An ACPV Workshop

Current Perspectives on Poultry Welfare

April 6th, 2025

Calgary, Alberta, Canada

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Letter from the Program Chair

April 6, 2025

Dear Colleagues:

Welcome to Calgary and to the "Current Perspectives on Animal Welfare" workshop hosted by the American College of Poultry Veterinarians (ACPV)! We are delighted to host this gathering of dedicated professionals, all united by a shared commitment to enhancing the welfare of poultry. Whether you are here to learn, share, or collaborate, your presence is a testament to the growing recognition of the vital role animal welfare plays in our society and industry.

This workshop is designed to foster meaningful dialogue, provide cutting-edge insights, and inspire actionable solutions. Over the course of our program, you will have the opportunity to hear from esteemed experts, engage in dynamic discussions, and explore innovative practices that shape the future of animal welfare. Each session has been carefully curated to provide foundational concepts, address pressing challenges, discuss innovative solutions, and provide key stakeholder perspectives.

We are deeply grateful for the diversity of perspectives and expertise represented here today. Whether you represent academia, industry, or another sector, your voice is vital to driving progress. It is through the exchange of ideas and shared commitment that we can create lasting, impactful change. Your contributions will undoubtedly enrich the conversations and outcomes of this event.

Thank you for being part of this journey to enhance knowledge and elevate the standards of animal welfare. We encourage you to immerse yourself fully, make meaningful connections, leave inspired to drive progress within your respective areas of influence, and reaffirm our collective dedication to the well-being of the animals entrusted to our care.

Warm regards,
Kathleen, Kate, & Ken
Program Co-chairs, ACPV Workshop (2025)

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2025 ACPV Workshop – Current Perspectives on Animal Welfare

Introduction	8:00-8:10

Section 1: Foundational Concepts of Animal Welfare		
Title	**Speaker**	**Time**
Where did we come from and where are we now: Evolving animal welfare models	Kate Barger-Weathers, KB Welfare Consulting	8:10-8:45
Fostering Better Care for Our Animals: A Blueprint for An Effective Animal Welfare Program	Ken Opengart, 3 Birds Consulting	8:45-9:15
Animal welfare assessment: A comprehensive measurement approach to drive continuous improvement	Kathleen Long, Maple Leaf Foods	9:15-9:40
Panel Q&A		9:40-10:00

Coffee Break	10:00-10:20

Section 2: Technology Innovations to Drive Continuous Improvement in Animal Welfare Outcomes		
Title	**Speaker**	**Time**
Using technology to improve genetics and advance animal welfare outcomes	Tom Riek, PIC	10:20-10:40
Advancing on-farm health and welfare through advanced monitoring and machine learning	Ed Pajor, University of Calgary	10:40-11:00
OPTICFLOCK camera/computer system for the advancement of poultry welfare	Marian Dawkins, University of Oxford (virtual)	11:00-11:20
Commercial application of vision systems to monitor animal welfare outcomes in processing plants	Yolande Seddon, University of Saskatchewan	11:20-11:40
Panel Q&A		11:40-12:00

Lunch Break	12:00-1:00

Section 3: Customer, Consumer, and NGO Perspectives		
Title	**Speaker**	**Time**
What Consumers Know, What They Don't Know, and Why It Matters	Mike Von Massow, University of Guelph	1:00-1:30
Engaging with interest groups: How can NGOs partner with the poultry supply chain to make meaningful improvements in animal welfare?	Darren Vanstone, OCATRA	1:30-1:55
National Farm Animal Care Council: Learnings from Canada's multi-stakeholder approach to developing Codes of Practice for farmed animals	Jackie Wepruk, National Farm Animal Care Council	1:55-2:20
A customer perspective: What do supply chain customers expect from poultry suppliers to continuously improve animal welfare?	Angela Griffiths, A&W Canada	2:20-2:45
Panel Q&A		2:45-3:00

Coffee Break	3:00-3:15

Section 4: Hot Topics in Animal Welfare		
Title	**Speaker**	**Time**
On-farm hatching technologies and adoption	Marco Volpé, Groupe Westco (Virtual)	3:15-3:30
In-ovo sexing technologies and adoption	Mike Petrik, McKinley Hatchery	3:30-3:45
Advances in Humane Endings: Utilization of Nitrogen for Depopulation of Livestock	Jeff Hill, Livestock Welfare Strategies	3:45-4:00
Innovation in Poultry Lighting to Improve Welfare and Performance Outcomes	Karen Schwean-Lardner, University of Saskatchewan	4:00-4:15
Enriching Lives: Enhancing Broiler Flocks with Enrichments	Karen Schwean-Lardner, University of Saskatchewan	4:15-4:30
Panel Q&A		4:30-4:45

Section 1: Foundational Concepts of Animal Welfare

Where did we come from and where are we now: Evolving animal welfare models

Kate Barger-Weathers, KB Welfare Consulting

Biography:

Dr. Kate Barger-Weathers is a seasoned poultry veterinarian and thought leader in animal welfare. Kate received a Bachelor of Science degree in Animal Science and a Bachelor of Science in Poultry Science from NC State University in 1998. She graduated from NC State's College of Veterinary Medicine in 2002 and then completed a specialty degree in avian medicine at the National Autonomous University of Mexico (UNAM) as a Rotary International Scholar. As a veterinarian and global welfare director for a primary breeder company, Kate provided poultry health and welfare support to breeder farms, hatcheries, and broiler companies around the world for 20 years. Kate started her animal health and poultry welfare consulting business in April 2024. She now combines research, strategic planning, training and practical welfare guidance to clients with the goal of improving industry outcomes and helping progressive poultry and animal health companies advance their welfare programs.

Abstract:

While animal welfare may be simply defined as the relationship and synergy between the physical health of the animal and the mental well-being or behavior of the animal, the science-based frameworks used to assess animal welfare are continuously evolving. The traditional models or foundational frameworks used to assess welfare include the 3 Circles Model, the 5 Freedoms of Animal Welfare and the 5 Domains Model of Animal Welfare. All are viable frameworks that incorporate science, animal-based outcomes, and subjective human perspective when assessing welfare. However, each model has slightly evolved over time as welfare scientists considered the definition, impact and application of the primary components within the frameworks.

