimiento para industria avícola mexicana:** Según varias organizaciones internacionales en el periodo 2014-2023 se espera un crecimiento de la producción de cárnicos en México, impulsados en gran medida por el comercio internacional.

El mayor crecimiento lo experimentará la avicultura, ya que se espera un aumento de la producción del 27% y del 90% en las exportaciones.

**6. Crecimiento récord de exportación de huevos de España:** La Organización Interprofesional del Huevo y sus Productos (INPROVO) informó del importante crecimiento de las exportaciones de huevos desde España a países terceros (cuatro veces mayor al periodo de 2014 hasta septiembre). La apertura del mercado estadounidense ha sido el balón de oxígeno para las exportaciones del sector, que atravesaba un año bastante malo.

La otra cara de la moneda es el futuro acuerdo comercial de libre comercio con Estados Unidos, conocido como TTIP, que amenaza seriamente la rentabilidad del sector por la difícil competencia con el producto estadounidense, con costes de producción más bajos y un sistema de producción menos exigente que el europeo.

**7. El consumo de pollo aumenta en Argentina:** Una investigación de FADA (Fundación Agropecuaria para el Desarrollo de Argentina) destacó que la carne aviar ha ido ganando terreno en la mesa de los argentinos durante los últimos años: entre 2001 y 2014, se pasó de 25 kg per cápita a 40 kg, y se convierte en la segunda carne más consumida en el país.



La previsión es que durante los próximos cuatro años aumente otros cinco kilos más por persona, en detrimento de la carne de res.

**8. República Dominicana, libre de influenza aviar:** La Organización Mundial de Sanidad Animal (OIE) declaraba al país libre de influenza aviar a partir del 26 de febrero de 2015.

Este hito en sanidad animal permite al país conquistar nuevos mercados internacionales, con una posibilidad de duplicar la producción de pollo del país.





**9. La OMS relaciona la carne roja con el cáncer:** A finales de octubre, un informe del Centro Internacional de Investigaciones sobre el Cáncer (CIIC), el órgano de la Organización Mundial de la Salud (OMS), indicaba en sus conclusiones que la carne roja y procesada era carcinógena para los humanos. La industria cárnica mundial reaccionó en bloque para defender el consumo de carne roja y su papel dentro de una dieta equilibrada.

Los efectos de informes como este sobre los patrones de consumo de la población pueden afectar significativamente el crecimiento de los diferentes sectores cárnicos.

**10. EUA deroga la ley de etiquetado COOL:** A finales de diciembre, llegaba esta noticia, de especial importancia para México y Canadá. El etiquetado COOL obliga a los empacadores a identificar dónde los animales nacieron, se criaron y fueron sacrificados.

La ley de etiquetado de origen estaba denunciada ante la OMC por México y Canadá y Estados Unidos había recurrido la sentencia. Entretanto, la OMC permitió a México y Canadá suspender beneficios anuales por 1,017 millones de dólares contra Estados Unidos por mantener el sistema de etiquetado, una sanción que no es retroactiva.





# Influenza aviar: ¿qué pasó en realidad?

**El desastroso brote de influenza aviar altamente patógena en Estados Unidos en 2015 lo iniciaron las aves silvestres y lo propagaron radicalmente las personas.**

Decenas de artículos recientes han hablado sobre los hechos y los descubrimientos alrededor del último brote de influenza aviar en los Estados Unidos (en 2015), además de ofrecer actualizaciones sobre el tema con frecuencia.

En lugar de volver a contabilizar los casos confirmados e ilustrarlos en mapas elegantes, producidos por sistemas de información geográfica, deberíamos preguntarnos: ¿qué paso en realidad? ¿Podría volver a pasar

en el futuro? Y, ¿qué tendría que pasar para que se materializará de nuevo? Si podemos dar respuesta a estas preguntas, algo que admitimos como tarea difícil, quizás podamos responder de mejor manera si un suceso de esta naturaleza vuelve a ocurrir, y posiblemente podamos responder a la pregunta obligada: ¿qué podemos hacer para prevenir y controlar un suceso similar en el futuro? Estas no son las únicas preguntas clave que necesitan respuestas, pero definitivamente son algunas de las más importantes.

## ¿Qué pasó en realidad?

En este momento, solo podemos especular



sobre el mecanismo real (o los mecanismos) que tuvieron que darse para permitir la aparición de los virus de influenza aviar H5N8 y H5N2 de alta patogenicidad (VIA) que provocaron el brote de influenza aviar más grande y significativo en la historia de la industria avícola moderna de América del Norte.

Aunque no disponemos de la historia completa, las investigaciones del USDA/ARS han revelado que es muy probable que el componente H5 de los nuevos virus se originara en los VIAs euroasiáticos, y que los componentes genéticos N8 y N5 de estos virus se originaran a partir de virus norteamericanos que recombinaron con sus primos euroasiáticos, dando como resultado las recombinaciones H5N8 y H5N2.

