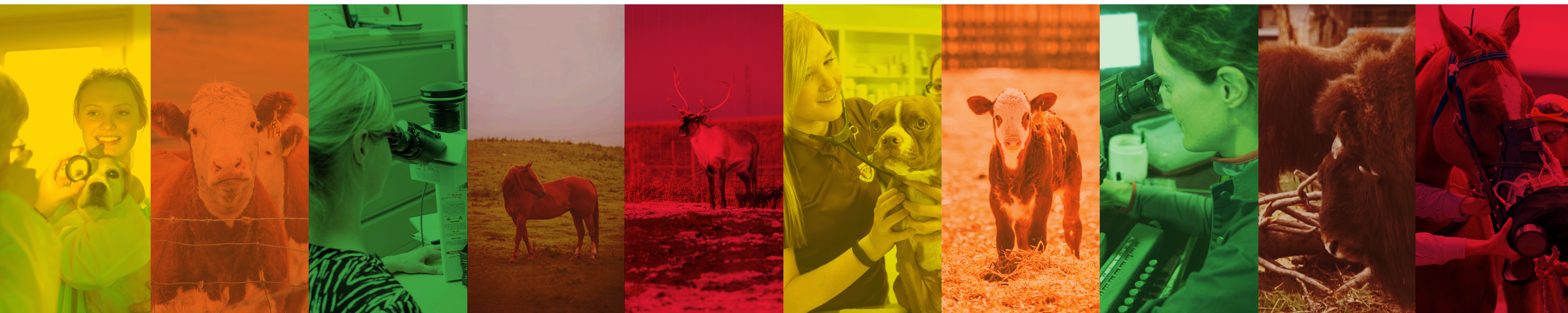


CEVSS

Canadian Emerging Veterinary
Scholars Summit | **October 23-25, 2025**



CEVSS | Canadian Emerging
Veterinary Scholars Summit

Welcome to the 2025 Canadian Emerging Veterinary Scholars Summit (CEVSS)

Cultivating the Next Generation of Veterinary Leaders

This annual forum brings the top DVM and graduate student researchers from each of the five Canadian veterinary colleges together to share their research projects and develop their scientific knowledge, research skills and professional networks.

The CEVSS is generously sponsored by:

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THURSDAY OCT 23 | DAY 01

Ongoing as flights arrive - Registration - Calgary International Airport - Deville Coffee, Arrivals, Domestic Terminal

FRIDAY OCT 24 | DAY 02

Foothills Campus, Theatre 3

- 7:00 a.m.

Breakfast - Terre Cafe at the ALT Hotel
- 8:00 a.m.

Travel to Foothills Campus
- 8:30 a.m.

Opening Remarks - Associate Dean Emerging Scholars James Wasmuth
- 8:35 a.m.

Keynote Speaker – Sabine Gilch | TBA
- 9:15 a.m.

Break (15 mins)

SESSION 1 OF 4

- 9:30 a.m.

Presenter 1: Bryna Turk (University of Calgary, Veterinary Student) | Surveillance of Intestinal Parasites and Rotavirus Infection in Invasive Wild Boar Populations in Alberta, Canada
- 9:45 a.m.

Presenter 2: Laura Leaman (University of Prince Edward Island, MSc Student) | Investigating Lung -and Heartworm Infections in Maritime Wild Canids
- 10:00 a.m.

Presenter 3: Celine Said (University of Guelph, Veterinary Student) | Seasons of Stress - Assessing Perceptions of Climate Change in Canadian Agriculture
- 10:15 a.m.

Presenter 4: Sabrina Valdes (University of Prince Edward Island, Veterinary Student) | TBA
- 10:30 a.m.

Presenter 5: Alvaro Guzman (University of Calgary, MSc Student) | Antimicrobial resistance in companion animals: trends, risk factors, and One Health implications
- 10:45 a.m.

Presenter 6: Sai Kumar, B A A (University of Saskatchewan, PhD Candidate) | Temporal variations in the body condition score and trace mineral concentrations in serum and liver, during the peripartum period in beef cattle
- 11:00 a.m.

Break (10 mins)

FRIDAY OCT 24 | DAY 02

Foothills Campus, Theatre 3

SESSION 2 OF 4

- 11:10 a.m.

Presenter 7: Thanuri Edirithilake (University of Saskatchewan, Graduate Student) | Survey of European foulbrood disease and antibiotic susceptibility of field-isolated *Melissococcus plutonius* in honey bee colonies
- 11:25 a.m.

Presenter 8: Anaya Bhushan (University of Guelph, Veterinary Student) | In Vitro Assessment of Immunocuticals and Ivermectin on Canine Osteosarcomas
- 11:40 a.m.

Presenter 9: Nick Manseau (Université de Montréal, Veterinary Student) | Endogenous retroviruses and extracellular vesicles as potential actors of neuronal communication
- 11:55 a.m.

Presenter 10: Amanda Gray (University of Saskatchewan, Veterinary Student) | The effect of ergocristine on phenylephrine-mediated vasoconstriction in bovine proper digital arteries
- 12:10 p.m.

Presenter 11: Reillee Duperron (University of Calgary, Veterinary Student) | Exploring Cattle Producers’ Perspectives on Accessibility of Veterinary Services in Alberta: Using Thematic Analysis
- 12:25 p.m.

Lunch (65 mins) in HMRB Atrium

SESSION 3 OF 4

- 1:30 p.m.

Presenter 12: Zoé Lapierre (Université de Montréal, MSC Student) | Gain or Lose? Resistance Shifts in *Leishmania infantum* after Withdrawal of Drug Pressure
- 1:45 p.m.

Presenter 13: Muhammad Farooq (University of Calgary, PhD Candidate) | Investigating How Highly Pathogenic Avian Influenza (HPAI) Virus Enter Commercial Poultry Farms in Alberta
- 2:00 p.m.

Presenter 14: Ahsan Raquib (University of Prince Edward Island, PhD Candidate) | Space-time clustering and risk factors for the time to first detection of infectious salmon anemia virus (ISAV) in Atlantic Canada and Maine, USA
- 2:15 p.m.

Presenter 15: Olivia Justus-Heale (University of Saskatchewan, Veterinary Student) | Evaluating the Utility of Commercially Available Glucagon Rescue Kits in Veterinary Medicine
- 2:30 p.m.

Presenter 16: Hannah Godfrey (University of Guelph, Post-Doctoral Fellow) | Dietary macronutrient composition on body composition and post-prandial glucose and insulin response in lean and obese cats
- 2:45 p.m.

Break (10 mins)

FRIDAY OCT 24 | DAY 02

Foothills Campus, Theatre 3

SESSION 4 OF 4

- 2:55 p.m.

Presenter 17: Jon Klymchuk (University of Prince Edward Island, Veterinary Student) | Investigation of preventative healthcare practices among Standardbred breeders on Prince Edward Island.
- 3:10 p.m.

Presenter 18: Shannon Wallace (University of Guelph, MSc Student) | Investigating the Effects of Bovine Preimplantation Embryo Exposure to 1µm and 0.05µm Polystyrene Micro- and Nanoplastics
- 3:25 p.m.