In this presentation, the history and key components of each animal welfare model will be highlighted. Areas of overlap and differences will be emphasized during a comparison of the models, and examples will be provided to demonstrate the transformation in welfare assessment that has occurred as the models have evolved.

While the practical application of using a science-based framework can be challenging in modern production settings to assess the welfare status of a large population of poultry, this presentation will conclude with examples of how to use the 5 Domains Model in a comprehensive manner to systematically assess and track welfare outcomes. Using the 5 Domains Model, specific considerations for assessing animal welfare risks and opportunities for welfare improvement will also be highlighted for poultry operations.

Fostering Better Care for Our Animals: A Blueprint for An Effective Animal Welfare Program

Ken Opengart, DVM, PhD, DACPV, *3 Birds Consulting*

Biography:

Ken's personal mission throughout his professional career has been to actively contribute to an agricultural system that provides safe and sustainable, high quality, affordable protein to millions of global consumers. As a veterinarian, this

includes embracing the core tenets of the veterinary oath - protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of animal resources, the promotion of public health and the advancement of medical knowledge. Working within animal agriculture for over 25 years, Ken has held a variety of leadership roles including Vice President, Live Operations/Processing and Commodity Risk Management; Vice President, Global Sustainability and Welfare; and Vice President, Animal Welfare and International Sustainability. Over the last half of his career, he has provided thought leadership and focus in the areas of animal welfare, antimicrobial stewardship, and sustainability in the food animal sector. Today, he owns 3 Birds Consulting which focuses on assisting those in the food animal sector to drive continuous improvement throughout their organization by mitigating risks and capturing opportunities in the critical areas of animal welfare, antimicrobial stewardship, and sustainability. Ken has served as past-president of the American College of Poultry Veterinarians, is a past-chair of the American Association of Avian Pathologists' Animal Welfare Committee, a founding board member and past chair of the International Poultry Welfare Alliance, a founding board member of the US Roundtable for Sustainable Poultry and Eggs, and a past-chair of the Poultry and Egg Welfare and Sustainability Foundation. In 2023, Ken was recognized by the Virginia-Maryland College of Veterinary Medicine as its Lifetime Achievement Alumni Award recipient and in 2024 by the U.S. Poultry and Egg Association as a Lamplighter Award recipient for sustained and exemplary service to the poultry industry and by McDonald's Corporation as a Lifetime Award recipient.

Abstract:
Conceptual development of a comprehensive animal welfare program can be time-consuming and challenging. Once this is completed, for a welfare program to create the desired organizational culture and outcome-based improvements, it must then be effectively implemented and integrated within the organization it is intended to serve. Philosophical and operational program components will be discussed as foundational aspects of a robust animal welfare program. Philosophical components that are key to consider when developing a program include the organizational culture, welfare perspective and welfare framework utilized by the organization. Fundamental operational components that influence animal welfare programs include the organizational structure, stakeholder requirements, and specific programmatic elements. How the organization implements, integrates, and maintains these philosophical and operational components determines whether a fundamental, functional, or cultural animal welfare program is realized.

Animal welfare assessment: A comprehensive measurement approach to drive continuous improvement

Kathleen Long, Maple Leaf Foods

Biography:
Dr. Kathleen Long is the Vice President of Animal Care at Maple Leaf Foods. She joined Maple Leaf in 2013 as a poultry production veterinarian. In her current role, she is responsible for animal welfare programs and initiatives across the Company's swine and poultry operations. Dr. Long works closely with operational teams, senior leadership, and the office of Sustainability to develop and implement leading animal care strategies for the betterment of Maple Leaf's animals and to help create shared value across the Maple Leaf supply chain.

Dr. Long holds a BSc in Agriculture from the University of Alberta, a DVM from the Western College of Veterinary Medicine, an MAHM from the University of Georgia, and an MBA from Queen's University. She is a diplomate of the American College of Poultry Veterinarians.

Abstract:
Assessing animal welfare in commercial poultry production systems requires a layered approach to effectively manage welfare programs and drive continuous improvement over time.

At the farm level, animal welfare is commonly assessed through a combination of resource-based, environmental, and key welfare outcome measurements. These measurements represent the immediate conditions and associated health, behavioral, and mental states experienced by specific animals. They may be assessed at a point in time or through continuous monitoring systems.

At the operational level, key welfare indicators are typically measured through frequent sample-based audits or continuous monitoring and tracking. Such metrics are often summarized in periodic formats and may include process control statistics to assist in assessment.

Audits occur in many forms at all levels of the production chain including but not limited to first-, second-, and third-party audits, video audits, and artificial intelligence-assisted audits.

The abundance of animal welfare data generated creates challenges for management in identifying key risk areas and priorities for continuous improvement. For animal welfare personnel and operators, it can be difficult to synthesize animal welfare and key welfare indicators in a way that is easily communicated to management.

A case study of developing a top-line comprehensive animal care metric will be presented, including rationale and considerations for development, lessons learned during the first years of measurement, metric effectiveness, and tips and tricks.

Section 2: Technology Innovations to Drive Continuous Improvement in Animal Welfare Outcomes

Using technology to improve genetics and advance poultry welfare outcomes

Tom Riek, PIC

Biography:
Tom received his Bachelor of Science degree in Agriculture (Animal Science) from the University of British Columbia in 1983 and his Doctor of Veterinary Medicine degree from the University of Saskatchewan in 1991. Prior to joining PIC, Tom spent six years in private veterinary practice followed by two years as a corporate veterinarian with Sunterra Farms. Tom joined PIC in 1999 and has responsibilities for health assurance and health services across Canada, including health oversight of two Genetic Nucleus farms in Saskatchewan. He lives in Airdrie, Alberta.

Abstract:
Disease-resistance genes in livestock provide health benefits to pigs and opportunities for producers to meet the growing demand for affordable, high-quality protein. The porcine reproductive and respiratory syndrome (PRRS) is one of the most persistent and economically impactful swine diseases globally. Thirty years after discovering the PRRS virus

(PRRSV), the swine industry struggles to control it despite significant efforts and implementation of innovative approaches.