Pero... ¿cómo podría haber pasado esto si sabemos que las aves silvestres migran fundamentalmente de norte a sur y viceversa? ¿Cómo podrían virus euroasiáticos, portados por aves silvestres europeas y asiáticas, alcanzar América del Norte?

La ciencia, de nuevo, nos ha podido decir que las rutas migratorias de algunas especies de aves silvestres se fusionan con las rutas migratorias de aves silvestres asiáticas, y éstas, por su parte, podrían entrar en contacto con especies de aves que migran de norte a sur y viceversa, a lo largo de los meridianos que cubren el continente americano. Es decir, los virus euroasiáticos saltaron de Asia a Europa, volvieron a Asia y, entonces, saltaron hasta América del Norte.

Hasta aquí, las nuevas recombinaciones de VIAs se quedaron en el compartimento de las aves silvestres (en lo que respecta al continente americano). Entonces... para que

esos virus alcanzaran la población de aves comerciales, debía cumplirse un requisito previo básico: los virus debían llegar hasta el interior de los galpones de aves comerciales.

Sabemos que esto puede pasar de innumerables formas y, quizás, la primera vía para introducirlos sea a través de las heces de aves silvestres, presentes tanto en el interior como en los alrededores de las granjas de aves comerciales.

Es posible que aves silvestres pequeñas con acceso al interior de galpones de aves comerciales puedan también portar virus infecciosos, ya sea mecánicamente o cuando están incubando el virus. Todo el mundo estará de acuerdo en que uno de estos mecanismos, o uno similar, debió de ser el primer suceso que introdujo el virus.

El siguiente elemento importante sobre el que reflexionar es: ¿hubo unas "200" entradas naturales de aves silvestres en granjas de aves comerciales?

No. La mayoría de las transmisiones secundarias se debieron a movimientos descuidados de personal, vehículos, equipos, aves y huevos, por mencionar algunos. En otras palabras, el brote lo iniciaron las aves silvestres y lo propagaron radicalmente las personas.

Es una lección amarga que deberíamos aprender todos aquellos que hemos vivido el brote y todos aquellos que todavía no han pasado por un brote como este. Deben seguirse, de principio a fin, procedimientos de bioseguridad reales, desde la oficina corporativa hasta el personal que cada día trabaja en las explotaciones de la industria avícola y en sectores relacionados.





### **¿Podría volver a pasar en el futuro?**

Definitivamente podría volver a pasar no una, sino muchas veces. Nuestra industria ha crecido mucho en las últimas décadas y sigue creciendo para satisfacer la demanda en aumento por una fuente segura de proteína animal que sea asequible y de alta calidad.

Cuanto más grande sea la industria, más significativos serán los riesgos, y eso incluye los brotes de enfermedades como la influenza aviar. Cuanto mayor sea la concentración de aves en un área geográfica, mayor será la posible repercusión económica de la influenza aviar. Volverá a pasar. Las preguntas son: ¿hemos aprendido de nuestra última experiencia? ¿Estamos mejor preparados?

### **¿Qué tiene que pasar para que se vuelva a materializar la influenza aviar?**

Para que ocurriera otro brote de influenza aviar de alta patogenicidad (del inglés, HPAI), ya sea H5N2 u otro, tiene que haber un virus en el ambiente, poca bioseguridad en marcha y no haber sistemas de diagnóstico oportunos y precisos; además, las autoridades no deberían contar con un plan de contingencia. ¿Es el caso? No. Cada uno de los estados de EUA cuenta con un plan detallado para enfrentarse a la influenza aviar, de baja y de alta patogenicidad. Además, las autoridades locales tienen un plan establecido y presupuestos para tal contingencia.

Cada compañía avícola (al menos en el sureste estadounidense) ha celebrado



reuniones formativas con avicultores para que todo el mundo entienda cómo reconocer los primeros signos de la enfermedad, a quién notificarlos, cómo prevenir la propagación del virus y, si fuera necesario, cuáles serían los procedimientos para la cuarentena, eutanasia y el sacrificio sanitario de aves en caso de que se dé un brote.

Por parte del USDA, debe hacer pruebas de IA a toda parvada comercial antes de que se sacrifique y las parvadas con ciclos vitales largos, como las ponedoras y las reproductoras, tendrán que someterse a pruebas varias veces. Por lo tanto, la IA podría volver, pero esta vez se enfrentará a una industria que está muy bien preparada en comparación con la última ocasión.

El último brote de influenza aviar en los Estados Unidos (en 2015) tuvo como resultado muertes en masa y pérdidas de aves por la eutanasia necesaria; provocó pérdidas enormes por las exportaciones perdidas.

También fue una pesadilla para que las reproductoras pesadas pudieran enviarse a muchos países que dependen del stock reproductor que se produce en los Estados Unidos.

