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*Promoting animal welfare through research and education***Captive Animals Show Signs of Boredom**

By U of G News Service

"I'm bored!" We all know that feeling, when it seems there is nothing to do, or at the very least nothing that we would like to be doing. And when we feel it, we are usually quick to do something about it – pick up the newspaper, go for a hike, walk the dog... sometimes just a change of scenery helps.

But for captive animals, there is often no option available to 'do something else'. And it is very likely that confined animals do experience boredom, based on findings from the first ever research study to empirically investigate boredom in confined animals, conducted by Rebecca Meagher, U of G postdoctoral researcher and the study's lead author, and Dr. Georgia Mason, CCSAW Associated Faculty and Canada Research Chair in Animal Welfare.

The study's authors hope the results encourage the development of better housing systems for all captive animals, including farm, zoo, and laboratory animals – and of course our own caged pets.

"Ideas about how to assess animal boredom scientifically have been raised before, but this is really the first time that anyone's done it," said Meagher.

It's well-established that living in unchanging, inescapable environments induces boredom in humans, including prisoners, who report that they are highly motivated to seek stimulation.



Captive mink very likely feel boredom in barren, unchanging environments, and eagerly seek any form of stimulation – even normally frightening objects

"But we cannot rely on verbal self-reports from non-humans, so motivation to obtain general stimulation must form the basis of any objective measure of boredom in animals," said Dr. Mason.

The researchers presented captive mink with a variety of stimuli ranging from appealing treats and neutral objects to undesirable things such as the leather gloves used to previously catch the animals. Half of the animals in the study lived in small bare cages. The other half lived in large "enriched" cages that were enhanced with water for wading, passageways for running, objects to chew and towers to climb.

The researchers found that animals in confined empty spaces avidly seek stimulation, which is consistent with boredom. Those mink

approached stimuli – even normally frightening objects – three times more quickly and investigated them for longer. These animals also ate more treats, even when given as much food as mink in enriched environments.

When they were not being tested, mink in empty cages spent much of their waking time lying down and idle. Among them, those that spent the most time awake but motionless showed the keenest interest in stimuli.

“We don’t know whether mink or other animals truly feel bored in the same way that humans do,” Meagher said. “We can’t measure that type of subjective experience. But we can see that, when they have little to do, then just like many bored humans, they may look listless and, if given the chance, eagerly seek any form of stimulation.”

Guelph neuroscientist and psychology professor Mark Fenske, an expert in human cognition and emotion and recent co-author of a comprehensive review of boredom research, said the study is an important addition to the literature. “Surprisingly little is known about boredom, even though it is associated with significant adverse consequences for health and well-being,” he said. “Being able to now study boredom in non-human animals is an important step in our efforts to understand its causes and effects and find ways to alleviate boredom-related problems across species.”

Meagher and Mason hope the findings will prompt further research, including looking at whether intelligent animals such as primates and parrots are particularly prone to boredom in captivity, and why understimulation causes problems. They would also like to study boredom on commercial working mink fur farms.

“We’ve been working with simple, practical enrichments such as two balls and a plastic hanging chain [for mink] to chew,” says Mason. “These seem to work well and to improve reproduction, but not if left in the cages for too many months.



Mink in enriched cages with water for wading, passageways for running, objects to chew and towers to climb

So our question is – do these simple enrichments successfully reduce boredom for a while, and then the effect wears off?”

And the questions don’t end there. “Looking even further into the future I’d also be keen to see how boredom-like these states really are,” said Mason. “For example when us humans are bored, we feel as if time is passing really slowly. There are some clever laboratory techniques for assessing how animals perceive the passage of time, and I’d love to use these to see if barren cages make time appear to slow down for animals. If they did, I think that would give us much stronger evidence of true boredom.”

The research was funded by the Natural Sciences and Engineering Research Council and Guelph’s Campbell Centre for the Study of Animal Welfare. †

*To hear an interview with Dr. Georgia Mason about this research on CBC’s Quirks and Quarks, see the link on the Campbell Centre Website: www.uoguelph.ca/ccsaw. The full study appears in **PLOS ONE**, published by the Public Library of Science.*

Research

2



Research shows that certain medications work well to alleviate post-procedure pain in piglets

Toward Routine Pain Relief for Pigs By Kimberly Sheppard

Traditionally, pain relief has not been a consideration for farm animals undergoing routine procedures. Financial and time constraints have been the main arguments against providing pain medications for farm animals in general during procedures such as tail docking, castration, and dehorning. In addition, there are no pain control products currently licensed to treat piglets. The past few years, however, have seen a shift in thinking and a shift in practice. Research is showing, and producers and veterinarians are recognizing, that certain procedures are painful and certain medications are effective in controlling that pain.