Recent breakthroughs in gene-editing have shown animals resistant to infection and, in so doing, created the potential to prevent disease and improve animal welfare. Using gene-editing with CRISPR-CAS9, a portion of DNA coding for a protein can be deleted. Unlike genetically modified organisms, in the case of the PRRS-resistant pig, DNA from another organism is not introduced to alter the genetic code. Evidence supports that CD163 is an indispensable monocyte and macrophage receptor, and specifically, its Scavenger Receptor Cysteine Rich 5 domain, also called domain 5, is crucial for PRRSV infection and replication.

The inheritance of the CD163 edited gene is recessive. This means that pigs must carry two copies of the edited gene version to be resistant (homozygous, aa); pigs carrying only one edited version (heterozygous pigs, Aa) are not resistant to PRRSV.

Adoption of this technology and this specific gene-edit offers an unprecedented opportunity to control the PRRSV that has plagued the global swine industry for several decades and thereby improve animal welfare. This technology could also become a platform for disease control for other pathogens that have been difficult to control by industry-standard approaches.

Advancing on-farm health and welfare through advanced monitoring and machine learning

Ed Pajor, University of Calgary

Biography:

Ed is an internationally recognized expert on the behavior and welfare of a wide variety of species (Beef cattle, Dairy cattle, Swine, Poultry, and Lab Animals) as well as having expertise in animal welfare standards and legislation. Dr. Pajor has also been involved with developing animal welfare assessment programs for swine and ducks in the United States. Professor Pajor has served on the Editorial Boards of the Journal of Animal Science, Applied Animal Behavior Science, and served as an Associate Editor for the Canadian Journal of Animal Science

Professor Pajor has provided scientific expertise to numerous organizations by serving on their animal care and welfare advisory committees. These include; the McDonald's Global Animal Health and Welfare Team, Smithfield Animal Welfare Committee, the Kraft-Heinz Animal Welfare Group, the Albertson's Companies Animal Welfare Advisory Group, Baskin and Robbin's animal welfare group, A&W Animal Welfare Leadership group, the National Pork Board's Animal Welfare Committee (USA), Certified Humane (USA), Safeway Inc., Alberta Farm Animal Care, and the Calgary Stampede. He has also consulted with organizations such as Walmart, Merck, Elanco, and Calgary Co-op

Dr. Pajor was awarded the 2015 Metacam 20 Bovine Welfare Award, honoring his outstanding work in advancing the welfare of cattle and in 2021 was awarded the Zoetis Research Excellence Award. Ed was also recognized by McDonald's for his commitment to providing scientific expertise to their animal welfare committee. In 2024, Dr. Pajor received the Carl Block Award from Animal Health Canada in recognition of his leadership, commitment and passion for enhancing animal agriculture in Canda.

Ed is a graduate of the University of Waterloo with an Honors Co-op B.Sc. Degree in biology. In addition, he earned a MSc. and PhD. degree in biology from McGill University specializing in Animal Behaviour. Prior to joining the University of Calgary, Dr. Pajor worked at Agriculture and Agri-Food Canada (Lennoxville) and Purdue University in the Department of Animal Sciences where he also served as Director of the Animal Welfare Center.

Abstract:
Not available

OPTICFLOCK camera/computer system for the advancement of poultry welfare

Marian Dawkins. Universitv of Oxford

Biography:
Marian Stamp Dawkins is Professor of Animal Behaviour in the Department of Biology at the University of Oxford and Fellow Emeritus in Biological Sciences at Somerville College, Oxford. Her research interests are in animal welfare, animal communication and animal consciousness and she has a particular concern with the process of putting welfare research into practice. She has worked on the welfare of poultry for many years in collaboration with various industrial partners in both Europe and the United States and is currently engaged in developing an automated system for assessing the welfare of broiler chickens using image processing of flock behaviour (OpticFlock). In addition to publishing many research papers, she is the author of Animal Suffering: the Science of Animal Welfare (1980), Through Our Eyes Only? The Search for Animal Consciousness (1993), Why Animals Matter: Animal Consciousness, Animal Welfare and Human Well-Being (2012) and The Science of Animal Welfare: Understanding What Animals Want (2021). With Aubrey Manning, she co-authored An Introduction to Animal Behaviour (4th-.6th editions). Her latest book, Who is Conscious? A Guide to the Minds of Animals is due out in 2025. She was awarded the Niko Tinbergen Medal by the Association for the Study of Animal Behaviour in 2009, the Robert Fraser Gordon Medal by the World Poultry Association 2011, the Universities Federation for Animal Welfare Medal in 2012 and the Patrick Moore Award by the RSPCA in 2014. In 2014 she was made a Fellow of the Royal Society and awarded the CBE for services to animal welfare. In 2018 she was made an Honororary Fellow of the Society for Applied Ethology.

Abstract:
OpticFlock is an automated system for monitoring the welfare of broiler chickens (chickens bred for meat). It does not track individual birds, but works by analyzing the patterns of movement made by a whole flock. As it delivers flock-level information, OpticFlock is particularly suited to deployment on commercial broiler farms where decisions about vaccinations, drinker height, lighting etc. are taken at flock, not individual level and where flock level information is therefore most useful.

OpticFlock's ability to assess the welfare state of a flock is based on the repeated findings that healthy, high welfare flocks move differently from flocks containing a high % of birds with leg problems or are lame or suffering from an infection. Healthy flocks not only move more (which could be due to many different factors such as light level) but they also show different statistical patterns in the way that they move. These same patterns have shown up on different farms in different countries and so are characteristic of flocks consisting of healthy, actively walking birds. On the other hand, very dgerent patterns of movements show up in flocks where there are welfare issues such as lameness or hockburn.

OpticFlock can detect these flock differences at a very early stage - often when the birds only a few days old - so giving early warning that a flock may be at risk and helping farm staff to manage this critical first week of life.

OpticFlock measures bird mobility, which is both a Key Welfare Indicator and is also linked to an important economic outcome - Feed Conversion Ratio (FCR). It therefore shows how productivity can be linked to good welfare.

