



SJDAWC

SIR JAMES DUNN ANIMAL WELFARE CENTRE *at the Atlantic Veterinary College*



PROMOTING ANIMAL WELFARE THROUGH RESEARCH, SERVICE, AND EDUCATION

2020 ANNUAL REPORT

ATLANTIC VETERINARY COLLEGE
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Sir James Dunn Animal Welfare Centre, Atlantic Veterinary College, University of Prince Edward Island

MANDATE

The Sir James Dunn Animal Welfare Centre exists to promote animal welfare by generating and disseminating impartial and scientifically based knowledge and understanding of animal welfare issues. Our vision is “to be nationally and internationally recognized as a centre of excellence that advances animal welfare through research, service, and education.”

STRUCTURE

The SJDAWC is governed by a management board that reports to the Dean of the Atlantic Veterinary College.

MANAGEMENT BOARD

- » DR. GREG KEEFE, Dean, AVC, Management Board Chair (ex-officio)
- » DR. KATY PROUDFOOT, Director, SJDAWC (ex-officio)
- » DR. MICHAEL COCKRAM, Chair in Animal Welfare (ex-officio)
- » MS. SHERRI PINEAU, Admin. Assistant, SJDAWC (ex-officio)
- » MS. ANNA MACDONALD, AVC External Relations Officer (ex-officio)
- » DEPARTMENTAL REPRESENTATIVES
 - » DR. SUNNY HARTWIG, Department of Biomedical Sciences
 - » DR. JENNIFER BURNS, Department of Health Management
 - » DR. ORIANA RAAB, Department of Companion Animals
 - » DR. RUSSELL FRASER, Department of Pathology and Microbiology
- » DR. CAROLYN SANFORD, Assistant Deputy Minister, Agriculture and Land, Government of Prince Edward Island, External veterinarian representative
- » MR. RON MAYNARD, External community representative
- » MR. LOGAN BIGELOW, Student representative

SJDAWC ACTIVITIES IN 2020

AVC Fall Webinar Series (September/October)

Renowned animal behaviour expert Karen L Overall, MA, VMD, PhD, DACVB, gave three webinars on the following topics: 1) Attachment in cats and dogs: What can the data tell us?; 2) We want treatment to be humane, but shouldn't treatment “work”?; and 3) What's new, hot, and important in veterinary

behaviour and behavioural medicine literature?

These and past webinars are available on our YouTube channel: upei.ca/youtube/awc

Annual Animal Welfare in Practice Symposium

Due to COVID-19, we were unable to host an in-person symposium in the fall of 2020. Instead, the symposium was held virtually in March 2021 and focused on animal abuse and neglect, including the link between cruelty to animals and violence against people.

GRANTS AWARDED

Through an annual competition and other sources, the SJDAWC provides funding for service and research projects.

SERVICE

Service grants 2020

GUNN MCQUILLAN H, MACLEAN R, PROUDFOOT K.
Pegasus feral cat neuter program (2020–21) with the Cat Action Team of PEI (CAT)

GUNN MCQUILLAN H, MACLEAN R, PROUDFOOT K.
Pegasus Helping Hand Fund (2020–21)

CAREY AM. AVC humane dog training program (2020–21), with the PEI Humane Society (PEIHS)

VANLEEUEWEN J, GILROY C, HOPSON M, KUTZ S, TUMA M.
Improving animal health and welfare of pets in remote northern Canadian communities (2020–21)

Ongoing service projects

FOLEY P. Financial aid for spay or neuter of companion animals of owners on fixed income, with SpayAid PEI

FOLEY P. Neutering feral cats on PEI

RAAB O. AVC Wildlife Service

VANLEEUEWEN J, RICHARDS S. Youth training in animal welfare in Kenya and Canada—Phase 4, with several community partners

GUNN MCQUILLAN H, FOLEY P, MACDONALD R, MACLEAN M, MACLEAN R, MOAK P. Medical and surgical care of homeless animals, with the PEIHS

MUIRHEAD T, CONBOY G, MACMILLAN K. Health management services for Handibear Hills Equine Sanctuary, Inc.