Today, providing pain relief is becoming the Standard of Care in Canada. In the ‘Code of Practice for the Care and Handling of Dairy Cattle,’ pain control is a requirement when dehorning or disbudding cattle. For beef cattle, the new Codes of Practice include phasing in of requirements for pain control for dehorning and/or castration of animals past a certain

age, and for sheep (2013) pain control is a requirement for tail docking and castration of lambs for some techniques and/or used beyond specific ages. The draft Code of Practice for Pigs also includes a phasing in for pain control, to coincide with the licensing of products, giving producers time to modify their Standard Operating Procedures.

Since pain control is the way of the future for farm animals, we need to know which medications work best for the type of pain being treated, and if those medications have any affect – negative or positive – on production. Dr. Bob Friendship, in the Department of Population Medicine, Ontario Veterinary College, and his students have been studying the use of two analgesics – meloxicam and ketoprofen (two of the few pain control products approved for use in swine in Canada) on the welfare of piglets, as well as farrowing (birthing) sows.

To test the effects of ketoprofen (Anafen[®], Merial, Canada Inc.) vs. a placebo on acute- and post-castration pain, Dr. Glen Cassar, Research Associate in the Department of Population Medicine gave intramuscular injections to 1,416 seven-day-old piglets 30 minutes before castration. Behaviour observations and blood samples were taken on a subset of pigs, and all piglets were weighed at castration and weaning. The drug had no impact on growth of piglets during the sucking period. Ketoprofen does however seem to be of benefit in the treatment of post-operative pain associated with surgical castration of male piglets based on plasma cortisol results, so it may be a good option for pain control.

MSc student Ryan Tenbergen gave 2,888 piglets intramuscular injections of meloxicam (Metacam[®], Boehringer Ingelheim) 30 min prior to castration and tail docking (just tail docking

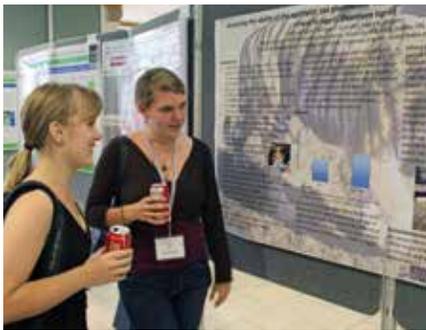
for females). He measured growth, and mortality in all pigs, and blood cortisol levels, vocalization type, and nine behaviors indicative of pain in a subset. Tenbergen found growth and mortality to be unaffected by administration of meloxicam.

Results of behavior observations and analysis of cortisol levels indicate that meloxicam treatment does reduce post-operative pain. Meloxicam administration resulted in less isolation behavior indicating that piglets probably felt less pain after the procedure than untreated counterparts. This is in agreement with previous studies which have demonstrated that castrated piglets avoid social contact with their littermates, presumably to reduce the likelihood of being bumped while they are sore.

The present study did not find a difference between the peak amplitude of vocalizations produced by the different treatment groups, indicating that the meloxicam probably did not alleviate acute pain during the procedure. Previous studies have shown a clear difference between vocalizations produced when piglets are being handled, sham-castrated, or castrated under local anaesthesia, compared to being surgically castrated with no anaesthesia. Although meloxicam does not seem to be effective in blocking acute pain associated with the surgery itself, its effectiveness in reducing post-surgery pain warrants its use.

This work has helped to show that two products, which are readily available to producers and can be used in food animals, appear to be helpful with controlling pain. In addition, the researchers have examined the effect of these products on production, which is critical information for producers as they navigate stormy economic waters, while trying to improve the quality of life of their animals. †

Public Lectures



Andrea Nace presenting her poster to a fellow student

6th Annual Animal Welfare Research Symposium

By Michelle Hunniford

This past spring, the Campbell Centre for the Study of Animal Welfare hosted the 6th annual Animal Welfare Research Symposium. The lecture theatre was filled with graduate students, researchers, faculty and industry representatives all eager to hear about topics as diverse as anhedonia in horses, animal welfare in veterinary clinics, and welfare assessments on farms. Talks were grouped thematically, by species or animal type, and were presented by graduate students from the University of Guelph.