Presenter 19: Laurence Banville (Université de Montréal, Veterinary Student) | Hippo signaling inactivation in Wt1-positive renal cells induces crescentic glomerulonephritis in mature mice
- 3:40 p.m.

Presenter 20: Amy Dagenais (Université de Montréal, PhD Student) | Eye-opening: Post-surgical outcomes with adjunctive cisplatin biodegradable beads in equine corneolimb al squamous cell carcinoma
- 4:10 p.m.

Break (15 mins)
- 4:20 p.m.

Closing Remarks - Hermann M. Schätzl,
- 6:30 p.m.

Student Mixer (the Banquet)

SATURDAY OCT 25 | DAY 03

|

For CEVSS Presenting Students and UCVM Graduate Students

Spy Hill Campus - Veterinary Learning Commons Building (11877 85 St NW, Calgary, AB T3R 1J3)

- 7:45 a.m.

Bus Pickup for Travel to Spy Hill Campus - In Front of ALT Hotel Lobby
- 8:15 a.m.

Breakfast - VLC 2nd Floor Common Area
- 9:00 a.m.

Workshop
- 10:00 a.m.

Break & Coffee
- 10:15 a.m.

Career Panel
- 11:45 a.m.

Tour of CSB and VLC
- 12:00 p.m.

Lunch - VLC 2nd Floor Common Area

Only for CEVSS Presenters: Merck Awards Ceremony and Wrap Up Event - Borough Bar & Grill, 4011 University Ave NW

- 1:20 p.m.

Bus Pickup at Spy Hill Campus (Travel to Zoo) | Zoo: Behind the Scenes with Doug Whiteside
- 4:45 p.m.

Bus Pickup (Zoo to ALT Hotel Calgary University District)
- 6:00 p.m.

Bus Pickup at ALT Hotel to Merck Awards Ceremony and Wrap Up Event
- 6:30 p.m.

Merck Awards Ceremony and Wrap Up Event - ALT Hotel Magenta Room, 2nd Floor

CEVSSCanadian Emerging
Veterinary Scholars Summit

KEYNOTE **SPEAKER**

Sabine Gilch

**Professor (Teaching & Research),
Faculty of Veterinary Medicine, University of Calgary**

Dr. Sabine Gilch is a leading expert in prion biology and neurodegenerative diseases at the University of Calgary. She serves as an Associate Professor in the Faculty of Veterinary Medicine and holds a Tier 2 Canada Research Chair in Prion Disease Research. Additionally, she is an Adjunct Associate Professor in the Department of Biochemistry and Molecular Biology at the Cumming School of Medicine.

Dr. Gilch earned her PhD in Molecular Biotechnology from the Technical University of Munich in 2009. Her research focuses on understanding how prion infections impact neuronal cholesterol metabolism and vesicle trafficking, aiming to identify new therapeutic targets for fatal prion diseases such as Creutzfeldt-Jakob disease, bovine spongiform encephalopathy (BSE), and chronic wasting disease (CWD).

Her laboratory employs cell culture systems and transgenic animal models to study prion replication and strain diversity, with a particular emphasis on the potential transmission of CWD to humans and livestock. Dr. Gilch has also introduced peptide aptamers as a novel class of anti-prion agents, which are currently being evaluated for their effects on the pathogenesis of Alzheimer's disease.

Beyond her research, Dr. Gilch is actively involved in teaching courses on molecular biology, genetics, and virology, and she supervises graduate students in Veterinary Medical Sciences and Biochemistry and Molecular Biology.



CAREER PANEL



Adam Chernick

**Sr. Commercial Product Manager - CRISPR,
Integrated DNA Technologies**

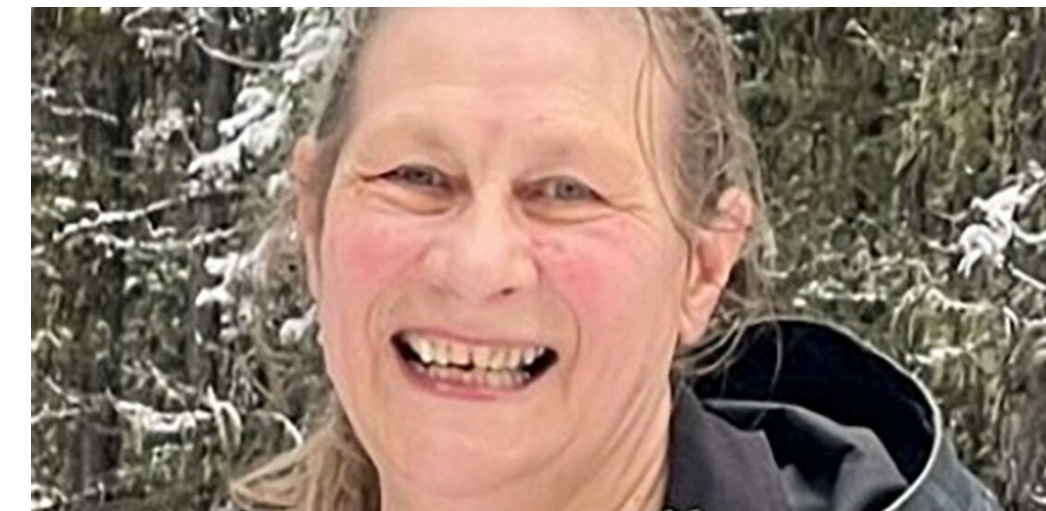
Dr. Adam Chernick earned his Bachelor of Health Sciences in Biomedical Sciences and PhD in Veterinary Medical Sciences at the University of Calgary, where his research examined the evolution of ssRNA viruses in cattle using molecular biology, next-generation sequencing, and phylogenetic analysis. He began at IDT as an Inside Sales Representative and Business Analyst, later advancing through Field Applications and Product Management roles while completing his MBA in 2024. Now a Sr. Commercial Product Manager, he oversees IDT's global CRISPR and Functional Genomics portfolio, focusing on the commercialization and sustainment of genome editing technologies across diverse industries.



Brielle Rosa

**Assistant Professor, Faculty of Veterinary
Medicine, University of Calgary**

Dr. Rosa obtained her DVM from Cornell University (New York, USA) in 2004 and then completed an internship in Ambulatory and Production Medicine. She went on to work in New Zealand at the Massey University Equine Clinic and then obtained her PhD from Massey University in 2014. Her current work in veterinary pharmacology began with sessional instructing and progressed to completing a postdoc in pharmacology before accepting a position as Assistant Professor of Veterinary Pharmacology. As part of her academic appointment, Dr. Rosa also continues to practice part-time as an equine-focused general practice veterinarian in rural Alberta.