Sobra decir que la escasez de huevos de mesa, después de que se perdieran unos 30 millones de ponedoras, provocó un aumento radical en los precios de los huevos, directamente para el consumidor e, indirectamente a través del aumento del precio de los huevos industrializados. Del mismo modo, escasearon los productos de pavo, y se encarecieron, además de que hubo dificultades para movilizar el stock reproductor entre países.

Definitivamente, la industria estadounidense no quiere que se repita un brote muy distribuido de IA. La vacunación se ha valorado como herramienta para la prevención y la erradicación en caso de que se produzca un nuevo brote y bien podría terminar usándose en el campo aunque la bestia de carga del programa de prevención y control debería ser una combinación eficaz de bioseguridad, que se ponga en marcha adecuadamente y se refuerce, la preparación para reconocer inmediatamente la enfermedad, pruebas regulares y eficaces de IA y el diseño y la implementación de un plan de contingencia detallado contra la influenza aviar.

### Sobre el autor

El Dr. Guillermo Zavala es asesor en avicultura. De origen mexicano pero residente por muchos años en los Estados Unidos, Zavala es experto en enfermedades aviares y ha ofrecido más de 175 conferencias en los cinco continentes desde 2001, además de haber publicado más de 30 artículos en revistas científicas y ser coautor de capítulos sobre retrovirus y virus inmunodepresores que afectan a las aves en libros de referencia.



Dr. Guillermo Zavala

Fue profesor asociado de Medicina Clínica Aviar en la Universidad de Georgia (Atlanta) y actualmente es fundador y propietario de Avian Health International, LLC., empresa que ofrece consultoría en avicultura en varios países de las Américas, Europa, Australia y Asia.■



# ¿Vale la pena invertir en equipos automatizados de procesamiento?

**La automatización total o parcial de una planta de procesamiento tiene un importante costo de capital y puede exigir obras civiles previas para permitir acomodar los equipos.**

La carne de pollo es apreciada por consumidores por ser sana, de alta calidad y asequible. Actualmente es la segunda carne más consumida en el mundo y su demanda sigue aumentando. La respuesta a esta demanda creciente ha venido de los incesantes avances en la genética, nutrición, sanidad y manejo a lo largo de últimos años. Juntos, y de forma sinérgica, ellos han permitido fortalecer la inmunidad de las aves, aumentar la ganancia diaria de peso, reducir la conversión alimenticia y bajar la edad de faena, lo que ha permitido reducir los costos de producción y aumentar la oferta de materia prima.

A su vez, los mataderos, la contraparte del negocio avícola, también han tenido de responder a esta demanda a través del aumento de la faena, lo que se los lleva a enfrentarse con una pregunta muy común: ¿debo automatizar mi planta? A dicha pregunta no se le puede dar un sencillo “sí”, un “tal vez” o un “no” como respuesta, pues tal decisión depende del análisis previo de distintos factores.

## **Costos y cuidado**

La automatización total o parcial de una planta avícola tiene un importante costo de capital, pues no solo los equipos y los accesorios por



ellos requeridos – transportadores, cadenas, ganchos, rieles y etc. – son dispendiosos, sino que puede exigir obras civiles previas para permitir acomodar los equipos, lo que hace aumentar la inversión total requerida.

Un matadero automatizado demanda un cuidado mucho más sofisticado con las máquinas que los mataderos no automatizados, lo que exige invertir en la capacitación del equipo de mantenimiento y en proveerles una remuneración diferenciada.

Además, la empresa debe mantener un costoso inventario de repuestos para las máquinas, para evitar interrupciones en su funcionamiento, y, eventualmente, debe adquirir del proveedor de los equipos un paquete de servicios de asistencia técnica periódica.



## Velocidad de la línea

Las velocidades de los mataderos automáticos son superiores a la de los manuales y la mano de obra es mucho menor. Luego, la simultánea reducción del costo laboral aliada al aumento de la productividad favorecen la decisión por la automatización, sobre todo en regiones de mano de obra escasa y/o cara.

Mataderos manuales, o poco automatizados, son tan flexibles que pueden trabajar, simultáneamente, con aves desparejas sin que esto les afecte, negativamente, la calidad y el rendimiento y, al final los costos y la competitividad del negocio. Más limitada, todavía, es la flexibilidad de los mataderos automáticos que requieren de mayor uniformidad de los lotes para operar sin tropiezos.

Luego, la automatización puede exigir significativos cambios previos en el proceso productivo para adaptar las parvadas a estas limitaciones, encareciendo el proyecto y ampliando el tiempo requerido para su puesta en marcha.

## Despiece

El despiece es otra área sensible. El despiece automático trabaja a mayores velocidades (ca. 6 mil pollos/h) que el despiece manual y con muchas menos personas. Todavía, exige mayor uniformidad de las canales para optimizar la presentación y el rendimiento de los productos, y caracterizarse por productos commodity, una vez que cualquiera que tenga una máquina lo puede hacer igual.