Keynote speaker Dr. Janice M. Siegford gave a talk entitled “*The behavior &*

welfare of laying hens in aviaries: Challenges & possibilities for gathering data.” Dr. Siegford is an Assistant Professor in the Animal Behavior and Welfare Group in the Department of Animal Science at Michigan State University. She gave an in-depth update of the work being conducted at Michigan State along with their state-of-the-art facilities for studying aviary-housed hens.

Specifically, Siegford’s talk detailed the research difficulties posed by aviaries, especially an industrial scale project, in terms of collecting and analyzing data to accurately reflect the welfare

experienced by the hens. After using a variety of experimental approaches – live observations vs. video data, scan sampling vs. focal sampling – Siegford, on behalf of her group, recommended methodologies for accurately determining the welfare status of hens on a barn level. Most importantly, Siegford was able to communicate practical strategies that could be implemented by both researchers and industry professionals.

A total of 24 talks were presented, including the keynote described above, in seven different thematic sessions. The research talks represented a wide cross-section of fields, demonstrating the academic rigor of animal welfare research being conducted at the University of Guelph.



New CCSAW Associated Faculty member Dr. Alexandra Harlander (left) introducing keynote speaker Dr. Janice Siegford

Some highlights of the conference include Gosia Zobel’s talk called “Potential application of changes in activity levels for early identification of pregnancy toxemia in transition dairy goats.” Zobel was awarded “Best Conference Presentation” for educating and exciting the audience about dairy goat welfare.

Among others, Mary Watters, Alexa Main, Hannah Flint and Tara Jones presented their Master’s research on different aspects of cow welfare: intramammary infection and stall comfort experienced by dairy cows, and transport and temperament issues for beef cattle. Other animals represented at the conference included horses, mink, laying hens, broiler breeders, dogs, pigs, and mice. †

All of the abstracts can be viewed on the CCSAW website:

www.uoguelph.ca/ccsaw

Feature

CCSAW on Parliament Hill By Kimberly Sheppard

For the first time in history, CCSAW was invited to Parliament Hill. In May, Dr. Tina Widowski, CCSAW Director, was asked to appear before the Standing Committee on Agriculture and Agri-Food at the House of Commons of Canada.

The Committee was undertaking to look at issues around animal welfare, as consumers and various interest groups want to ensure that food animals are well treated throughout their lives. The industry is responding by adapting its production practices in a number of areas, and the Committee wanted to discuss government and industry initiatives for animal welfare. Other witnesses included representatives from the National Farm Animal Care Council, the Retail Council of Canada (grocers), and the Chicken, Egg and Turkey Farmers of Canada.

Having served on three of the Scientific Committees for new Codes of Practice for the Care and Handling of Farm Animals (pigs, meat poultry and layers), Widowski spoke about the science based approach for developing policy in Canadian animal agriculture, the role of science in the Codes of Practice



now and in the future, and the continued need for government support for research in animal welfare science.

Widowski was asked in particular about cuts to Agriculture and Agri-Food Canada (AAFC) animal welfare scientists positions across Canada.

“The recent cuts have resulted in a loss of some of Canada’s top animal welfare researchers as well as young up-and-coming scientists – all of whom contributed significantly to the growing research needs and increasing demand for science-based standards” said Widowski.

“Animal welfare research is key to informing the development of evidence-

based animal care standards and the evolution of animal husbandry methods that ensure meaningful improvements in farm animal welfare” she continued. “Therefore, it is critical that research, industry and animal welfare policy continue to be supported at both the provincial and federal levels to keep Canadian producers competitive and to ensure a balanced approach to setting animal care standards for Canada’s farm animals.” †

‘Going to the Vet’ is no Party for Most Pets, but OVC Researchers are Working Toward Making it Better



Research shows that manipulations during the early stages of the veterinary appointment cause the most fear in cats

Regular examinations and vaccines are widely recommended for cats by veterinarians, and are critical to optimal health and welfare. However, many cats do not receive regular veterinary care, and recent data suggests that veterinary visits for companion animals are in decline. A number of contributing factors have been identified, but one key factor that prevents owners from taking their pet to the veterinarian is animal stress, particularly for cats.

Fifty-eight percent of cat owners agreed that their pet “hates going to the vet” and 38% indicated that “just thinking about it is stressful”. Specific concerns identified by clients include difficulty transporting the cat to the veterinarian, negative reactions displayed by the cat at the veterinary clinic and how the cat is handled during the examination.