Delores Peters

**Manager, Animal Health Surveillance Unit,
Alberta Agriculture and Irrigation**

Delores Peters manages the Animal Health Surveillance Unit for the Government of Alberta, overseeing animal health and food safety surveillance, as well as responding to reportable diseases at the provincial and federal levels. She holds a DVM (1984), MSc in animal biochemistry (1994), and a MVPHMgt (2007) specializing in Veterinary Public Health Management. Delores has a rich career history, from mixed animal private practice to field studies for animal health, and has been with the Government of Alberta in veterinary epidemiology and regulatory medicine since 2006.



Jeff Weissmann

**Scientific Communications Veterinarian,
Royal Canin**

Dr. Jeff Weissmann earned his Doctor of Veterinary Medicine from the University of Calgary in 2015. Though he didn't initially plan on a career in veterinary medicine, his love of science, animals, and problem-solving eventually led him there. After practicing small animal medicine in Calgary for a few years, Jeff found his true passions in veterinary nutrition, dermatology, and education. Since joining Royal Canin in 2019 as a Scientific Communications Veterinarian, he has helped provide nutritional solutions for nearly 7,000 patients across Canada. Jeff also serves as a Sessional Instructor at UCVM, teaching future veterinarians about nutrition and communication. He enjoys life with his partner Amanda, their two orange tabbies, Waffle and Pancake, and their Golden Retriever, Berry.



Canadian Emerging
Veterinary Scholars Summit

WORKSHOP PRESENTERS



Brenda Holder

Traditional Knowledge Keeper at Mahikan Trails

Brenda is of Cree/Iroquois lineage and is pleased to follow her heritage as a traditional guide from the Kwarakwante of Jasper. She is a Traditional Knowledge Keeper of plant medicine from her Cree lineage and teaches courses on plant medicine, offers unique and fun hands on workshops on plants and their medicines as well as doing fascinating walks into the boreal forest to explore the amazing medicines on display!

She is Vice-Chair for the Indigenous Tourism Association of Canada and is the Chair of Indigenous Tourism Alberta.

Brenda has been the recipient of several prestigious awards for her work in using her company to share her Indigenous culture. Some of these awards include Aboriginal Woman Entrepreneur Award of Distinction from the Alberta Chamber of Commerce and the Esquao Award from the Institute for the Advancement of Aboriginal Women (IAAW).

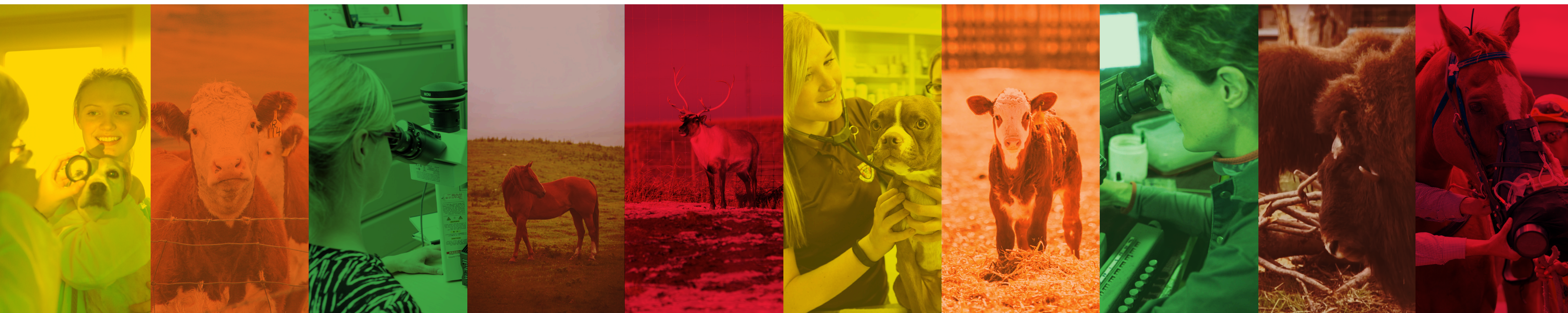
Brielle Rosa

Assistant Professor, Faculty of Veterinary Medicine, University of Calgary

Dr. Rosa obtained her DVM from Cornell University (New York, USA) in 2004 and then completed an internship in Ambulatory and Production Medicine. She went on to work in New Zealand at the Massey University Equine Clinic and then obtained her PhD from Massey University in 2014. Her current work in veterinary pharmacology began with sessional instructing and progressed to completing a postdoc in pharmacology before accepting a position as Assistant Professor of Veterinary Pharmacology. As part of her academic appointment, Dr. Rosa also continues to practice part-time as an equine-focused general practice veterinarian in rural Alberta.



PRESENTATION ABSTRACTS



PRESENTER 1

Bryna Turk

Faculty of Veterinary Medicine, University of Calgary

Surveillance of Intestinal Parasites and Rotavirus Infection in Invasive Wild Boar Populations in Alberta, Canada

AUTHOR NAME / AFFILIATION

- Bryna Turk, Faculty of Veterinary Medicine, University of Calgary
- Oshin Ley Garcia, Pruvot Lab, Faculty of Veterinary Medicine, University of Calgary
- Angela Schneider, Kutz Research Group, Faculty of Veterinary Medicine, University of Calgary
- Maria Bravo Araya, Diagnostic Services Unit, Faculty of Veterinary Medicine, University of Calgary
- Sandra Damianos , Diagnostic Services Unit, Faculty of Veterinary Medicine, University of Calgary
- Chloe Ingham, Diagnostic Services Unit, Faculty of Veterinary Medicine, University of Calgary
- Mathieu Pruvot, Pruvot Lab, Faculty of Veterinary Medicine, University of Calgary

ABSTRACT

In the Canadian prairies, invasive wild boar (*Sus scrofa*) have expanded their range, threatening agricultural and natural ecosystems. As known hosts of various pathogens, they pose risks to livestock, wildlife, and human health. In Alberta, little is known about their health status and role in disease transmission.

This study aimed to characterize the frequency of gastrointestinal parasites and rotavirus strains (RVA, RVB, RVC) in wild boar in Alberta. From 2018 to 2024, 191 fecal samples were collected from wild boar across Alberta. Parasite eggs were identified using Wisconsin double centrifugation fecal flotation and light microscopy (Olympus BX53, 40X). RNA was extracted from 92 samples, and rotavirus detection was performed via RT-qPCR using established primers. Frequencies, 95% confidence intervals, and chi-square tests were calculated using R environment v4.4.0. Maps assessing the proximity of wild boar to free-ranging swine operations were generated using QGIS v3.44.1.

Gastrointestinal parasitic infection to *Ascaris suum* (5.8%; 11/191), *Trichuris suis* (5.2%; 10/191), *Eimeria* spp. (38.2%; 73/191), and *Metastrongylus* spp. (25.7%; 49/191) were detected. Rotavirus was detected in 27.2% (25/92) of samples: 22.8% RVA (21/92), 0% RVB (0/92), and 4.4% RVC (4/92). Parasitic infection was not significantly associated with age, sex, or location. Spatial analysis revealed clusters of wild boar near free-ranging pig farms, indicating increased risk of pathogen spillover.

These findings suggest that wild boar in Alberta serve as reservoirs of intestinal parasites and rotaviruses relevant to domestic swine, underscoring the importance of surveillance and targeted management strategies.