El despiece manual, a su vez, trabaja a velocidades más bajas (4,5 mil pollos/h) y demanda mucha más gente. Sin embargo,

disfruta de gran flexibilidad operativa para trabajar, sin inconvenientes, con canales desparejas. El proceso se caracteriza por los productos premium, de mucha mejor presentación y rendimiento que aquellos hechos a máquina, un pasaporte para mercados y clientes que buscan valor agregado.

## Retorno de la inversión

Como vimos, son muchas las variables a considerar dentro de un proyecto de automatización. Por ello, la decisión final requiere, primero, de una definición del alcance del proyecto - automatización total o parcial y de que áreas - y, en seguida, del análisis de la capacidad financiera de la empresa y del retorno sobre la inversión (del inglés, ROI) para que atienda, sin sorpresas, los requisitos técnicos y económicos de cada empresa. ■

## Sobre el autor

Fabio G. Nunes, brasileño, es consultor en procesamiento avícola. A sus espaldas, más de 25 años de experiencia en áreas como optimización de la gerencia y de los procesos de faena, así como en



Fabio G. Nunes

ingeniería y tecnología de procesamiento y capacitación técnica de personal. Ha realizado consultorías para numerosas empresas por toda América Latina y es un ponente reconocido y respetado en los eventos de la industria avícola mundial.





# El impacto económico del Síndrome Reproductivo y Respiratorio Porcino (PRRS)

**El Síndrome Reproductivo y Respiratorio Porcino (en sus siglas en inglés, PRRS) es una enfermedad de carácter vírico, que desde finales de la década de los 80's está ocasionando serios problemas en la producción porcina mundial, considerándose la enfermedad más costosa para el productor de cerdos.**

No existen datos exactos sobre el porcentaje de granjas infectadas en el mundo, sin embargo, en España se cree que la prevalencia podría estar entre el 80-85%. El impacto productivo que genera la enfermedad

es través del fallo reproductivo de cerdas (abortos, lechones débiles y momificados e infertilidad) y la neumonía en lechones y/o cerdos de finalización, incrementando el índice de mortalidad y de eficiencia de conversión alimenticia.

La enfermedad cuando ingresa por primera vez a la granja genera un impacto productivo y per se económico muy alto, sin embargo, cuando la enfermedad es endémica en la granja, el impacto baja, aunque no deja de ser significativo.



“Es fundamental que una vez infectada la población, se deba estabilizar rápidamente la población y prevenir el ingreso de nuevas cepas externas y que el virus se disemine internamente, así con esto último se previene la recombinación genética entre cepas”.

Existen diversas formas de medir el impacto económico del PRRS, sin embargo, establecer un costo fijo que tendrá como repercusión una granja que se infecte es muy difícil de establecer, ya que depende del tamaño de la población, el tipo de granja (monositio, multisitio, destete-venta) y el estado inmunitario de la población, por lo que es más fácil establecer encuestas a un grupo de productores afectados, determinar valores globales y posteriormente desglosar de acuerdo al tipo de sistema productivo.

A continuación, revisaremos los principales estudios realizados en Estados Unidos y Europa.

### **Impacto económico en Estados Unidos**

Sin duda es el país más afectado por el virus, no lo dijimos anteriormente, pero el virus del PRRS se caracteriza por tener cepas europeas y americanas, estas últimas son las más virulentas, por lo tanto generan un mayor impacto económico.

Los estudios que más han repercutido en la comunidad científica, fue uno realizado en el año 2005, en donde se establecieron pérdidas de \$560 millones de dólares anuales (Neumann et al., 2005), posteriormente Holtkamp y colaboradores (2013) establecieron que el costo del PRRS en EUA es de \$664 millones de dólares, de los cuales un 45% pertenecen a pérdidas en las granjas de madres, esto es porque

la densidad de explotaciones es mayor cada año y la recirculación del virus es más significativa por la entrada de reemplazos que entran a la explotación con una inmunización deficiente.

Las granjas afectadas con este virus presentan pérdidas en reproducción de 7,29 USD por cerdo comercializado, mientras que en recría y engorda, 2,86 y 4,34 USD por cerdo comercializado, respectivamente. En el estudio realizado en 2005, el impacto económico era de \$100 millones de dólares menos y los costos en las granjas de madres representaban el 12% del costo total, en esta época los inventarios de cerdas y densidad de granjas eran menores y posiblemente los costos se hayan masificado en los engordes por existir otras enfermedades co-infectantes.

Cabe mencionar que en el estudio de 2013, se reportan los costos indirectos del PRRS, como son las inversiones en bioseguridad, vacunación, programas de control, etc., las cuales estaban valorizadas en \$477 millones de dólares, de esta forma el impacto económico total del PRRS en EUA es de más de \$1000 millones de dólares.