Commercial application of vision systems to monitor animal welfare outcomes in processing plants

Yolande Seddon, University of Saskatchewan

Biography:

Yolande Seddon is an associate professor in swine behaviour and the Enhancement Chair in Swine Welfare at the University of Saskatchewan's Western College of Veterinary Medicine. Yolande leads a research group in Saskatoon and provides animal welfare consultation for swine industry groups. Her academic training is in applied ethology (animal behaviour) and the scientific assessment of animal welfare, with a PhD in finisher pig health management (Newcastle University, UK). Her research mandate is to contribute science to help develop lasting solutions to swine welfare challenges and to support sustainable farming practices. Her areas of research include management of gestating sows in group-housing, the economics of higher welfare free-farrowing systems, weaner transport, environmental enrichment, and the development of improved methods of swine welfare assessment.

Abstract:

The monitoring of animal welfare at slaughter plants is an essential component of the processing procedure, to safeguard animal welfare and support measures for animal health and meat quality. Animal-based indicators of welfare (ABIW) are observable characteristics measured directly on the animals. These indicators can be a change in the appearance of the animal, its physiology or behaviour that can provide information on the health and welfare of the animal. To be suitable for animal welfare monitoring, the ABIW must be robust, objective and scientifically validated for what aspects of welfare they inform on. Manual monitoring of ABIW presents feasibility challenges due to the high number of animals processed and high line speed (Voogt et al. 2023), resulting in a labour-intensive procedure that is subject to bias and observer fatigue, reducing the reliability of assessment. Computer vision system technologies offer a promising tool for the automation of real-time animal welfare monitoring at processing plants, providing capabilities for a standardized, objective assessment leading to quantifiable data on animal welfare that is efficiently collected and can be applied to all animals processed.

Within the range of developing vision system technologies, there is scope for data collection that can provide ante-mortem or post-mortem (retrospective) information on the welfare of animals, that relates to the pre-slaughter handling and on-farm conditions and can contribute information to animal health and meat inspection monitoring. For poultry, applications exist for vision and sensor systems for 10 of a possible 37 identified ABIW, with commercially available vision systems for five ABIW in poultry (Voogt et al. 2023) including skin bruising, fractures, breast blisters, contact dermatitis (footpad lesions, hock burn and breast blisters), and health conditions (i.e. ascites).

The majority of poultry vision systems have been developed to screen birds for carcass quality, but the lesions detected have direct relevance to animal welfare, and understanding the relationship between these ABIW and carcass quality provides a financial incentive to reduce lesions for both the plant and farmer. To maximise the use of this monitoring,

the relationships between ABIW at processing and pre-slaughter handling practices and on-farm conditions must be understood, and this can provide the basis for a herd or flock management tool. This data can be used to provide a continuous feedback loop to all parties in the value chain (abattoir, veterinary inspection, transporter and catching crews, farmer); flagging deviations from acceptable standards, providing a benchmarking service for continual improvement, collecting data to complement and support verification of on-farm audits and verify standards of animal welfare. Linking data to batch identification systems provides an option for the sorting of carcasses deviating from acceptable standards for veterinary inspection. With increased external validation of systems, in the future, it may be possible to have automated detection replace a portion of the veterinary inspection, facilitating labour and increasing oversight. To fully use the data requires data handling systems to provide feedback in formats that are easily accessible for the industry to use.

Computer vision systems to screen viscera for pathology are under development in pigs (Valeris-Chacin et al. 2025), building off the back of advancements made in AI facilitated human medical image screening, with potential for the approach to be transferred to poultry. With the potential for an increasing range of measures to be taken, a crucial step to keeping this large data collection manageable will be the use of a pertinent set of measures that can provide targeted information on different aspects of animal welfare in the pre and post slaughter processing. Additionally, an adaptable and efficient data management system is a must that permits the operator to summarise the data in different ways for feedback and identify deviations from acceptable standards. As computer vision systems continue to develop, 'plug and play' software may arise, enabling processing plants add on or remove different measures to build a suit of indicators for their needs, or as regulated.

Given the importance of welfare monitoring at processing and the potential of computer vision to accelerate and streamline this, the construction of new, or a change to the design of an existing processing plant should include design features that support the feasibility of welfare monitoring ante and post-mortem (EFSA, 2013) with consideration for the use of computer vision systems.

Section 3: Customer, Consumer, and NGO Perspectives

What Consumers Know, What They Don't Know, and Why It Matters

Mike Von Massow, University of Guelph

Biography:

Mike von Massow is an Associate Professor in the Department of Food, Agricultural, and Resource Economics at the University of Guelph. He is also the OAC Chair in Food System Leadership. He teaches management and strategy to agribusiness students. His research focuses on understanding how people make food choices and the development of value chains to support those choices. Mike is active on social media and has a proactive outreach program. Check out his FoodFocus blog and podcast for current discussions of issues and trends relative to food from farm to fork.

Abstract:

There is considerable discussion in Canadian agriculture that we need to build consumer trust. There is, however, significant evidence that consumers trust farmers and the food system. The significant issue is that the public has very little idea about how food is produced. This trust/knowledge gap presents significant risks for the industry because

consumers are exposed to information that they may not find positive. Engaging proactively with consumers may be a better way to develop trust with them. We provide an overview of consumer perceptions and misconceptions and propose an approach to engaging for reduced risk.

Engaging with interest groups: How can NGOs partner with the poultry supply chain to make meaningful improvements in animal welfare?

Darren Vanstone, OCATRA

Biography:

Darren Vanstone is Managing Director and Principal Advisor at Ocatra, a network of consultants based in North and South America, Europe, and Australasia specializing in responsible policy and implementation for companies that produce, process or sell animals as their business.

Darren has experience working with global and regional organizations on policy and implementation, sourcing, and reporting. His clients include international and regional companies in the human and pet food industries, consumer packaged goods companies, producers and processors, industry associations, sustainability roundtables, and non-governmental organizations. He also works as Global Advisor to Brazilian-based F&S Consulting and the Brazilian Food Industry Collaboration for Animal Welfare (COBEA), and as a Specialist in Animal Welfare and Animal Agriculture for UK-based Chronos Sustainability.