PRESENTER 2

Laura Leaman

Atlantic Veterinary College, University of Prince Edward Island

Investigating Lung -and Heartworm Infections in Maritime Wild Canids

AUTHOR NAME / AFFILIATION

- Laura Leaman: Department of Pathology and Microbiology, Faculty of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island
- Kylee Graham: Department of Pathology and Microbiology, Faculty of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island; Canadian Wildlife Health Cooperative, Atlantic Region, Atlantic Veterinary College
- Megan Jones: Department of Pathology and Microbiology, Faculty of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island; Canadian Wildlife Health Cooperative, Atlantic Region, Atlantic Veterinary College
- Spencer Greenwood: Department of Biomedical Sciences, Faculty of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island
- Nina Germitsch: Department of Pathology and Microbiology, Faculty of Veterinary Medicine, Atlantic Veterinary College, University of Prince Edward Island

ABSTRACT

Angiostrongylus vasorum and Crenosoma vulpis are nematodes causing frequent infections in canids. Crenosoma vulpis resides in the trachea and bronchi and is endemic in the fox population of Atlantic Canada. Angiostrongylus vasorum is found in the pulmonary artery and right ventricle. Originally restricted to insular Newfoundland, it has been considered an emerging threat to the Maritime provinces for many years. The purpose of this study was to determine the distribution of cardiopulmonary helminths in wild canids of Prince Edward Island (PEI) and Nova Scotia (NS). Hearts and lungs of wild canid carcasses were removed, then adult lungworms were recovered during necropsy and identified morphologically. Angiostrongylus vasorum was detected in 57/186 coyotes (31%) and 10/48 foxes (21%), while C. vulpis was discovered in 43/186 coyotes (23%) and 31/48 foxes (73%) on PEI. In NS, A. vasorum was detected in 14/193 coyotes (7%) and 36/90 foxes (40%), while C. vulpis was discovered in 29/193 coyotes (15%) and 84/90 foxes (93%). A novel discovery of Dirofilaria immitis in a PEI coyote was confirmed in summer 2024, suggesting that this parasite has established in the wild canid population. While once considered a risk only due to travel outside the Maritimes, A. vasorum and D. immitis now pose a significant threat to companion animals. Knowledge of the distribution of cardiopulmonary helminths, some emerging, in the Maritimes enables veterinarians to assess the risk of parasitic infections in companion animals and help them improve diagnostic and treatment approaches.

PRESENTER 3

Celine Said

Department of Population Medicine, Ontario Veterinary College

Seasons of Stress - Assessing Perceptions of Climate Change in Canadian Agriculture

AUTHOR NAME / AFFILIATION

- Celine Said: Department of Population Medicine, Ontario Veterinary College

ABSTRACT

Climate change and extreme weather events pose significant challenges for agricultural systems globally. This directly impacts members of Canadian agricultural communities through shifting seasons, unpredictable weather, and resulting fluctuation in disease patterns. These environmental stressors not only threaten global food security but also impose significant emotional and psychological burdens, often manifested as climate change anxiety, a phenomenon that remains largely understudied within Canadian agriculture. This study proposes a foundational step toward assessing climate change anxiety among Canadian farmers by developing a perception assessment scale tailored to the unique climate, culture, and agricultural practices within Canada. Through a four-phase method (literature review, stakeholder consultation, pilot testing, and refinement) this project will identify and draft scale items, then pilot and modify a climate change perception scale to be added to the National Survey of Farmer Mental Health in Canada. The anticipated outcome is a context-appropriate tool that provides foundational information on the perception of climate change amongst farmers in Canada and will support future assessments of climate-related mental health impacts. This foundation supports accessible communication strategies, policy development, and resilience planning across Canada’s agricultural sectors. Results will also inform evaluations of climate change efforts, guide future climate change research, and support assessments of their effects on mental well-being in Canadian agriculture.

PRESENTER 4

Sabrina Valdes
University of Prince Edward Island

TBA

AUTHOR NAME / AFFILIATION

- TBA

ABSTRACT

TBA

PRESENTER 5

Alvaro Guzman

Faculty of Veterinary Medicine, University of Calgary

Antimicrobial resistance in companion animals: trends, risk factors, and One Health implications

AUTHOR NAME / AFFILIATION

- Alvaro Guzman Daireaux: Faculty of Veterinary Medicine, University of Calgary, Calgary, AB T2N 1N4, Canada
- Diego Nobrega: Faculty of Veterinary Medicine, University of Calgary, Calgary, AB T2N 1N4, Canada

ABSTRACT

Background: Antimicrobial resistance (AMR) in companion animals is increasingly recognized as a threat to both animal and human health. Despite extensive research on humans and livestock, pets have received comparatively little attention, even though close human-pet contact can facilitate transmission of resistant bacteria. Methicillin-resistant *Staphylococcus pseudintermedius* (MRSP), *Staphylococcus aureus* (MRSA), and ESBL-producing *Escherichia coli* are rising among dogs and cats. Risk factors include antimicrobial use (AMU), raw meat-based diets (RMBDs), and other lifestyle practices, highlighting the need for integrated One Health surveillance.

Objectives: This work synthesizes current knowledge on AMR in companion animals and presents original data on colonization in dogs and their owners in Calgary.

Methods: Fecal and oral swabs from 95 dogs and nasal swabs from 77 owners were collected between July and November 2024 and screened for MRSA, MRSP, and ESBL-producing *E. coli*. Owner surveys captured AMU, diet, and other potential risk factors. Literature on temporal trends, surveillance initiatives, and clinical implications was integrated to contextualize findings.

Results: Presumptive MRSA was detected in 11.4% of human nasal swabs and 30.0% of dog oral swabs; ESBL-producing *E. coli* occurred in 19.2% of dog fecal samples. About 25% of owners and dogs received antibiotics in the past year, and 20% of dogs consumed RMBDs. These findings align with broader literature suggesting rising AMR prevalence and potential interspecies transmission.

Conclusions: Companion animals represent important reservoirs of antimicrobial-resistant bacteria. Understanding risk factors such as AMU and diet is critical for One Health-informed surveillance, stewardship, and targeted interventions to reduce AMR dissemination.