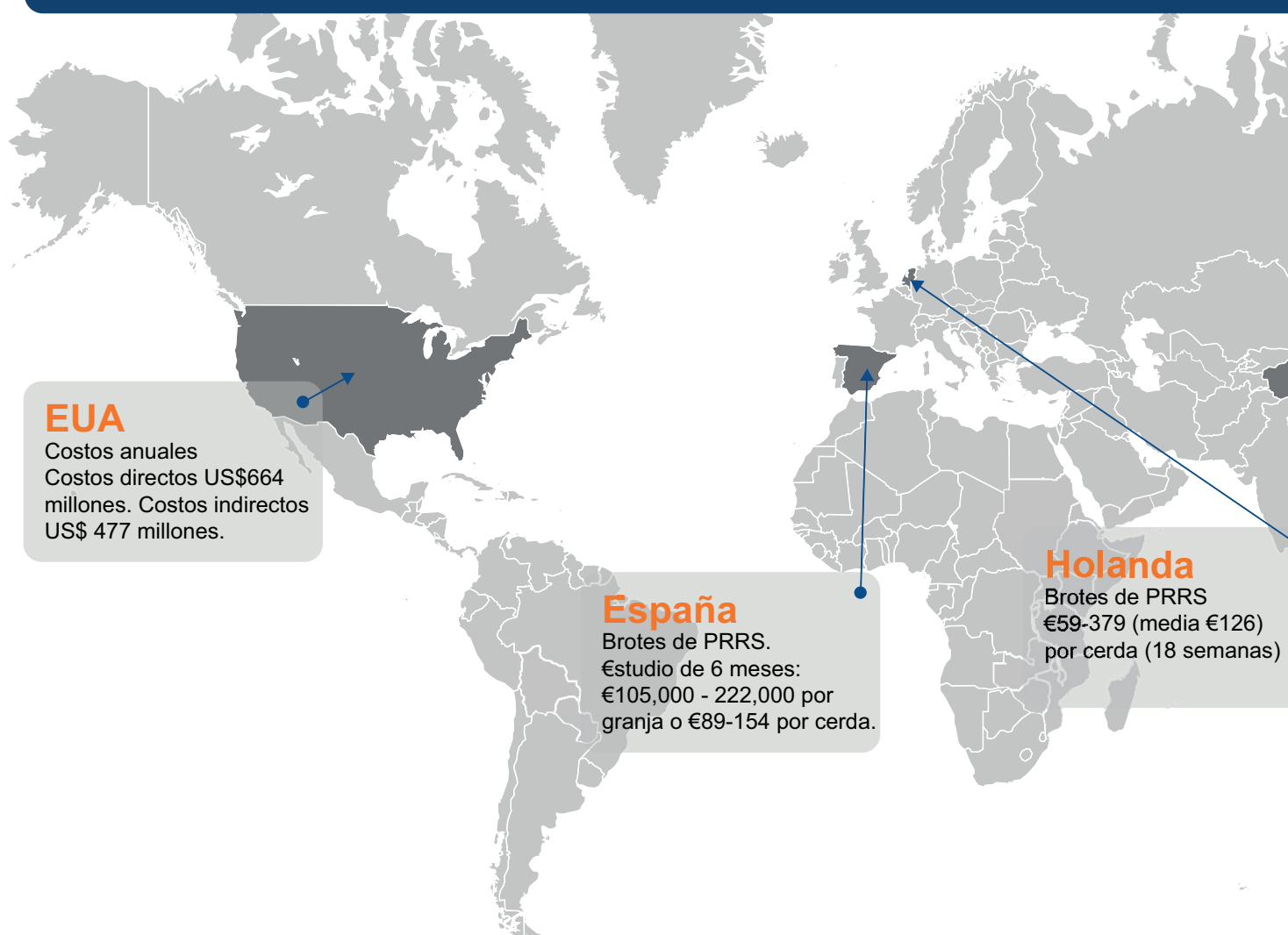
### **Impacto económico en Europa**

En Europa los estudios se concentran en muy pocos países, estos fueron realizados en los principales países productores, España y Alemania. Se estima que en este continente la enfermedad genera un impacto económico que está entre 1000-1500 millones de euros anuales.

Tras el análisis de 9 granjas con brotes de PRRS, investigadores alemanes han calculado que el número de cerdos vendidos se reduce en 1,7 cerdos (-18%) y el impacto



# Impacto económico en la industria porcina



económico que se genera sumando esta pérdida productiva, más los costos de medicación, vacunación, diagnóstico y horas extras de trabajo, resulta de un rango del €59 y €37 entre las diferentes granjas, obteniéndose un promedio de €126 por cerda durante el periodo de 18 semanas que tardaron hasta estabilizarse (Nieuwenhuis et al., 2012).