HOPSON M, GILROY C. Chinook Project (funded independently since 2011)

Please visit <http://awc.upei.ca/service-projects/> for more information about these and other service projects and outreach.

RESEARCH

Research grants 2020

MCKENNA S, PROUDFOOT K, MUCKLE A, KEEFE G, GAMESTER P. Assessment and prevention of pain related to udder engorgement in dairy cows (2020–23)

MELLISH M. Working donkey welfare assessment and owner education in Meru County, Kenya (2020–21)

PROUDFOOT K, MCKENNA S, MEAGHER R, GORDON M. Understanding the natural behaviour and stress response of newborn dairy calves (2020–22)

VANLEEUEWEN J, HEIDER L, KEEFE G, MCKENNA S, KARIUKI E, GITAU G. Prevention of bovine mastitis through a combination of cow comfort mastitis intervention on smallholder dairy farms in Kenya (2020–21)

Ongoing research projects

BERNARD, P. Ultrasonic vocalizations: A non-invasive ethologically relevant tool to assess home cage welfare in rats

STOUGHTON WB, NEILSEN M. Anthelmintic resistant cyathostomes: A threat to equine welfare on Prince Edward Island

STOUGHTON WB, BRESSAN N. Development of an equine nasogastric intubation simulator as an aid or alternative to the use of animals in teaching

HEIDER L, VANLEEUEWEN J, MCKENNA S, GITAU G, KIMELI P. Frequency, distribution, determinants and improvements of calf affective welfare status on smallholder dairy farms in Kenya (observational and clinical trials)

MCDUFFEE L, MONTELPARE W, OVERALL K. Recognition of stress levels in hospitalized equine patients during various veterinary procedures: Adaptation of a stabled horse stress scale to a cohort of hospitalized horses

MELLISH M, DAOUST P-Y, VANDERSTICHEL R. Assessment of welfare of Sable Island horses through morphometric and radiographic hoof evaluation

HARTWIG S. Development of an evidence-based, high-sensitivity canine *Lyme borreliosis* diagnostic protocol to improve the welfare of dogs in Atlantic Canada

HEIDER L, CAMERON M, SANCHEZ J, MCCLURE J. Care of the dairy calf: Investigation into the welfare and health of calves in the Maritime provinces of Canada

Please visit <http://awc.upei.ca/research-projects/> for more information about these and other research projects.

GRADUATE STUDENTS FUNDED OR PARTIALLY FUNDED BY THE SJDAWC

Current students

LOGAN BIGELOW. Ultrasonic vocalizations analysis: A non-invasive ethologically relevant tool to assess home cage welfare in rats (with P Bernard)

MARIANA FONSECA. Assessment of antimicrobial stewardship on animal welfare, animal health and antimicrobial resistance on dairy farms (with J Sanchez and L Heider)

ANAM HANZA. Recognition of stress levels in hospitalized equine patients during various veterinary procedures (with L McDuffee). *Thesis successfully defended in August 2020.*

MEGAN JEWELL. Achieving meaningful improvements in dairy cow welfare by reducing lameness: Evaluating the

effectiveness of herd performance benchmarking and integrated, web-based risk management (with G Keefe)

PETER KIMELI. Cohort and controlled trial studies of dairy calf welfare and its factors within smallholder zero-grazing farms in Kenya (with J VanLeeuwen). *Thesis successfully defended in October 2020.*

JAMYE ROUETTE. Risk factors for musculoskeletal injuries in a population of Standardbred racehorses on PEI (with K MacMillan and M Cockram). *Thesis successfully defended in March 2020.*

MADELINE STEIN. Evaluation of pet-owner and veterinary knowledge, attitudes and practises surrounding antimicrobial use and prescribing practises for companion animals in Canada (with M Evason and J McClure)