Ongoing research by Dr. Lee Niel and her graduate students at the Ontario Veterinary College is aimed at understanding what aspects of veterinary care cause stress in cats and examining the effectiveness of different strategies for treatment and prevention. Megan Toner, former UoG graduate student and current OVC DVM student, focused her MSc research on cat fear and aggression in response to handling during routine veterinary examinations in order to determine what aspects of the appointment are of particular concern.

Fifty-eight percent of cat owners agreed that their pet “hates going to the vet.”

Megan video-recorded 21 cats during their appointments at the OVC Primary Healthcare Centre (PHC), and examined their behavioural responses during entry into the exam room, examination of the head and body, monitoring of heart rate and temperature, and before, during and after vaccination. Standard practice at the PHC is to provide cats with a short habituation period during which they can exit their carrier on their own. However, out of the fifteen cats that were brought into the appointment in carriers, only 5 exited the carrier willingly and the remaining cats had to be removed by the veterinarian.

Similarly, the majority of cats showed fearful behaviours early on in the appointment when the veterinarian was performing a physical examination of the head and body. Just over half of the cats attempted to swat at the veterinarian during the appointment, and this behaviour mainly occurred during the physical exam. Surprisingly, fewer cats showed fearful and aggressive behaviours before, during and after their vaccination, which occurred at the end of the appointment, even though this aspect of the visit generally involved greater restraint and pain associated with the vaccination.

These results suggest that manipulations during the early stages of the appointment caused the most fear in cats, and that they had adapted to the handling by later stages of the appointment.

While it is often suggested that cats won't eat treats in veterinary settings, 40% of the cats that were offered treats ate them. Since the cats in this study appeared to adjust to handling throughout the appointment, it seems that they would benefit from regular, positive

handling by unfamiliar people, and that treats are appropriate for counteracting some of the negative effects of handling during the actual appointment.

Further research by Dr. Niel and her students is focused on surveying which handling methods are commonly being used with cats in clinics, and whether some of these handling methods are less likely to cause fear and stress in cats than others. They are also looking more broadly at animal welfare in veterinary clinics, and methods for assessment and improvement. †

Alternative Feeding Strategies Improve Broiler Breeder Welfare

By Kimberly Sheppard

Consumer demand for more food at a lower price-point is at an all-time high. The agricultural industry has responded to these demands, using proven and innovative methods to produce cheap food – and lots of it. The meat chicken industry especially has elicited very rapid changes using genetics and nutrition.

Birds that grow quickly, efficiently and have large breast muscle yield are being selected to propagate the genetic lines. Every year, growth rates increase, so much so that age at market weight is more than 15 days younger than in the 1960's. Although feed efficiency has increased in the last 50 years, birds are still eating more than ever before due to huge appetites, leading to major welfare concerns for any meat-type bird that is subjected to feed restriction.

Because broiler breeders are bred specifically to produce fast growing progeny, they have the same genetic potential to grow as quickly and efficiently as broilers. However, to ensure optimal health and productivity during rearing and into lay, broiler breeders must be severely feed restricted to limit excessive growth.

Yet, long term feed restriction leads to frustration, chronic hunger and associated behavioural problems, like stereotypic pecking. Attempts at alleviating these problems have included the use of alternative diet types with high levels of dietary diluents or appetite suppressants. By using such diets, the volume of feed rationed per day could be increased without increasing caloric intake. In addition, the inclusion of calcium propionate, acting as an appetite suppressant, reduces hunger levels without increasing feed allowance.

Dr. Stephanie Torrey, Research Scientist with Agriculture and Agri-Food Canada, at the University of Guelph and her research team have been investigating

the efficacy of an alternative diet for reducing hunger and related behavioural problems. Previous research by Sandilands and colleagues has indicated a welfare benefit with diets including a stable fibre source and increasing levels of an appetite suppressant, by almost entirely eliminating the occurrence of stereotypic behaviour.



Photos by Ashleigh Waz

Being the parents of fast-growing meat birds (broilers), broiler breeders must be feed restricted to limit excessive growth

However, most of the research concerning hunger reduction techniques for broiler breeders has been carried out in the United Kingdom; the fibre source (oat hulls) may not be as commercially applicable in North America. For that reason, a more readily available fibre source (soybean hulls) was tested instead. In addition, differences in the efficacy of the source of calcium propionate have been indicated in two studies by Savory and colleagues.