Muchos autores mencionan que los brotes que se ocasionan en Europa son muy similares, por ejemplo un reporte de un brote en España, durante el año 2013, elaborado por la empresa consultora económica SIP Consultors, describe que un brote de PRRS

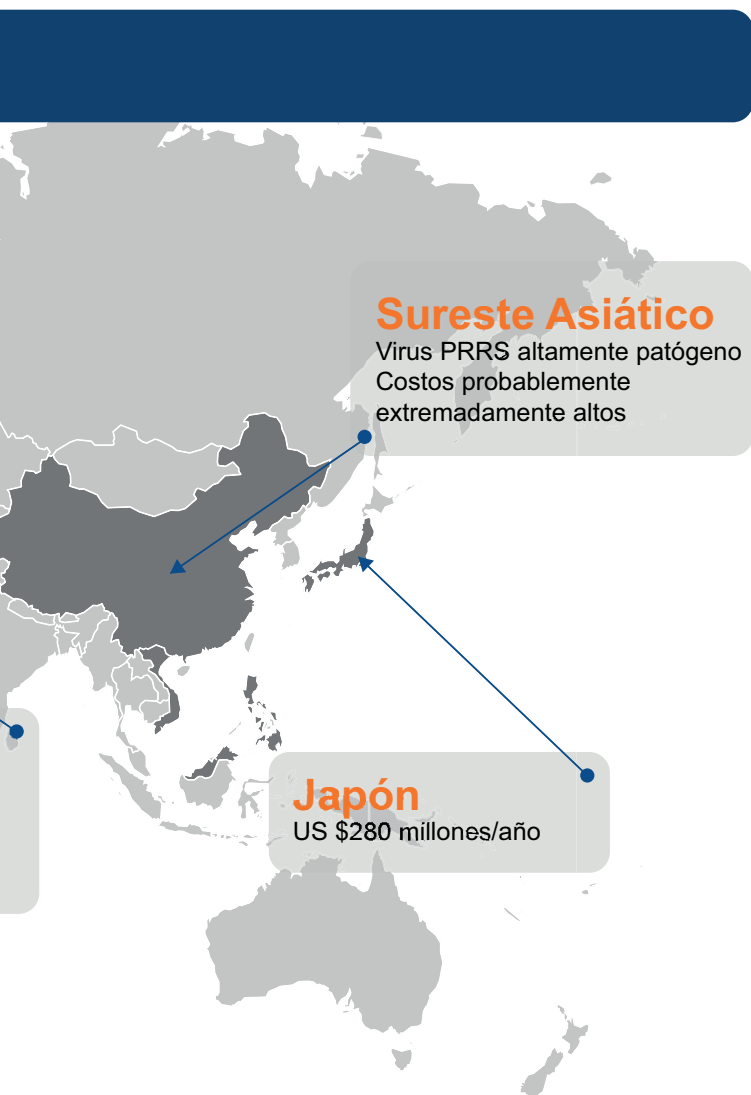
en una granja con sitio 1 y 2 de 2500 cerdas, tuvo pérdidas de €220.000 durante un periodo de 6 meses.

Obtener información del impacto económico que posee una enfermedad es fundamental para una zona geográfica o nación, pues a partir de esta cuantificación económica podemos establecer los presupuestos para los programas de control y erradicación del patógeno.

## ¿Qué nos depara el futuro?

Tras casi tres décadas de intensa investigación, innovación y desarrollo para





el control de esta enfermedad, aun no se ha podido controlar de una forma significativa, los grandes avances en el desarrollo de vacunas o programas de control regionales no han podido eliminar el virus, todo esto a causa de ser un virus que recombina, o sea, que cambia su estructura genética para que el cerdo lo reconozca como extraño y así la inmunidad adquirida en infecciones anteriores no sea 100% eficaz.

Pero no todo queda así para siempre, pues ya que no sólo la tecnología computacional o móvil avanza aceleradamente, sino que también la ingeniería genética, ya que hace muy poco un equipo de investigadores de la

Universidad de Missouri (Estados Unidos) en colaboración con la empresa especializada en genética porcina (Genus PIC) ha logrado producir cerdos resistentes al PRRS, este avance constituye un hito en el mundo porcino, pues dio a conocer que la técnica de edición genética es la vía para producir este tipo de cerdos. ■

### Sobre el autor

Reinaldo, procede de una familia con tradición ganadera en el valle de Curicó, en Chile. Ha recibido la formación de Médico Veterinario en Chile y durante 2 años estuvo en España en las principales universidades españolas



Reinaldo Cubillos

que investigan la producción y sanidad del cerdo, allí obtuvo el título de Máster en Sanidad y Producción Porcina. El 2014 regresó a Chile y fundó con otro socio la consultora SwineAdvisor, empresa dedicada entregar diferentes servicios técnicos y económicos a clientes en Latinoamérica. Además participa activamente como autor en diferentes revistas técnicas y páginas web, publicando artículos de alto impacto en la industria.



# Industry.Events



## **45th Annual Midwest Poultry Federation Convention**

**Saint Paul, Minnesota, US**  
**15th to 17th March**

The Midwest Poultry Federation (MPF) Convention is the largest regional poultry show in the U.S. In 2015, the convention drew over 2,000 participants from 36 states as well as Washington D.C., 4 Canadian provinces and several other countries.