PUBLICATIONS

BEAVER A, PROUDFOOT K, VON KEYSERLINGK M. 2020. Symposium review: Considerations for the future of dairy cattle housing: An animal welfare perspective. *Journal of Dairy Science*. 103:5746-5758. <https://doi.org/10.3168/jds.2019-17804>

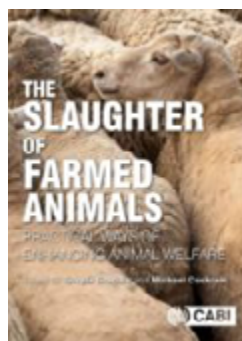
COCKRAM M. 2020. Invited research commentary. Welfare issues associated with the transport of cull sows to slaughter. *Veterinary Record*. 186: 183-184. <https://doi.org/10.1136/vr.m547>

COCKRAM M, DULAL K, STRYN H, REVIE C. 2020. Rearing and handling injuries in broiler chickens and risk factors for wing injuries during loading. *Canadian Journal of Animal Science*. 100: 402-410. <https://doi.org/10.1139/cjas-2019-0204>

COCKRAM M. 2020. Welfare issues at slaughter. In: Grandin T, Cockram M. *The Slaughter of Farmed Animals: Practical Ways of Enhancing Animal Welfare*. CABI, Wallingford, UK. P5-34. <https://www.cabi.org/bookshop/book/9781789240573/>

COCKRAM M. 2020. Condition of animals on arrival at the abattoir and their management during lairage. In: Grandin T, Cockram M. *The Slaughter of Farmed Animals: Practical Ways of Enhancing Animal Welfare*. CABI, Wallingford, UK. P49-77. <https://www.cabi.org/bookshop/book/9781789240573/>

COCKRAM M. 2020. Approaches to legislation and enforcement to minimize welfare issues associated with slaughter. In: Grandin T, Cockram M. *The Slaughter of Farmed Animals: Practical Ways of Enhancing Animal Welfare*. CABI, Wallingford, UK. P279-297. <https://www.cabi.org/bookshop/book/9781789240573/>



COCKRAM M, SIEGFORD J, CAMERLINK I. 2020. Preface for the Special Issue of the 52nd International Congress of the ISAE. *Applied Animal Behaviour Science*. 223: 104904.

CRAMER C, PROUDFOOT K, OLLIVETT T. 2020. Automated feeding behaviors associated with subclinical respiratory disease in preweaned dairy calves. *Animals*. 10:988. <https://doi.org/10.3390/ani10060988>

CREUTZINGER K, PROUDFOOT K. 2020. Invited Review: Design and management of group maternity areas for dairy cows. *Applied Animal Science*. 36:124-132. <https://doi.org/10.15232/aas.2019-01899>

DEIKUN L, HABING G, QUIGLEY J, PROUDFOOT K. 2020. Health and growth of veal calves provided a fatty acid supplement and a dry teat. *Journal of Dairy Science*. 103:4633-4642. <https://doi.org/10.3168/jds.2019-17240>

EDWARDS E, KRAWCZEL P, DANN H, SCHNEIDER L, WHITLOCK B, PROUDFOOT K. 2020. Calving location preference and changes in lying and exploratory behavior of preparturient dairy cattle with access to pasture. *Journal of Dairy Science*. 103:5455-5465. <https://doi.org/10.3168/jds.2019-17218>

GRANDIN T, COCKRAM M. 2020. *The Slaughter of Farmed Animals: Practical Ways of Enhancing Animal Welfare*. CABI Publishing, Wallingford, Oxon, UK.

GRANDIN T, COCKRAM M. 2020. The use of abattoir data to provide information on the welfare of livestock and poultry on the farm and during transport. In: Grandin T, Cockram M. *The Slaughter of Farmed Animals: Practical Ways of Enhancing Animal Welfare*. CABI, Wallingford, UK. P245-278.

<https://www.cabi.org/bookshop/book/9781789240573/>

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S, RICHARDS S. 2020. Evaluation of environmental and comfort enrichment on affective welfare in heifer calves on smallholder dairy farms. Accepted to *Preventive Veterinary Medicine*.