Therefore, Dr. Torrey and her team compared two alternative diets, both with 400 g/kg of soybean hulls included. Along with the soybean hulls, the first alternative diet (F) incorporated a feed-grade quality of calcium propionate and the second (P) included a purified version. In addition, the two

experimental diets, plus a control diet, were fed on either a daily or skip-a-day basis, resulting in a total of six dietary treatments.

The researchers examined behaviour, growth, egg production, feather condition and preferences when broiler breeder chickens were reared on these different dietary treatments. They also reared non-feed restricted dual purpose chickens on both the control and F diets to determine their preference between the two, and their motivation to gain access to their preferred diet.

As the researchers expected, both the alternative diets were more successful at reducing hunger than their control counterpart. The F birds had the best feather condition, possibly due to less feather pecking behaviour. The F diet also resulted in the greatest reduction in hunger, as the birds on this diet showed less feather-pecking, object-pecking and aggressive pecking, and were less active than the control birds.

The P diet appeared to have some beneficial effects as well, but birds were observed standing and perching during feeding bouts more often than both the control and F birds. The researchers suspected that this might be a direct effect of either an increase in satiety or a reluctance to consume the P diet, indicating some level of feed aversion. However, upon testing this, there was no preference between the F and P diet when twelve immature cockerels were preference tested with continuous access to both alternative diet types, to compare palatability differences between the F and P diets.

In a follow-up experiment, the researchers examined if there were differences in palatability between the control and F diets, by measuring slower-growing, non-feed restricted hens' preference between the two diets, and

their motivation to gain access to their preferred diet. When given free access, the hens consistently chose the control diet rather than the F diet, a preference that was confirmed when the hens were forced to choose between the two in a testing arena. In a motivation test, hens were willing to work to gain access to their preferred diet, which may indicate that the addition of fibre and calcium propionate to the diets is unpalatable to full-fed chickens.

The behavioural benefits of a skip-a-day feeding regime are less clear. It was thought that the skip-a-day schedule would result in more hunger-related behaviour due to the lack of daily feedings. However, there may be some indication that it increased the feeling of satiety since resting was observed more frequently than with daily-fed birds.

Based on the feather pecking results, there was an interaction between diet



Standing and perching at feeding time could indicate satiety or aversion to the feed additives

and feeding frequency on the efficacy of hunger reduction, as the majority of pecking was observed in the skip-a-day control birds, and the least in skip-a-day-F and skip-a-day-P birds. In addition, alternative skip-a-day birds were less active than the control skip-a-day or daily-fed birds and had better feather condition at 20 and 26 weeks of age.

Based on these results, the alternative diets reduce behavioural indicators of



So, are they full, or do they not like the feed? Preference tests are used to determine if birds prefer one food type over another

poor welfare, although it is still unclear if using them would swap one welfare insult (hunger) with another (unpalatable diet). While the alternative diets resulted in increased satiety, there was still evidence of sustained hunger, indicated by the lack of eradication of stereotypic behaviour. The use of these diets should be investigated in combination with changes to genetics to further improve broiler breeder welfare. †

Feature

New Online Equine Welfare Certificate Program!!

Providing the tools and knowledge to make a real difference for horses

CCSAW is excited to announce our collaboration with the Centre for Open Learning and Educational Support, and Equine Guelph, in order to bring you the new Equine Welfare Certificate!

Offered as an extension of the award-winning Equine Science Certificate, the Equine Welfare Certificate provides students with the opportunity to explore animal welfare issues in the horse industry. It is open to individuals who desire a deep understanding of factors that affect horse welfare and provides the tools and knowledge necessary to ensure optimal welfare for all equines in our care.

"It is extremely important that everyone who owns or works with horses understands not only the complex issues, but also the common practices in daily care and management that can affect the welfare of horses," explains Tina Widowski, Director of the Campbell Centre for the Study of Animal Welfare. "Through our partnership with Equine Guelph, we are able to combine top expertise in both equine science and animal welfare science to deliver a practical and well-rounded program in Equine Welfare."

Consisting of six online courses, this program is designed to engage students who have a passion for improving the lives of equids and examines the biological and emotional factors that affect a horse's quality of life. Two new courses, "Equine Welfare" and "Global Perspectives in Equine Welfare" provide a foundation for understanding equine welfare fundamentals and issues around the globe:

Equine Welfare explores controversial and sensitive issues surrounding the use of horses, introduces students to concepts in animal welfare and how it is defined, investigates how welfare can be objectively assessed in the horse, and examines specific practices which may compromise horse welfare.