PRESENTER 6

Sai Kumar

Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan

Temporal variations in the body condition score and trace mineral concentrations in serum and liver, during the peripartum period in beef cattle

AUTHOR NAME / AFFILIATION

- Sai Kumar B.A.A.: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Kamal Gabadage: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Jose Alcivar de Lucca: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Sarah Parker: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Devinda Wickramasingha: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Dinesh Dadarwal: Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan

ABSTRACT

Introduction: Trace minerals (TM) play a crucial role in cow-calf health through the regulation of metabolic, immune, and reproductive processes. However, limited information is available regarding temporal variations of TM concentrations during late gestation and postpartum period in beef cows. This study aimed to investigate changes in body condition score (BCS), serum and liver TM concentrations. Methodology: Body condition scores (BCS; 9-point scale), blood and liver biopsy samples were collected during the late gestation (207±20 days) and postpartum (42±8.4 days) periods from primiparous (n=22, age: 2 years) and multiparous beef cows (n=26, age: 4-7 years, parity: 3-6) for TM assessment. Results: Compared with the prepartum period, postpartum median (IQR) BCS decreased in both primiparous [6(0.5) vs 5(0.5); P<0.001] and multiparous cows [5.5(1) vs 5.5(0.5); P<0.05]. In primiparous cows, serum concentrations of Co, Cu, and Se, along with hepatic of Mg, Co, Zn and Se levels, varied significantly (P<0.05) between postpartum and prepartum period. In multiparous cows, serum Co, Cu, and Se, as well as hepatic Mg, Mn, Co, Cu, Se and Mo concentrations, differed significantly (P<0.05) between stages. The proportion of postpartum cows resuming estrous cyclicity was greater in multiparous than in primiparous cows (19/26 vs. 3/22, P < 0.001). Conclusion: Temporal changes were observed across physiological stages, with hepatic TM concentrations exhibiting more pronounced variations than peripheral blood. These alterations likely reflect the metabolic adaptations required during the peripartum period in beef cows.

PRESENTER 7

Thanuri Edirithilake

University of Saskatchewan

Survey of European foulbrood disease and antibiotic susceptibility of field-isolated *Melissococcus plutonius* honey bee colonies.

AUTHOR NAME / AFFILIATION

- Thanuri L.K. Edirithilake: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Maria Janser: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Igor Moshynskyy: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Midhun S. Jose: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Marina C. Bezerra da Silva: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Joseph E. Rubin: Department of Veterinary Microbiology, Western College of Veterinary Medicine, University of Saskatchewan
- Maud C.O. Ferrari: Department of Veterinary Biomedical Sciences, Western College of Veterinary Medicine, University of Saskatchewan
- Antonio C. Ruzzini: Department of Veterinary Microbiology, Western College of Veterinary Medicine, University of Saskatchewan
- Elemir Simko: Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan
- Sarah Wood : Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan

ABSTRACT

Introduction: European foulbrood (EFB), caused by the gram-positive bacterium *Melissococcus plutonius*, kills honey bee larvae and compromises colony health. In North America, oxytetracycline (OTC) remains the only approved treatment for EFB and is available exclusively through veterinary prescription. Additionally, tylosin and lincomycin are frequently prescribed to prevent American foulbrood (AFB), a similar brood disease. The potential for OTC-resistant strains of *M. plutonius* raises concern and highlights the need for antibiotic alternatives. This study surveys the distribution of EFB, assesses antibiotic susceptibility in field-isolated *M. plutonius* strains, and evaluates the efficacy of amoxicillin as a promising alternative treatment.

Methods: We collected swab samples from 158 EFB-suspected colonies (112 in 2023, 46 in 2024) across Western Canada and the U.S. The presence of *M. plutonius* was confirmed using qPCR, duplex PCR, and bacterial culture. Minimum inhibitory concentrations (MICs) for OTC, lincomycin, and tylosin were determined for each isolated strain. Amoxicillin was tested using an in vitro larval infection model with appropriate controls.

Results: Among tested samples, EFB-positive cases increased from ~70% in 2023 to ~91% in 2024 ($\chi^2_1 = 7.35$, $P = 0.007$). Most infections involved multiple *M. plutonium* strains (~90% in 2023; ~87% in 2024. All isolates remained sensitive to OTC ($MIC \leq 1 \mu\text{g/mL}$). Amoxicillin significantly improved larval survival ($P < 0.001$) and increased median larval weight by 85.8 mg compared to infected controls.

Conclusion: Field-isolated *M. plutonius* strains remain sensitive to OTC, but rising EFB detection and resistance risk underscore the need for alternatives. Amoxicillin shows strong therapeutic potential.

PRESENTER 8

Anaya Bhushan

Ontario Veterinary College, University of Guelph

In Vitro Assessment of Immunocuticals and Ivermectin on Canine Osteosarcomas

AUTHOR NAME / AFFILIATION

- Anaya Bhushan: Department of Pathobiology, Ontario Veterinary College, University of Guelph
- Yeganeh Mehrani: Department of Pathobiology, Ontario Veterinary College, University of Guelph
- Byram Bridle: Department of Pathobiology, Ontario Veterinary College, University of Guelph

ABSTRACT

Osteosarcomas are among the most common cancers in dogs. Standard treatment typically involves amputation followed by chemotherapy; however, even with treatment, the prognosis remains poor. This issue highlights the need for alternative treatment options. Immunotherapy offers a modern approach that targets tumour cells while sparing healthy tissue. One such approach involves immunocuticals, which are food-derived products that modulate the immune system to help treat and prevent diseases such as cancer.

Previous studies have identified anti-cancer effects of various immunocuticals, including quercetin, kaempferol, and extracts from chaga, lion’s mane, and reishi mushrooms. Ivermectin, though not an immunocutical, is derived from bacterial fermentation and has also demonstrated anti-cancer effects.

This project evaluated the individual activity of all six products to determine their efficacy against two canine osteosarcoma cell lines. After optimizing cell seeding density, the cells were treated with varying concentrations of each compound or extract, and metabolic activity was measured using a resazurin assay. Quercetin, kaempferol, and the mushroom extracts (chaga, lion’s mane, and reishi) showed no significant effect on either cell line. In contrast, ivermectin demonstrated marked cytotoxicity against both cell lines at concentrations of 10 µg/mL and 100 µg/mL.

Among the tested compounds, ivermectin demonstrated the strongest in vitro cytotoxicity against canine osteosarcoma cells. Further studies are warranted to evaluate the immunomodulatory properties of these products in co-culture models of immune and osteosarcoma cells, followed by in vivo studies of the selected candidates.



PRESENTER 9

Nick Manseau

Université de Montréal

Endogenous retroviruses and extracellular vesicles as potential actors of neuronal communication

AUTHOR NAME / AFFILIATION

- Nick Manseau: Departement de sciences cliniques, Faculte de medecine veterinaire, Universite de Montreal; Centre de recherche interdisciplinaire sur le cerveau et l’apprentissage (CIRCA), Universite de Montreal
- Ana Victoria Ibarra Meneses: Departement de pathologie et de microbiologie, Faculte de medecine veterinaire, Universite de Montreal
- Samuel Gusscott: Departement de biomedecine, Faculte de medecine veterinaire, Universite de Montreal
- Christopher Fernandez-Prada: Departement de pathologie et de microbiologie, Faculte de medecine veterinaire, Universite de Montreal
- Francis Beaudry: Departement de biomedecine, Faculte de medecine veterinaire, Universite de Montreal; Centre de recherche interdisciplinaire sur le cerveau et l’apprentissage (CIRCA), Universite de Montreal
- Julie Brind’Amour: Departement de biomedecine, Faculte de medecine veterinaire, Universite de Montreal
- Thomas Parmentier: Departement de sciences cliniques, Faculte de medecine veterinaire, Universite de Montreal; Centre de recherche interdisciplinaire sur le cerveau et l’apprentissage (CIRCA), Universite de Montreal

ABSTRACT

Endogenous retroviruses (ERVs) are transposable elements present in many animal species, including humans and domestic animals. Abnormal ERV activity has been linked to brain disorders and implicated in processes such as neuroinflammation and neurodegeneration. However, their specific contribution to these conditions remains poorly understood.