Prior to joining Ocatra, Darren worked in grocery retail, including as Director of Operations at one of Canada's largest grocery chains and for a global animal welfare organization as International Corporate Engagement Manager.

Abstract:

The poultry supply chain is under increasing pressure to address animal welfare concerns amidst animal health crises, changing consumer and corporate expectations and regulatory landscapes.

Consumer-facing companies (B2C) have responded by implementing supplier codes of conduct, joining collaborative initiatives on relevant topics, supporting third-party on-farm assurance schemes and responding to NGO and investor requests for annual reporting progress against corporate policies and commitments. Corporate action often responds to pressure from consumers, investors, regulators, and civil society organizations (NGOs). As a result, changes in corporate expectations for poultry welfare have been developed without input from all parts of the supply chain.

The poultry industry has been a target of NGO campaigns since the early years of the animal welfare movement. Some vocal parts of the animal agriculture industry see all NGOs (animal welfare and animal rights groups) as campaigners intent on ending animal use for human benefit. Animal Ag Communications groups have recommended that supply chain members not engage with NGOs or their campaigns. While it appears that public campaigning (using consumers) less effective at driving change in Canada and the US, NGOs have adapted by working to influence a broader set of stakeholders relevant to the poultry industry.

In the presentation, we will discuss how NGOs influence stakeholder approaches to animal welfare including those of consumers, food companies, investors and collaborative initiatives and how the poultry supply chain could benefit from a meaningful engagement strategy with NGOs and other relevant stakeholders.

National Farm Animal Care Council: Learnings from Canada's multi-stakeholder approach to developing Codes of Practice for farmed animals

Jackie Wepruk, National Farm Animal Care Council

Biography:

Jackie Wepruk has been the Division Director of the National Farm Animal Care Council (NFACC) since its inception in 2005. In this capacity she facilitates partnerships between governments, farmed animal industries, the veterinary community, the humane movement, food companies, and other allied groups. She assists NFACC's members and partners in achieving practical solutions to farm animal welfare concerns that address the interests of farmers, domestic and export markets, governments and the Canadian public.

Jackie obtained her Bachelor of Arts degree in Psychology from the University of Winnipeg, and a Master of Environmental Design from the University of Calgary.

Abstract:

The National Farm Animal Care Council (NFACC) isn't one person or entity – it is everybody, created to achieve what no one group could do on its own. NFACC is a forum where diverse groups that would not normally interact come together to address farm animal welfare in Canada.

NFACC is an organization of process; creating the process by which those with jurisdiction, influence, or responsibilities in Canadian farm animal welfare come together to develop Codes of Practice.

Codes are generally initiated by the national lead for a livestock or poultry group. That national lead, on behalf of the sector, submits itself to NFACC's Code process. The Codes that are produced through the Code process then serve as our national understanding around farm animal care requirements and recommended practices.

The challenge is balancing requirements and recommended practices that are informed by the best science we have, while being practically implementable on all farms in Canada, and addressing societal expectations for responsible farm animal care. Finding that balance is critical given the role that Codes serve as extension tools, the foundation for animal care assessment programs, and as reference materials for provincial animal protection legislation and regulations.

Animal welfare, like any social issue, is about what is good, right, ethical, moral. Setting standards on farm animal welfare is a complex deliberation of science, expertise, business decisions, values, and practical realities.

To achieve this monumental task, Code committees are informed by a Scientific Committee report on priority welfare issues, a 60-day public comment period, and they make decisions by consensus. Consensus decision-making rests on the fundamental belief that each person has a piece of the truth. Consensus is reached when each stakeholder can live with the outcome. Code committee members may not achieve all their goals, but they feel heard and can attest that a rigorous process was followed to develop an optimal Code.

Developing sound standards around any important social issue requires a thoughtful approach. NFACC's aim is to find that sweet spot of "constructive tension" where we are collectively progressing on farm animal welfare while maintaining the viability of Canadian animal agriculture.

A customer perspective: What do supply chain customers expect from poultry suppliers to continuously improve animal welfare?
Angela Griffiths, A&W Canada

Biography:
Dr. Griffiths joined Food Services in June 2016 as the Vice President of Food Safety, Quality Assurance and Animal Welfare. Prior to joining Food Services, Dr. Griffiths held the position of Director of Innovation for UL Supply Chain and Sustainability from 2010 to 2016, and prior to that held various director and executive positions in environmental, conservation and consulting firms including the Vancouver Aquarium, The Sheltair Group, Clean Nova Scotia and Jacques Whitford. In August 2021, she joined the Boards of Recycle BC and Multi-Material Stewardship Saskatchewan currently chairs the Governance Committees for those Boards. She holds a Bachelor of Science from the University of Western Ontario, a Master of Science in Microbiology and a PhD in Resource Management and Environmental Studies from the University of British Columbia.

Abstract:
This presentation will explore how restaurants can move the bar on animal welfare. Although restaurants make decisions for sometimes millions of guests and are generally trusted sources of information, they face challenges in driving industry change. These challenges include limited buying power compared to larger entities, lack of direct relationships with growers, industry reluctance to change, the high cost of change, and the complexity of segregation of differentiated products. Additionally, public opinion on these issues can be fickle, making it difficult to implement long term large-scale changes. The presentation will propose strategies for restaurants to overcome these challenges, effectively promoting animal welfare by building long-term, trust-based relationships with suppliers, and selecting focused high-impact initiatives to champion

Section 4: Hot Topics in Animal Welfare

On-farm hatching technologies and adoption
Marco Volpé, Groupe Westco (Virtual)

Biography:
Marco Volpé holds a bachelor's degree in applied science from Laval University (2003) and a master's degree in business administration from Moncton University (2014). In 2003, he started working in the poultry sector managing bird health, animal care and environment. In 2006 he joined the Groupe Westco team and expanded its works in a well-diversified company. He's now Senior Manager and he's involved in the many projects the company has to offer. He has also been a member of the Ordre des Agronomes du Québec since 2004 and of the Nouveau-Brunswick Institute of Agrologists since 2005.