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S, RICHARDS S. 2020. Effects of housing improvements and other factors on the growth of heifer calves on Kenyan smallholder farms. Accepted to *Tropical Animal Health and Production*.

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S. 2020. Management factors associated with time-to-onset and fecal egg/oocyst counts of gastrointestinal parasites in heifer calves on Kenyan smallholder farms. *Veterinary Parasitology*.
<https://doi.org/10.1016/j.vetpar.2020.109174>

LILLY M, GONÇALVES ARRUDA A, PROUDFOOT K, HERRON M. 2020. Evaluation of companion animal behavior knowledge among first-year veterinary students before and after an introductory animal behavior course. *Journal of the American Veterinary Medical Association*. 256:1153-1163.
<https://doi.org/10.2460/javma.256.10.1153>

PROUDFOOT K, VENTURA B. 2020. Impact of a frame reflection assignment on veterinary student perspectives toward animal welfare and differing viewpoints. *Journal of Veterinary Medical Education*.
<https://doi.org/10.3138/jvme.2019-0123>

WAGNER B, CRAMER M, FOWLER H, VARNELL H, DIETSCH A, SHEARER J, CORREA M, PROUDFOOT K, PAIRIS-GARCIA M. 2020. Determination of dairy cattle euthanasia criteria and analysis of barriers to humane euthanasia in the United States: Dairy producer surveys and focus groups.

Animals. 10:770. <https://doi.org/10.3390/ani10050770>

WAGNER B, CRAMER M, FOWLER H, VARNELL H, DIETSCH A, SHEARER J, CORREA M, PROUDFOOT K, PAIRIS-GARCIA M. 2020. Determination of dairy cattle euthanasia criteria and analysis of barriers to humane euthanasia in the United States: The veterinarian perspective. *Animals*. 10:1051.

<https://doi.org/10.3390/ani10061051>

ZOBEL G, PROUDFOOT K, CAVE V, HUDDART F, WEBSTER J. 2020. The use of hides during and after calving in New Zealand dairy cows. *Animals*. 10:2255.

<https://doi.org/10.3390/ani10122255>

PRESENTATIONS

BUTLER JA, NIELSEN MK, GREENBANK H, PARRISH R, STOUGHTON B. 2020. The prevalence of cyathostomin anthelmintic resistance on horse farms in Prince Edward Island, Canada. American Association of Veterinary Parasitology (AAVP) Conference, Virtual, United States

BUTLER JA, NIELSEN MK, GREENBANK H, PARRISH R, STOUGHTON B. 2020. The prevalence of cyathostomin anthelmintic resistance on horse farms in Prince Edward Island, Canada. American College of Veterinary Internal Medicine (ACVIM) Annual Forum, Virtual, United States

CREUTZINGER K, DANN H, KRAWCZEL P, HABING G, PROUDFOOT K. 2020. Stocking density impacts group-housed cows' ability to seek isolation before calving. Proceedings of the 5th Dairy Cattle Welfare Symposium. Dairy Cow Welfare Symposium, Syracuse, New York, United States

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S. 2020. Effects of housing improvements on the growth of heifer calves on Kenyan smallholder farms. Conference of Research Workers in Animal Diseases, Virtual, United States

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S, RICHARDS S. 2020. Evaluation of environmental and comfort enrichment on lying behaviours in heifer calves on smallholder dairy farms. Conference of Research Workers in Animal Diseases, Virtual, United States

KIMELI P, VANLEEUEWEN J, GITAU G, HEIDER L, MCKENNA S, GREENWOOD S. 2020. Management factors associated with time-to-onset of gastro-intestinal parasitism in heifer calves on Kenyan smallholder farms. Accepted to Canadian Association of Veterinary Epidemiology and Preventive Medicine Conference (Conference cancelled due to Covid-19)

PIMM RH, KNIGHT J, BIGELOW L, COHEN A, BERNARD P. 2020. Refinement of rat ultrasonic vocalization call characteristics and its application in assessing welfare. National Veterinary Scholars Symposium, Virtual, United States.