Recent studies have shown that essential neuronal proteins like Arc and Peg10 – both homologous to the retroviral Gag protein – can package RNA into extracellular vesicles (EVs) and transfer it between neurons. This raises the question: could ERVs play a similar role, potentially influencing intercellular communication and contributing to disease progression?

To explore this, we performed RNA sequencing (RNA-Seq) on neurons differentiated from human induced pluripotent stem cells (hiPSCs). Using ultracentrifugation, we isolated extracellular particles consistent with neuronal EVs (87 ± 1.7% standard deviation, with diameters of 100-200 nm) from the culture medium of these neurons, and also submitted them for RNA-Seq. Although analysis of our own data is still pending, we have already identified 223 ERVs significantly enriched in EVs compared to similar hiPSC-derived neurons (log2 Fold change > 1, p-value < 0.05) using publicly available datasets.

Next, we will examine how elevated neuronal activity – induced by increasing extracellular potassium beyond physiological levels – affects ERVs expression and EVs content. This will help us identify ERVs whose expression is modulated by neuronal activity, a crucial first step towards illuminating novel physiological functions of ERVs in the nervous system.

PRESENTER 10

Amanda Gray

University of Saskatchewan, Western College of Veterinary Medicine

The effect of ergocristine on phenylephrine-mediated vasoconstriction in bovine proper digital arteries

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ABSTRACT

When ingested in highly contaminated feed, ergot alkaloids produced by the fungus *Claviceps purpurea* are known to cause gangrenous ergotism in the distal extremities of cattle. Ergocristine is a common ergot alkaloid found in western Canadian grain samples and has been shown to induce vasoconstriction in isolated bovine blood vessels. This vasoconstriction is thought to be accomplished due to interaction with $\alpha 1$ -adrenergic receptors (AR) in vascular smooth muscle. Therefore, it was hypothesized that acute treatment with ergocristine would potentiate vasoconstriction induced by phenylephrine (PE), an $\alpha 1$ -AR agonist, in bovine proper digital arteries. 1A branches of the proper digital artery from mixed-breed beef cattle were isolated, cleaned of perivascular adipose and connective tissue, cut into 2 mm segments, and mounted for wire myography. Vessels were incubated in either ergocristine or a vehicle prior to assessing vasomotor contraction to PE. PE-induced contraction was not increased following ergocristine incubation relative to vehicle (P=0.98). Herein, our preliminary results suggest that ergocristine does not augment vasoconstriction in the proper digital arteries in beef cattle.



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PRESENTER 11

Reillee Duperron

University of Calgary, Faculty of Veterinary Medicine

Exploring Cattle Producers’ Perspectives on Accessibility of Veterinary Services in Alberta: Using Thematic Analysis

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ABSTRACT

Veterinary shortages are a growing concern in many countries, Canada included. The issue of veterinary shortages spans many areas of veterinary medicine, especially food animal veterinarians in rural communities where many cattle producers are located. Limited research exists on Canadian cattle producers’ use of veterinary services, particularly in terms of access to veterinary care. The purpose of this study is twofold; to understand the accessibility of veterinary services regarding cattle production in Canada, and to understand how Canadian cattle producers utilize these services.

This qualitative study used semi-structured interviews to gather first-hand accounts from producers. Purposive sampling via intermediaries was the primary method of participant recruitment, followed by snowball sampling. Interview questions were informed by the Access to Health Care theoretical framework. This framework was designed and has been used to evaluate access to healthcare in human medicine. To our knowledge, this is the first time it has been used in a veterinary context. Data for this study is comprised of transcripts from recorded interviews with producers from the cow-calf and feedlot sectors. Data analysis consisted of using a hybrid inductive and deductive approach to perform thematic analysis.

Data collection and analysis is ongoing, and the results are pending. We expect to identify which services are most impactful for producers and which specific barriers to access they experience.

This information will contribute to understanding underlying barriers contributing to difficulties accessing veterinary services. Findings from this study will help inform policy development to better support cattle producers and farm animal veterinarians.



PRESENTER 12

Marie Zoé Lapierre
University of Montreal

Gain or Lose? Resistance Shifts in Leishmania infantum after Withdrawal of Drug Pressure

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ABSTRACT

The constant increase in dog importation in Canada contributes to a higher risk of emerging zoonotic diseases. One of them, leishmaniasis, causes over 1 million cases annually across nearly 90 endemic countries, including the United States. Without an antiparasitic treatment for Leishmania infantum, clinicians have access to few options, including antimony, amphotericin B and miltefosine. To address the parasite’s emerging resistance, our lab investigated the biological consequences of withdrawing therapeutic pressure in vitro.

Single-cell clones were derived from an amphotericin-B–resistant line and from an antimony-resistant line. The clones were then cultured without their respective drug pressure. Their susceptibility profiles were evaluated with antimony, amphotericin B and miltefosine at different time points and compared with time zero. Lipid membrane composition and expression of resistance-associated genes are being analyzed to pinpoint the mechanistic drivers.

Over time, in the absence of drug pressure, the susceptibility profiles were affected in different ways. The amphotericin-B–resistant clones retained amphotericin-B resistance and acquired antimony resistance. The antimony-resistant clones lost their antimony resistance and acquired miltefosine resistance, revealing a concerning pattern of cross-resistance. Ongoing lipidomic and gene-expression work will clarify the pathways involved and identify markers to inform treatment and resistance-monitoring strategies.

These results argue for proactive surveillance of drug-exposed parasites and caution against sequential therapies that could unintentionally select for multidrug resistance. My project might expose a new limitation of treatment against leishmaniasis, as their resistance against amphotericin B seems to persist even in the absence of therapeutic pressure.

PRESENTER 13

Muhammad Farooq

University of Calgary Faculty of Veterinary Medicine

Investigating How Highly Pathogenic Avian Influenza (HPAI) Virus Enter Commercial Poultry Farms in Alberta

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ABSTRACT

The outbreaks of highly pathogenic avian influenza (HPAI) continue in Canadian poultry leading to significant economic losses. This study examines possible pathways for the introduction of HPAI into commercial poultry operations, with a focus on the roles of migratory birds, non-migratory birds, water, and air as potential sources of infection. Samples were collected from HPAI-affected barns in Alberta. Water samples were concentrated using pump and filters. Samples were analyzed through molecular assays, sequencing, and virus isolation in collaboration with the National Centre for Foreign Animal Disease (NCFAD) in Winnipeg. Quantitative PCR (qPCR) analyses categorized positive samples for influenza A and H5 genes into high, moderate, and low viral levels. Preliminary results from one farm confirmed the presence of viral genomes in post-venting air samples. Oropharyngeal, cloacal, and dust swabs showed the highest positivity, while wild birds found near infected premises also tested strongly positive. Air samples collected after barn venting exhibited moderate positivity for both influenza A and H5 genes, whereas pre-venting samples were positive only for Influenza A. Water, sediment, and domestic bird feces were negative for influenza A. Phylogenetic comparison of farm and wild bird isolates revealed distinct viral sequences, suggesting independent viral introductions or separate spillover events. HPAI virus was detected in both avian and environmental samples of infected farm. We will integrate genomic, epidemiological, and environmental data from multiple outbreaks to clarify transmission pathways.