## **International Production & Processing Expo (IPPE) 2016**

**Atlanta, Georgia, US**  
**26th to 28th January**

The 2016 International Production & Processing Expo will bring together more than 1,250 exhibitors and 30,000 visitors in Atlanta from Jan. 26-28, 2016. Hailed as the largest annual trade show for the poultry, meat and feed industries





**8th Leipzig Veterinary Congress**  
**Leipzig, Germany**  
**26th to 28th January**

The Leipzig Veterinary Congress is the largest professional development event for veterinary medicine in the German-speaking world.

It is aimed at practitioners working with both farm animals and pets as well as at veterinarians in the public veterinary service and those from the scientific world and from industry.

**VIV MEA 2016**  
**Abu Dhabi, United Arab Emirates**  
**16th to 18th February**

VIV Worldwide is proud to announce VIV MEA as its new regional trade show, to be held for the first time in 2016.

It will be a new specialist Feed-To-Meat show serving the poultry, aquaculture and dairy industries in the Middle East, Africa, India and Central Asia.



# Listings.Business Directory

## Health & Welfare

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### Ceva Animal Health

Tel: +33 (0) 557 554 040  
Fax: +33 (0) 557 554 198  
info@ceva.com  
www.ceva.com

#### Areas:

Pharmaceuticals  
Vaccines  
Equipment: Vaccination  
and Medical)  
Feed: Additives

CEVA Santé Animale is a global veterinary health company focused on the research, development, production and marketing of pharmaceutical products and vaccines for pets, livestock, swine and poultry.



### Merck Animal Health

animal-health-communications@merck.com  
www.merck-animal-health.com

#### Areas:

Feed: Safety Products  
Feed: Additives  
Feed  
Cleaning/Disinfectants  
Pharmaceuticals

Merck Animal Health offers veterinarians, farmers, pet owners and governments the widest range of veterinary pharmaceuticals, vaccines and health management solutions and services.



### Zoetis

Tel: +1 919 941 5185  
GP.Marketing@zoetis.com  
www.zoetis.com

#### Areas:

Vaccines  
Biodevices  
Feed Additives  
Diagnostics

Zoetis strives to support those who raise and care for farm animals by providing a range of products and services that offer tangible solutions to the many challenges veterinarians and livestock producers face every day.

## Breeding & Genetics

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### Aviagen

Tel: +1 256 890 3800  
Fax: +1 256 890 3919  
info@aviagen.com

#### Areas:

Breeding  
Genetics

The Aviagen Group is the global market leader in poultry genetics. As the world's premier poultry breeding company, Aviagen develops pedigree lines for the production of commercial broilers and turkeys.



### Cobb

Tel: +1 479 524 3166  
Fax: +1 479 524 3043  
info@cobb-vantress.com

#### Areas:

Breeding  
Genetics

Cobb broiler breeding stock has the sustained advantage of the most efficient feed conversion and highest potential for profitability for the company's global customers.





### Grimaud Frères Sélection

Tel: +33 (0)2 41 70 36 90  
Fax: +33 (0)2 41 70 31 67  
grimaudfreres@grimaudfreres.com  
www.grimaudfreres.com

### Areas:

Breeding  
Genetics

Grimaud Frères are a multi-species selection and breeding operator in the service of the waterfowls and festive poultry field.



### Hubbard

Tel: +33 296 79 63 70  
Fax: +33 296 74 04 71  
contact.emea@hubbardbreeders.com  
www.hubbardbreeders.com

### Areas:

Breeding  
Genetics

Hubbard provides solutions that focus on the economic performance, health and wellbeing of breeding stock. Hubbard specializes in state-of-the-art selection programs to improve the performance of their pure lines.



### Hy-Line

Tel: +1 515 225 6030  
Fax: +1 515 225 6030  
info@hyline.com  
www.hyline.com

### Areas:

Breeding  
Genetics

Hy-Line International is a world leader in poultry layer genetics with a rich history of innovation. Hy-Line was the first poultry breeding company to apply the principles of hybridization to commercial layerbreeding.



### Novogen

Tel: +33 296 58 12 60  
Fax: +33 296 58 12 61  
contact.novogen@novogen-layers  
www.novogen-layers.com

### Areas:

Breeding  
Genetics

NOVOGEN offers a new alternative giving the egg producers more choice and possibilities to fit their specific market requirements.

## Biosecurity & Hygiene

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### CID LINES

Tel: +32 5721 7877  
Fax: +32 5721 7879  
info@cidlines.com  
www.cidlines.com

### Areas:

Biosecurity  
Cleaning  
Feed: Additives  
Health and Safety  
Pest Control  
Welfare

CID LINES offers VIROCID, the most powerful disinfectant, which is part of a hygiene program for poultry, written by hygiene specialists. VIROCID has a proven record in preventing and fighting disease outbreaks for many years.