Marco is a director at Chicken Farmers of New Brunswick since 2016 and has been New Brunswick's alternate director at Chicken Farmers of Canada (CFC) since 2017 and is now director since 2023. He is also a director at Turkey Farmers of New Brunswick since 2021 and was a director at Turkey Farmers of Canada from 2021 to 2023. Marco took part of many committees on all those feather boards and had the opportunity to be part of the National Farmed Animal Health and Welfare Council from 2017 to 2021 as the CFC representative.

Abstract:
In-Barn hatching started over 20 years ago and is a growing trend in Europe. In Canada, it only started about 5 years ago. Will it be growing as much as in Europe? Is there really benefits of early feeding on chick quality and bird performance? This presentation will help you understand more about in-barn hatching and different ways to do so. Hopefully, after this presentation you will have an opinion of your own if it will also become a trend in North America.

In ovo-sexing technologies and adoption
Mike Petrik, McKinley Hatchery

Biography:
I graduated from OVC in 1998, and have been a full time laying hen vet with McKinley Hatchery for 25 years. In 2014, I received a Masters Degree in Animal Welfare from the University of Guelph.

I have developed laying hen health programs across 5 provinces, and developed pullet management and laying hen care strategies that have been adopted widely across the country. I have given national and international lectures on poultry health and welfare. I've been involved with developing national programs for euthanasia, humane destruction, breeder and hatchery welfare and was on the committee that that developed the NFACC Code of Practice for Laying Hens. Currently I am involved in several national committees discussing Avian Influenza vaccination strategies, animal destruction strategies, and Salmonella control, and am the chair of the Canadian Veterinary Medical Association's Animal Welfare Committee.

Abstract:
Technological advances have resulted in several strategies that are effective and commercially available for use in the poultry industry to determine the sex of embryos in chicken eggs before hatch. Technologies include optical and MRI based examinations of the egg that determine sex through non-invasive techniques. Other approaches require penetrating the cell to withdraw fluids to be evaluated to determine sex. This talk will examine the animal welfare implications and practical considerations that will affect the implementation of in-ovo sexing technologies, as well as the potential advantages to the different poultry industries at large.

Advances in Humane Endings: Utilization of Nitrogen for Depopulation of Livestock
Jeff Hill, Livestock Welfare Strategies

Biography:
Jeff Hill has spent his 30 year career serving the agriculture and agrifood industries. He has held positions in production agriculture, the meat-processing industry, engineering services, government affairs, research organizations and regulatory services. In 2020 a new phase began with the formation of Livestock Welfare Strategies (LWS), and later LWS Canada. These organizations offer consulting services driven by the principle to optimize the animal's quality of life by encouraging positive experiences while minimizing stress and eliminating distress.

LWS has guided numerous organizations through the process of preparing, planning and responding to livestock emergencies. Our efforts have taken our team around the globe, participating in mass depopulations of livestock in over 20 countries.

LWS continues to lead improvements in the design and operations of mass depopulation technologies. Past efforts resulted in improvement in depopulation with firearms, captive bolting, gassing, foaming and electrical systems. LWS currently is spearheading R&D efforts with high expansion nitrogen foaming, Nitrogen whole house gassing, electrocution and captive bolt technology.

Abstract:
Whole-barn carbon dioxide (CO_2) gassing is the most common method utilized throughout Canada for responding to disease outbreaks requiring the depopulation of large numbers of poultry in a timely manner. However, since September of 2021, there has been supply disruptions and shortages of CO_2 throughout Canada. The recent outbreak of Highly Pathogenic Avian Influenza (HPAI) has further highlighted the fragility and exacerbated the shortages of the CO_2 supply for on-farm depopulation during emergency response.

Anoxia due to exposure to inert gases (N, Ar, etc.) for the euthanasia, slaughter and depopulation of poultry has been evaluated and deemed acceptable worldwide. "Nitrogen is an inert gas (physiologically inert); it's odorless and tasteless, does not induce a sense of breathlessness and does thus not cause aversive reactions in the birds" (Berg 2007). Previous research has shown unconsciousness, and ultimate death was gradually induced in poultry (hens, broilers, and chicks) without indications of distress when N_2 was slowly introduced, and Oxygen concentrations maintained at less than 2%.

Even though approved as a method for depopulation of poultry and demonstrated effective under research conditions, historically the use of N_2 for whole barn gassing has been extremely limited. Due to the worldwide shortage of CO_2, there have recently been growing efforts to develop methods for nitrogen-based methods for the depopulation of poultry.

Canada is leading an international research effort to evaluate and develop inert gassing methodologies including nitrogen whole house gassing (NWHG) using injection of liquid nitrogen, NWHG with gaseous nitrogen and high expansion nitrogen foam (HENF) for the depopulation of poultry. We will review recent research and discuss the critical factors in applying inert gassing technology to the effective, efficient and humane mass depopulation of poultry.

Innovation in Poultry Lighting to Improve Welfare and Performance Outcomes

Karen Schwean-Lardner, University of Saskatchewan

Biography:

Karen Schwean-Lardner completed her PhD in poultry management and welfare from the University of Saskatchewan, studying the impact of lighting programs on broiler welfare and production. This work was conducted in conjunction with Aviagen Broilers, and their lighting program recommendations internationally are based on these works. She has continued a strong research portfolio in the area of both turkey, broiler and pullet lighting programs, with emphasis on both welfare and productivity.

Karen maintains a strong extension portfolio and has given approximately 130 invited international scientific or industry presentations since joining the University of Saskatchewan Canada faculty 10 years ago. She also serves on many welfare advisory committees for both turkey and broiler groups internationally.

Abstract:

Lighting programs are straightforward to implement and can significantly enhance poultry production and bird welfare. These programs consist of three key components: duration (and pattern), light intensity, and wavelength. Each component has distinct effects, and understanding these impacts is crucial for veterinarians, producers, extension agents, and others involved in commercial poultry production.

The duration of dark periods greatly affects both bird health and well-being, as well as production economics. Light intensity also plays a vital role, influencing bird health and behaviour in particular. There is growing interest in providing variable light intensity within barns, which, at a minimum, allows birds to select their preferred environment. Lastly, wavelength, when provided at a consistent intensity, can affect fear and stress levels in broilers, with blue light shown to reduce both.