PRESENTER 14

Ahsan Raquib

University of Prince Edward Island

Space-time clustering and risk factors for the time to first detection of infectious salmon anemia virus (ISAV) in Atlantic Canada and Maine, USA

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ABSTRACT

This study aimed to identify space-time clusters of HPR0 and HPR-deleted ISAV variants and the factors influencing stocking time to their first detection in Atlantic salmon sites across eastern Canada and Maine, USA. This study used ISA surveillance data (2010–2022) from 86 Atlantic salmon sites covering 254 production cycles. Space-time cluster analysis was conducted using a Bernoulli model in SaTScan with a 20% maximum cluster size and 50% temporal window. A multivariable Cox analysis (2010–2022) will be done to identify factors associated with time to first detection of two ISAV variants. During the study period, 63 and 77 marine production cycles had HPR0 and HPR-deleted cases, respectively. One significant space-time cluster for HPRdeleted cases between January 2021 and October 2021 in Grand Manan, New Brunswick. Genotyping revealed that all the infected marine sites within the cluster were infected with the same HPR-deleted variant. Survival analysis revealed that the incidence rate for HPR0 and HPRdeleted cases were 1.13 and 1.18 cases per 100 sites per month, respectively. In conclusion, these findings—alongside ongoing multivariable Cox analysis—will help identify risk zones and factors linked to disease occurrence, supporting policymakers in improving control efforts for this economically significant disease.

PRESENTER 15

Olivia Justus-Heale

University of Saskatchewan, Western College of Veterinary Medicine

Evaluating the Utility of Commercially Available Glucagon Rescue Kits in Veterinary Medicine

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ABSTRACT

Insulin-induced hypoglycemia is a life-threatening complication of insulin-managed diabetes mellitus, a common feline endocrine condition. This pilot study evaluated the utility of commercially available glucagon rescue kits, currently available for use in humans, for treating insulin-induced hypoglycemia in cats.

Six healthy research cats were enrolled in a randomized crossover design to compare the efficacy and usability of two glucagon formulations – the Baqsimi® nasal glucagon powder and a lyophilized injectable glucagon emergency kit. The Baqsimi® was tested rectally and intranasally and the injectable formulation was given subcutaneously. A mock intranasal placebo was used for the control group. Hypoglycemia was induced by intravenous insulin infusion, and blood glucose was tracked at varying intervals using an AlphaTrak 3® glucometer. Time to prepare and administer each formulation was recorded to assess ease of use.

Cats that received intranasal glucagon recovered significantly faster and attained a much higher peak blood glucose compared to the control group. Recovery time and peak blood glucose achieved did not significantly differ between the three routes of glucagon administration tested. The median time to prepare and administer the Baqsimi® device was less than half that of the injectable glucagon emergency kit.

Commercially available glucagon rescue kits appear to be a promising treatment option for insulin-induced hypoglycemia in cats. The significantly faster time to administration suggests that the Baqsimi® device may be more user-friendly, and thus a preferred option for at-home use. Further research is needed to determine the applicability of these findings to the diabetic cat population.

PRESENTER 16

Hannah Godfrey

Ontario Veterinary College, University of Guelph

Dietary macronutrient composition on body composition and post-prandial glucose and insulin response in lean and obese cats

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ABSTRACT

Introduction: Domestic cats evolved consuming a diet of typical prey, which consists of approximately 52% metabolizable energy (ME) crude protein, 46% ME crude fat, and 2% ME carbohydrates – a stark contrast to commercially available foods for cats. As such, high carbohydrate content is postulated to negatively affect feline health, causing obesity and insulin resistance (IR). Methods: Eighteen male, neutered cats were classified as lean (n=8) or obese (n=8) and fed one of three extruded dry diets formulated using an isoenergetic substitution approach for a low-protein (LP: 28% protein, 40% fat, 32% NFE), low-fat (LF: 40% protein, 30% fat, 30% NFE), and low-carbohydrate (LC: 36% protein, 41% fat, 23% NFE), in a 3x3 Latin square design at an amount to meet their daily energy requirements for 28-days. Body composition was measured by dual-energy x-ray absorptiometry on day 23. Fasted and post-prandial blood samples were collected to measure serum insulin and whole blood glucose at the end of each period. Results: The LF diet resulted in greater lean soft tissue mass (PDiet=0.0101), though BW and body fat mass were not affected (PDiet>0.05). LP resulted in lower post-prandial insulin concentrations compared to LC and LF (PDiet= 0.0010). Following feeding, serum insulin increased for all cats, with a greater increase for obese cats on LF at 60 and 120 min post-prandial (PBC*Diet*Time=0.0364). Conclusion: These findings highlight the metabolic flexibility of cats and suggest that dietary macronutrient composition, particularly protein content, plays a significant role in modulating insulin responses in adult, otherwise healthy, cats.



PRESENTER 17

Jon Klymchuk

Atlantic Veterinary College, University of Prince Edward Island

Investigation of preventative healthcare practices among Standardbred breeders on Prince Edward Island.

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ABSTRACT

Preventive medicine underpins foal survival and broodmare welfare, yet its implementation among Standardbred breeders on Prince Edward Island (PEI) has not previously been quantified. Identifying demographic and herd-level predictors of practice adoption is critical to improving equine health management and informing targeted outreach.

Between 2020 and 2022, 39 Standardbred breeding farms on PEI completed a 40-item face-to-face survey assessing the uptake of preventive practices and perceived barriers to adoption. Practices included vaccination, deworming, dental care, colostrum and IgG testing, and post-foaling veterinary checks. Associations between breeder characteristics (gender, years in industry, herd size) and practice adoption were examined using chi-square and Firth-penalized logistic regression analyses.

Deworming was universal, whereas routine vaccination (59%), equine herpesvirus-1 (EHV-1) vaccination (54%), foal vaccination (54%), IgG testing (56%), and post-foaling veterinary checks (44%) were inconsistent. Female breeders were more likely to vaccinate foals (odds ratio [OR] = 18.4, p = 0.007) and against EHV-1 (OR = 7.9, p = 0.033), while breeders with 6–10 years’ experience had lower odds of routine vaccination (OR = 0.02, p = 0.035) and IgG testing (OR = 0.05, p = 0.066). Larger herds more frequently tested colostrum quality, performed dental floating, and measured foal IgG (all p < 0.05).

Preventive care among PEI Standardbred breeders is uneven and influenced by gender, experience, and herd size. Addressing attitudinal barriers—particularly perceptions of low necessity—may enhance adoption and improve reproductive outcomes.