## Feeding & Nutrition

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### AB Vista

Tel: +44 (0) 1672 517650  
Fax: +44 (0) 1672 517660  
info@abvista.com  
www.abvista.com

### Areas:

Feed  
Feed: Additives  
Feed: Nutrition

AB Vista is an integrated international supplier of new generation micro-ingredients for animal feeds providing visionary solutions for your agribusiness.



**Biomim**

Tel: +43 2782 803 0  
 Fax: +43 2782 803 30  
[office@biomin.net](mailto:office@biomin.net)

**Areas:**

Feed  
 Feed: Additives  
 Feed: Nutrition

BIOMIN offers sustainable animal nutrition products such as quality feed additives and premixes, which include solutions for mycotoxin risk management, a groundbreaking natural growth promoting concept as well as other specific solutions.

**Kerry**

Tel: +31 36 523 3100  
 Fax: +31 36 523 3110  
[clive.girdler@kerry.com](mailto:clive.girdler@kerry.com)  
[www.kerry.com/animalnutrition](http://www.kerry.com/animalnutrition)

**Areas:**

Feed  
 Feed: Additives  
 Feed: Safety

Kerry Ingredients & Flavours is a leader in developing, manufacturing and delivering technology-based ingredients and integrated solutions. Our products are designed specifically to optimize the nutritional value and maximize the energy of feed ingredients in poultry diets.

**Novus International**

Tel: +1 314 576 8886  
 Fax: +1 314 576 2148  
[contact@novusint.com](mailto:contact@novusint.com)  
[www.novusint.com](http://www.novusint.com)

**Areas:**

Feed  
 Feed: Additives  
 Feed: Nutrition

Novus International is a global leader of animal health and nutrition programs for the poultry, pork, beef, dairy aquaculture and companion animal industries.

## Housing & Equipment

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**Big Dutchman**

Tel: +49 4447 801 0  
 Fax: +49 4447 801 237  
[big@bigdutchman.de](mailto:big@bigdutchman.de)  
[www.bigdutchman.com](http://www.bigdutchman.com)

**Areas:**

Equipment: Breeding  
 Equipment: Drinking  
 Equipment: Egg  
 Equipment: Feeding  
 Equipment: Weighing

The poultry equipment supplier for layer management, breeder management, poultry growing and poultry climate control.

**Termotecnica Pericoli**

Tel: +39 0182 589006  
 Fax: +39 0182 589005  
[termotecnica@pericoli.com](mailto:termotecnica@pericoli.com)  
[www.pericoli.com](http://www.pericoli.com)

**Areas:**

Climate Control  
 Climate Management  
 Heating, Cooling and  
 Ventilation

A global market leader specializing in climate technology since 1967 in design, manufacture and distribution of efficient/quality heating, cooling and ventilation equipment and systems for the poultry industry with a full range of products to meet all specification and applications.

**Vencomatic**

Tel: +31 (0) 497 517380  
 Fax: +31 (0) 497 517364  
[info@vencomatic.com](mailto:info@vencomatic.com)  
[www.vencomatic.com](http://www.vencomatic.com)

**Areas:**

Equipment: Breeding  
 Equipment: Drinking  
 Equipment: Egg  
 handling and grading  
 Equipment: Nesting

Vencomatic is a global supplier of innovative and welfare friendly housing solutions for the poultry sector. The flexible and turn key solutions of Vencomatic offer large possibilities for a wide range of poultry production concepts.



## Incubation & Hatching

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### Orka Food Technology

Tel: +852 8120 9245  
Fax: +852 2802 7112  
info@orkatech.com  
www.eggtester.com

#### Areas:

Equipment: Egg  
Equipment: Hatching  
Equipment: Incubation

EggTester.com (officially known as "Orka Food Technology") is a leading worldwide manufacturer of egg-quality testing equipment to be used extensively in QC laboratories operated by egg producers, packers, universities, regulatory authorities, and primary breeders.



### Pas Reform

Tel: +31 314 659 111  
Fax: +31 314 652 572  
info@pasreform.com  
www.pasreform.com

#### Areas:

Equipment: Incubation  
Equipment: Egg  
Equipment: Environment  
Equipment: Hatching  
Waste Handling

Pas Reform is an international company, which has specialized in the development of innovative hatchery technologies for the poultry sector since 1919. Products and Services: Incubators, Hatchery Automation Systems, Hatchery Climate Control Systems and Hatchery Management Training.



### Petersime

Tel: +32 9 388 96 11  
Fax: +32 9 388 84 58  
info@petersime.com  
www.petersime.com

#### Areas:

Equipment: Hatching  
Equipment: Incubation

Petersime is a world leader in the development of incubators, hatchery equipment and turnkey hatcheries.

## Events & Exhibitions

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### VIV Worldwide

Tel: +31 30 295 28 98  
viv@vnuexhibitions.com  
www.viv.net

#### Areas:

Events & Exhibitions

With 6 VIV exhibitions all over the world VIV trade exhibitions are recognized for high trade quality in the professional industry. With over a 1,000 international companies exhibiting and visitors from over 140 countries the VIV-shows are also considered as very international.



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