Global Perspectives in Equine Welfare explores practices across the globe, examines current issues of wild horse management, working horses in developing countries, racing and sport horse practices, slaughter legislation, horses in research, unwanted horses and equine rescue facilities, and compares different equine management practices used around the world. †

To learn about the Equine Welfare Certificate Program or to register for a course, please visit our program website:

www.equinewelfarecertificate.ca

Cargill Animal Nutrition Young Scientist Award

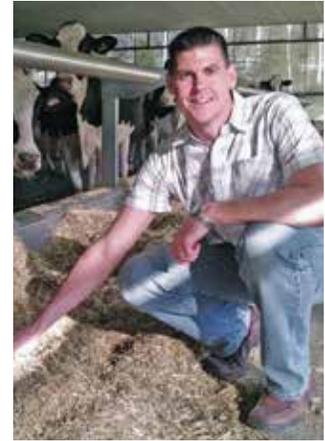
By Maggie McCormick, OAC Communications Intern

Kemptville Campus professor Trevor DeVries was recently awarded the Cargill Animal Nutrition Young Scientist Award at the annual American Dairy Science Association meeting in Indianapolis, Indiana. The award recognizes exceptional research in dairy production by a scientist who is within the first 10 years of his/her career. DeVries was among four Canadians honoured for their work in dairy science.

Professor DeVries is an Associate Professor in the Department of Animal and Poultry Science where his research focuses on links between nutrition, behaviour and welfare. DeVries is examining the development of feeding behaviour in dairy cattle and the physiological consequences of the behaviour.

“I feel honoured to have received this award,” he says. “I attribute the success of my research group to the hard work of my students and the support provided by the University of Guelph Kemptville Campus, the Department of Animal and Poultry Science, and OAC.”

Professor DeVries’ current research projects are focused on understanding and management of diet selection in dairy cattle, improvement of feeding and management of calves and replacement dairy heifers, and the effects of housing and management on the behavioural patterns and risk of illness in dairy cows. †



CCSAW Associated Faculty member Dr. Trevor DeVries, recipient of the Cargill Animal Nutrition Young Scientist Award

Dairy Cattle Welfare Symposium

Examining and improving dairy cattle welfare now and into the future By Janet Higginson

The first Dairy Cattle Welfare Symposium was held in Guelph in fall of 2012. Hosted by the University of Guelph and CCSAW and spearheaded by Dr. Ken Leslie, the Symposium attracted over 300 people from 19 countries, including producers, veterinarians, researchers, students and industry representatives.

Throughout the three day Symposium, eight keynote speakers, recognized both nationally and internationally, provided information on current and future welfare concerns in the dairy industry. In addition, twenty-nine research reports and 69 scientific posters were presented, covering a vast range of topics, from heritability of tongue lolling to effects of snowy days and flies on dairy cattle welfare, to various aspects of cow comfort and nutritional considerations.

Interactive workshops on lameness, euthanasia, low stress handling and on-farm assessments to improve welfare provided participants with hands-on environments for learning.

This symposium was the first meeting of its kind and scope to devote its entire program to the translation and transfer of knowledge pertaining specifically to dairy cattle welfare. Such information is critical to the dairy industry, both locally and abroad, and will no doubt shape the way that dairy cattle are housed, managed, handled, and fed in the present and future.

The generous contributions of 36 sponsors helped to contribute to this successful Symposium.



Read the full papers! No topic was left uncovered:

- Assessment and Guidelines for Dairy Cattle Welfare
- Welfare Related to Feeding, Housing and Health of Dairy Calves
- Welfare Implications of Dairy Cattle Housing and Feeding Management
- Management of Lameness and Other Health Problems for Dairy Cattle Welfare
- Detection and Management of Pain in Dairy Cattle

...and much, much more!

To see the list of full papers, visit the CCSAW website – they are available by request: www.uoguelph.ca/ccsaw

Where Are They Now?

...Off in all directions! CCSAW grads take very different paths with one common thread – they are all out there improving the welfare of animals we use every day, for different purposes



Janet Higginson,
Post-doctoral fellow,
Ontario Veterinary College

Dr. Janet Higginson Cutler's post-doctoral fellowship began in March 2013 working with Dr. Jason Coe in the Department of Population Medicine. Janet worked as a dog trainer during graduate school which led

to an interest in the development of fear and aggression problems in dogs. This resulted in her interest in research focusing on examining the effects of puppy socialization and owner education on the development of behaviour problems and relinquishment of dogs. These research projects will encompass qualitative research examining owner experiences with their puppies and surveys gathering information on puppy behaviour, as well as developing an owner education program.