This presentation will explore these impacts and offer strategies for enhancing production and well-being in broiler flocks.

Enriching Lives: Enhancing Broiler Flocks with Enrichments

Karen Schwean-Lardner, University of Saskatchewan

Biography:

Karen Schwean-Lardner completed her PhD in poultry management and welfare from the University of Saskatchewan, studying the impact of lighting programs on broiler welfare and production. This work was conducted in conjunction with Aviagen Broilers, and their lighting program recommendations internationally are based on these works. She has continued a strong research portfolio in the area of both turkey, broiler and pullet lighting programs, with emphasis on both welfare and productivity.

Karen maintains a strong extension portfolio and has given approximately 130 invited international scientific or industry presentations since joining the University of Saskatchewan Canada faculty 10 years ago. She also serves on many welfare advisory committees for both turkey and broiler groups internationally.

Abstract:
Dr. David Fraser (Fraser, 2008) has defined welfare as encompassing three circles of life: Natural Living, Biological Functioning, and Affective States. When a bird demonstrates positive well-being within a circle, then we assume that sector of the bird's life is good. According to Fraser, welfare is at its best when these "Three Circles" overlap, indicating that the bird is leading a very good life.

Enrichments can be defined as "an improvement of the environment of captive animals, which increases the behavioral opportunities of the animal and leads to improvement of the biological function" (Riber et al., 2018). The addition of such enrichments (often equipment or devices) can positively impact the lives of birds within one, two, or even all three of these categories. The circles of Affective States and Natural Living could be of particular importance, as broiler barns are often barren with respects to these areas. Increasing the complexity of a broiler barn can certainly bring an environment closer to a natural environment, which may result in improved affect.

Research into enrichment devices has increased over the last decade, with peaks in manuscript numbers appearing to peak in 2020 and 2021. However, the literature is not always consistent across each of the three circles. This may be related to the specific type of enrichment tested. This presentation will focus on the research to date with respects to enrichment use in broilers, and point out, where possible, which enrichments can make changes to biological functioning, natural living and affective states.

Fraser, D. 2008. Understanding Animal Welfare. Acta Veterinaria Scandinavica 2008, 50(Suppl 1):S1 doi:10.1186/1751-0147-50-S1-S1

2025 Continuing Education Committee

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2. Ken Opengart, 3 Birds Consulting, ken.3birdsconsulting@gmail.com
3. Kate Barger-Weathers, KB Welfare Consulting, kate.kbwconsulting@gmail.com

Committee Sponsorship Chair:

1. Gigi Lin, BC Ministry of Agriculture and Food, gigi.lin@gov.bc.ca

WORKSHOP WEBPAGE

WORKSHOP EVALUATION

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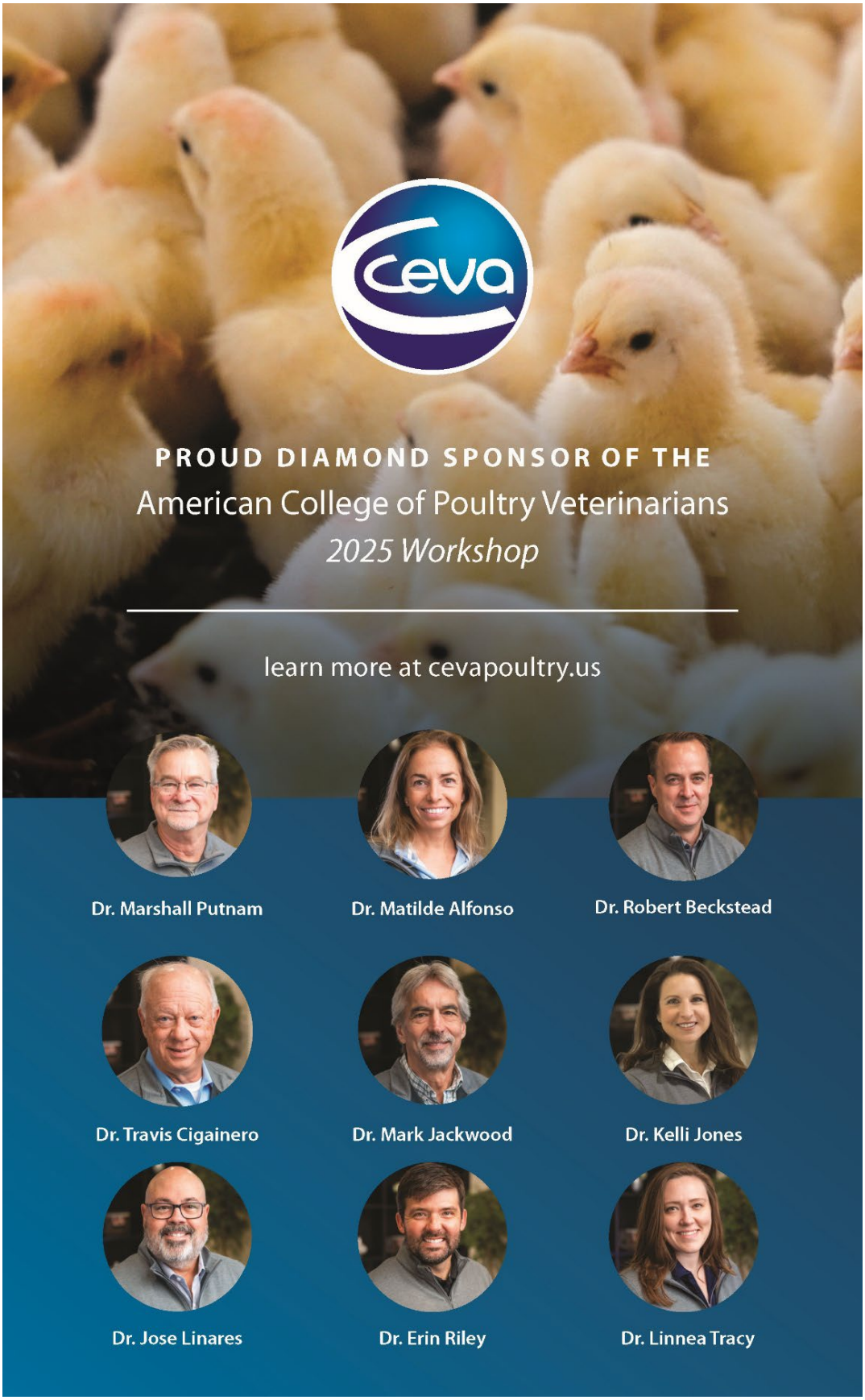
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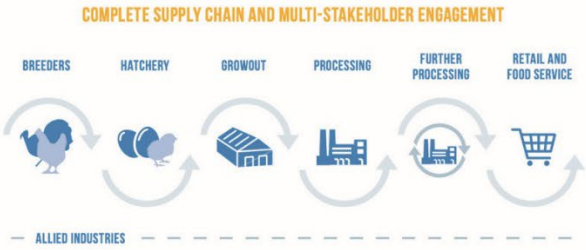