PRESENTER 18

Shannon Wallace

Ontario Veterinary College, University of Guelph

Investigating the Effects of Bovine Preimplantation Embryo Exposure to 1µm and 0.05µm Polystyrene Micro- and Nanoplastics

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ABSTRACT

400 million metric tons of plastic is used every year, yet only a small percentage is recycled efficiently. Over time plastic waste breaks down into fragments, producing microplastics (< 5mm) and nanoplastics (< 1µm) (MNPs). Present in ecosystems worldwide, MNPs can be ingested by animals, causing deleterious effects. Bovines, essential for food production and sustaining the Canadian economy, are among those affected. Previous studies have found that MNP exposure to sperm and oocytes damages the gametes and inhibits embryo development. However, no previous work has investigated the effects of bovine preimplantation exposure to MNPs. We hypothesize that exposure to polystyrene MNPs will decrease the quality and survival of bovine preimplantation embryos. To investigate this effect, in vitro fertilization was performed. The produced zygotes were incubated in culture media containing 10µg/mL and 50µg/mL 0.05µm polystyrene MNPs for eight days. Cleavage and blastulation rates were recorded. The morphokinetics of embryo development were analyzed using a timelapse incubator. MNP accumulation within the embryo was assessed using confocal microscopy. There was no significant difference in cleavage or blastulation rates following MNP exposure. Confocal imaging showed that 0.05µm MNPs accumulated on the zona pellucida of the embryos after 24 hours of exposure, whereas 1µm MNPs did not. Morphokinetic analysis of development showed embryos exposed to 10µg/mL 0.05µm MNPs reached the 7-cell, 8-cell, and morula stages significantly later than controls. Understanding the threats that MNP exposure poses to bovine reproduction is essential for ensuring the longevity of the cattle industry.

PRESENTER 19

Laurence Banville

Faculty of Veterinary Medicine, Université de Montréal

Hippo signaling inactivation in Wt1-positive renal cells induces crescentic glomerulonephritis in mature mice

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ABSTRACT

Glomerulonephritis (GN) refers to a group of immune-mediated pathologies characterized by inflammation of the kidney’s filtering structure, the glomerulus. Among various GN types, crescentic glomerulonephritis (CGN) has the poorest prognosis. Despite advancements in understanding CGN etiology, the intracellular signaling pathways involved in crescent formation remain unidentified. The Hippo pathway, a signaling pathway known for its role in cellular proliferation and differentiation, has recently been implicated in nephropathies, such as diabetic nephropathy and cystic kidney disease. However, no study has investigated its role in CGN. Here, we investigated the roles of the Hippo pathway’s main kinases, large tumor suppressor kinases 1 and 2 (LATS1 and LATS2), in Wt1-positive renal cells (podocytes, and parietal epithelial cells PEC-A1 and PEC-A2). Using the Wt1CreERT2 strain (Lats1flox/flox; Lats2flox/flox; Wt1CreERT2/+) we found that the conditional inactivation of Lats1/2 in mature kidney Wt1-positive renal cells following tamoxifen-injection led to progressive glomerular crescent formation, glomerular tuft atrophy associated with cell apoptosis, macrophage recruitment around affected glomeruli, presence of hyaline casts in renal tubule, and some tubular degeneration. These phenotypic changes were accompanied by increased serum creatinine levels associated with renal failure resulting in mice death 12 days post-Lats1/2 inactivation. Furthermore, tracing studies and KI67 expression suggested that proliferating crescent cells originate from Wt1-postive cells. Together, these findings highlight the crucial role of Hippo signaling in maintaining glomeruli integrity and provide a new model for studying CGN in humans and domestic animals.



PRESENTER 20

Amy Dagenais

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Eye-opening: Post-surgical outcomes with adjunctive cisplatin biodegradable beads in equine corneolimbal squamous cell carcinoma

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ABSTRACT

INTRODUCTION. Ocular squamous cell carcinoma is a common, highly recurrent pathology in equine veterinary ophthalmology. The corneolimbal presentation is particularly challenging to manage due its limited resection potential. Herein, we retrospectively assessed the impact of adjunctive cisplatin biodegradable bead therapy on corneolimbal squamous cell carcinoma recurrence and documented adverse effects following treatment.

METHODS. Seventeen cases of histopathologically confirmed equine corneolimbal squamous cell carcinoma were identified from the Centre Hospitalier Universitaire Vétérinaire database between 2009 and 2023. Masses were excised by keratectomy/conjunctivectomy under general anesthesia, at which point cisplatin biodegradable beads were inserted under conjunctival flaps at every centimeter around the debulked region. Horses were followed through owner reports for up to 5 years.

RESULTS. Three horses experienced local mass recurrence within the year following treatment, and one horse relapsed approximately 2 years after treatment. Local minor adverse effects—such as ocular pain, conjunctival inflammation, local yellowing, and granular tissue formation—were documented, with resolution within 1-2 months post-treatment. Two horses experienced bead-related uveitis that required more intensive ophthalmic follow-up. Vision was preserved in all but one relapsing horse.

CONCLUSION. Altogether, these findings suggest the adjunctive use of cisplatin biodegradable beads during surgical excision of equine corneolimbal squamous cell carcinoma significantly reduces recurrence rate and is generally well-tolerated.



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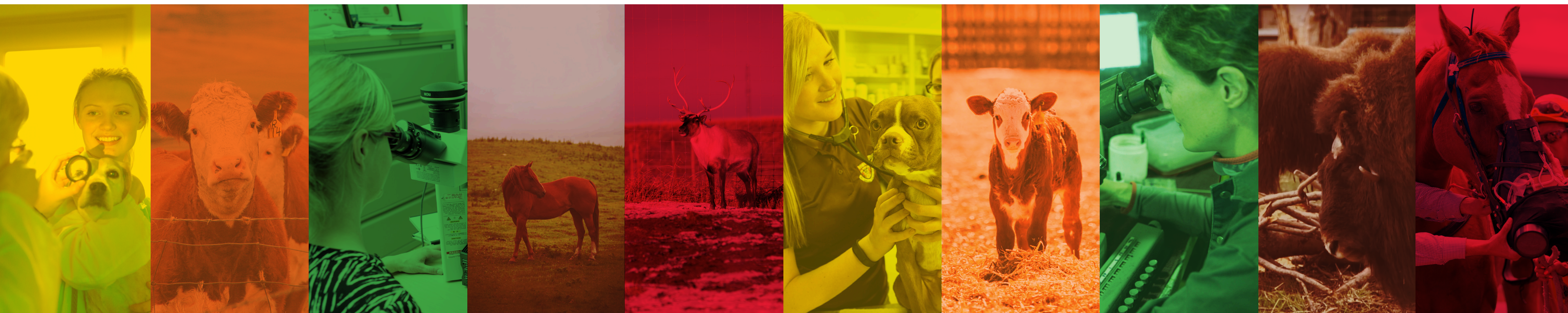
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