Justine Demming,
Assistant Professor,
Morrisville State College

Shortly after defending her MSc in animal behavior and welfare at the University of Guelph, Justine was hired as Assistant Professor of Dairy Science at Morrisville State College in Morrisville, New York in June of 2012.

Justine teaches a range of courses over the fall and spring semesters including Introduction to Dairy Science, in which she emphasizes proper animal handling and behavior and the 'Five Freedoms'. She leads by example, teaching positive animal welfare in her Calves and Heifers course. Justine also teaches Dairy Cattle Judging and Selection, Dairy Reproduction, Dairy Management Perspectives, Artificial Insemination, Animal Genetics, and Advanced Dairy Reproduction. For the past two years she has also served as coach of the dairy judging team.



Amanda McKibbon,
Manager, Animal Welfare
and Operations, OSPCA

Following completion of her MSc. by coursework, Amanda began with the Ontario Society for the Prevention of Cruelty to Animals in November 2012 as Manager of Animal Welfare and Operations. As an integral

member of the Animal Welfare team Amanda initiates and coordinates research activities and assists in the development and refinement of programs, strategies and training aimed at improving animal welfare and heightening public awareness and support of the Ontario SPCA Branches and Affiliate Community. Amanda has also had the opportunity to take on special projects such as coordinating the opening of the Ontario SPCA's third high volume, high-quality spay and neuter clinic and planning and executing the annual Ontario SPCA Educational Conference.



**Angela Greter, Program
Manager of Alberta Farm
Animal Care (AFAC)**

Angela began work as the Program Manager of Alberta Farm Animal Care (AFAC) in September 2012 while still completing her PhD. This position became full-time in January 2013 following

successful defence of her PhD. Angela's job includes a variety of activities, including coordination of the annual Livestock Care Conference, Livestock Handling Trailers and Training program, and the ALERT line; development of project and funding proposals related to animal care, humane handling, social license, and public relations; completion of said projects; and communications. In addition to her duties at AFAC, Angela is also the CEO of AgNOSIS Continuity, a consulting company offering agricultural-based emergency preparedness, disaster recovery, and business continuity planning services to producers and agri-businesses. Angela's focus at AgNOSIS relates to proper and effective emergency planning centred on ensuring maximal welfare for poultry and livestock in the face of both man-made and natural disasters.

Annual Intercollegiate Animal Welfare Judging & Assessment Contest Hosted at Guelph

By Kimberly Sheppard; photos by Michelle Hunniford



Ian Duncan explaining some points about dairy cattle welfare

Students from across North America, Ireland and Grenada descended upon the University of Guelph to hone their skills in animal welfare assessment this past fall. For two years running, CCSAW had the opportunity to host the Animal Welfare Judging & Assessment Contest –

a special educational event that had always been held at Michigan State University since its inception thirteen years ago.

“This competition was the largest ever, with ninety-seven students taking part” said Tina Widowski. “It was great to see so many students competing from so many schools – and to see the trophies making their way around the world.” Colorado State University’s team took home the first place trophy for undergrads and the University College Dublin took the DVM trophy home across the pond.

The Animal Welfare Judging and Assessment Contest is an educational tool for enhancing understanding and awareness of welfare issues affecting animals used for human purposes (e.g., agriculture, research, companionship). The Contest teaches ethical reasoning, encourages objective assessment of animal welfare on the basis of scientific theory and data, promotes critical thinking, and improves communication skills.

Included in the contest is a live animal assessment, which allows students to observe animals and make welfare recommendations based on behaviour and management. Students also study and judge fictional scenarios – they are given thirty minutes to view a comparative scenario involving an animal welfare situation, and twenty minutes to compile

their reasoning and determine whether the welfare of animals in one scenario is better or worse than in the other.

The students must then present their reasoning and findings to an expert panel of scientists and veterinarians in a logical and persuasive manner. The scenarios are complex and difficult to judge, and include a variety of issues and information. Reasons for judgment must also cite scientific evidence, so students must be well prepared.