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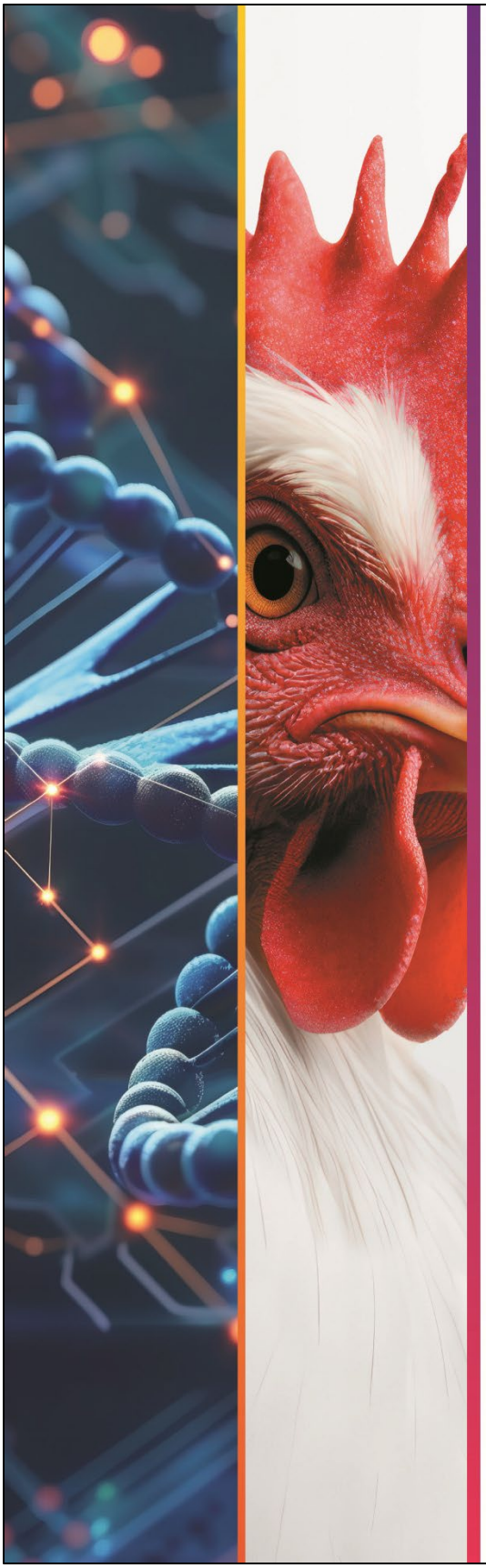

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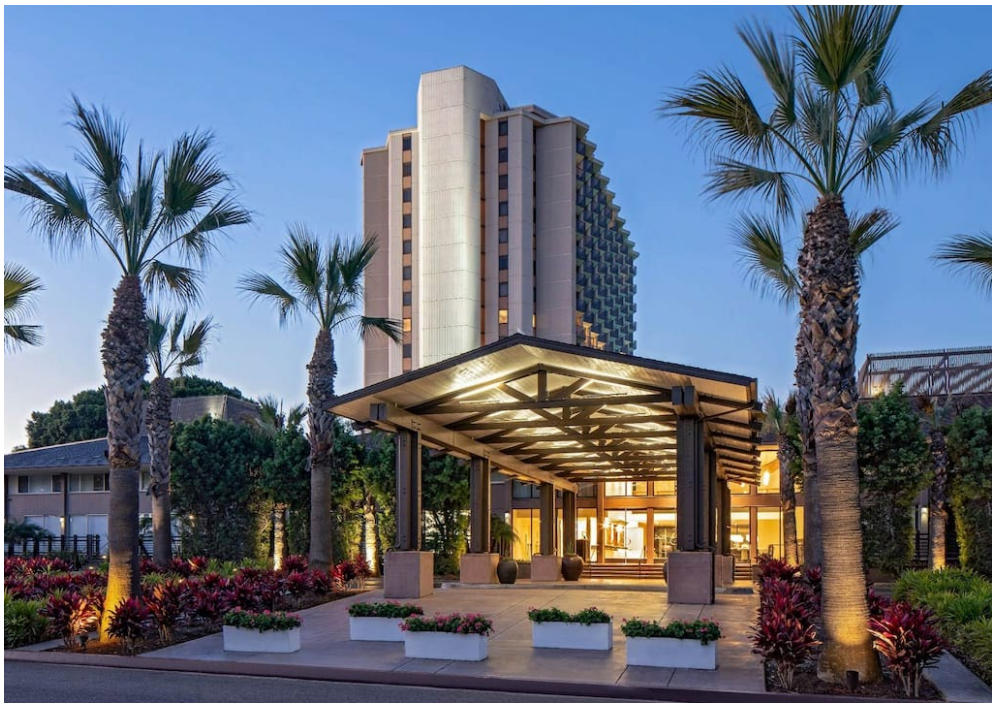

2026 ACPV WORKSHOP
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Hyatt Regency Mission Bay
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The vision of the American College of Poultry Veterinarians is to define and set the gold standard in the veterinary specialty of poultry health and well-being.

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