PIMM RH, KNIGHT J, BIGELOW L, COHEN A, BERNARD P. 2020. Refinement of rat ultrasonic vocalization call characteristics and its application in assessing welfare. AVC Summer Research & Leadership Program Poster Presentation, Virtual, Canada.

PROUDFOOT K. 2020. What's new in the maternity pen? 39th American Dairy Science Association Discover Conference: The Transition Period, Virtual, United States

PROUDFOOT K. 2020. Dairy cow maternal behaviour and maternity pen design. Campbell Centre for the Study of Animal Welfare Seminar Series, Guelph, Ontario, Canada

PROUDFOOT K. 2020. Social stress and maternal behaviour in transition dairy cows. 2020 Mastitis Network Scientific Annual Meeting, Virtual, Canada

EDUCATION

COCKRAM M. VHM-8810-1 Graduate course: Animal Welfare

COCKRAM M AND PROUDFOOT K. Coaches for the AVC student team in the veterinary division of the 2020 Annual Animal Welfare Assessment Contest, held virtually. November 2020.

PROUDFOOT K. VBS 1030 Year 1 course: Animal Behaviour and Welfare

COMMITTEE/BOARD MEMBERSHIPS

M COCKRAM

- » Section Editor: Welfare and Behaviour, *Animal: The International Journal of Animal Biosciences*, and member of Scientific Board
- » Chair, Large Animal/Exotic-Wild Subcommittee, Canadian Veterinary Medical Association Animal Welfare Committee
- » Member of Transport Code Development Committee and member of sheep and equine working groups for Transport CDC, National Farm Animal Care Council
- » Member of Board, Atlantic Poultry Research Institute
- » Member of Expert Working Group on the Welfare of Farm Animals During Transport (Free Moving Species) for the European Commission, European Food Safety Authority Scientific Panel on Animal Health and Welfare
- » Member of Editorial Board, *Journal of Applied Animal Welfare Science*

K PROUDFOOT

- » Member of Editorial Board, *Journal of Applied Animal Welfare Science*
- » Committee Member, 39th American Dairy Science Association Discover Conference
- » Alternate Member, American Veterinary Medical Association Animal Welfare Committee
- » Member and American Dairy Science Association Representative, Animal Working Group for Council for Agricultural Science and Technology (CAST)

AWARDS

- » 2020 Sir James Dunn Animal Welfare Summer Research Award
 - » Robyn Pimm, AVC Class of 2023
- » 2020 Christofor Award in Animal Welfare
 - » Hanna Hone, AVC Class of 2021
- » 2020 Dr. Tom A. W. Taylor Scholarship
 - » Courtney Walsh, AVC Class of 2022

FUNDING

- » Sir James Dunn and Christofo Foundations:
founding and sustaining funding
- » Multi-year donors: Fairview Animal Hospital,
Vetcetera Animal Hospital, Glenn Loranger, the late
David Madren, Gladys Ascah, Derek Mathers
- » Project funding:
 - » Research support: Veterinarians Without
Borders—Canada; Dairy Farmers of Canada
 - » Pegasus feral cat neuter program: Pegasus
Family Foundation, an advised fund of the
Silicon Valley Community Foundation
 - » Pegasus Helping Hand Fund: Pegasus Family
Foundation, an advised fund of the Silicon
Valley Community Foundation; AVC classes
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Stephen and Tina McCarthy
 - » Chinook Project: Rathlyn Foundation, Ann
McCain Evans, Atlantic Veterinary College,
Zoetis Animal Health, Boehringer-Ingelheim,
Government of Newfoundland and Labrador,
Veterinarians Without Borders—Canada, and
the Victoria Kennel Club
- » Universities Federation of Animal Welfare, UK
(student initiatives)
- » Many other generous individual supporters *in
memoriam*

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