Meagan King and Chris Hauser won first place overall in the Graduate and Veterinary Divisions, respectively

Three divisions of students compete in the Contest: Undergraduate, Veterinary Medicine and Graduate. This year, the University of Guelph won the overall Graduate Student division with a team of Vanessa Beaudoin, Stephanie LeBlanc, Meagan King, Chantel LeBlanc and Judy Stryker, coached by Tina Widowski. Meagan King was the 1st place individual in this division. Many congratulations to these students!

The Guelph Veterinary Student team, coached by Derek Haley, came second in their division. Other Guelph students who did well were Melissa Speirs (5th place individual in the Undergraduate Student division) and Chris Hauser (1st place individual in the Veterinary Student division).

This year’s contest was opened by OAC Dean Rob Gordon. Major financial sponsors for the event were the American Veterinary Medical Association and Tyson Food. And to ensure a Canadian flavour to the contest – Tim Horton’s provided food for the weekend and Harmony Organic donated dairy products. Many thanks to our sponsors!! 🍷



First place University of Guelph Graduate Division team with coach, Tina Widowski. Left to right: Megan King, Tina Widowski, Stephanie Leblanc, Vanessa Beaudoin-Reichmann, Judy Stryker, Chantal Leblanc.



Animal Welfare Judging & Assessment Contest judges, left to right: Jeff Rau, Dave Miller, Rebecca Meagher, Allison Taylor, Carolyn Stull, Rachel Cezar, Penny Lawlis, Karen Schwean-Lardner, Elsa Vasseur.

Graduate Theses Successfully Defended!

Cindy Todd, PhD

An investigation into the effects of free-access acidified milk replacer feeding programs on the productivity and welfare of the calf

Nathalie Christine Newby, PhD

Pain assessment and management after abdominal surgery or parturition in dairy cattle

Janet Higginson Cutler, PhD

Welfare in dairy cattle: Epidemiologic approaches for detection and treatment of lameness

Angela Greter, PhD

Towards understanding feeding motivation and management factors affecting feeding behaviour in limit-fed dairy heifers

Completion of thesis-based MSc. projects

Teresa Casey, MSc.

Effectiveness of a non-penetrating captive bolt for euthanasia of suckling and weaned piglets

Justine Deming, MSc.

Farm- and cow-level effects on the behavioural patterns of dairy cows milked with automatic systems

Jessica Zaffino MSc.

An evaluation of hock, knee, and neck injuries on dairy cattle in Canada

Ryan Tenbergen, MSc.

Investigation of the use of analgesics at the time of castration and tail docking and following parturition for improving performance and reducing pain in pigs

Krysta Morrissey, MSc.

The effect of dietary alterations on growth, productivity, behaviour and preference of broiler breeder females

Jessica Fox, MSc.

The effect of water sprinkling market pigs transported during summer on pig behaviour, gastrointestinal tract temperature and trailer micro-climate

Lena Levison, MSc.

Pathogen identification and incidence rates of clinical mastitis on organic and conventional dairy farms

Martha Geiger, MSc.

Exploring donkey welfare and positionality in Maun, Botswana

Amy Sova, MSc.

Associations between herd-level feeding and housing management practices, ration characteristics and production of free-stall housed dairy cows

Kelly Hart, MSc.

Effect of frequency of milking and feed delivery on the behavioural patterns and productivity of lactating dairy cows

Are you a U of G student interested in studying animal welfare? Join the CCSAW Student Chapter and get involved!

The CCSAW Student Chapter is a student run club that helps connect students interested in animal welfare to events, seminars, and activities that occur cross campus and in the community. The Student Chapter is run by four graduate students from the Animal Behaviour and Welfare group based in the Animal and Poultry Science Department and Population Medicine. However, animal welfare study opportunities span the campus, as we have Associated Faculty in not only the sciences, but the Arts, Geography and History!

The majority of members are undergraduates seeking more information on animal welfare related career paths and opportunities. Membership is open to students from all disciplines across campus, and no previous knowledge of animal behaviour or welfare is required.

Regular updates are sent to members in a monthly newsletter and email reminders for upcoming welfare related seminars, field trips, competitions, and fundraisers.

How can you benefit by joining?

LEARN!!

- about the field of animal welfare science
- about Work-study opportunities first
- about Summer Student opportunities first
- through events and seminars
- meet animal welfare scientists from around the world

VOLUNTEER!!

- at the education booth
- with animal behaviour and welfare research projects

PARTICIPATE!!

- in education and outreach activities
- in field trips to the Toronto Zoo, SPCA etc.
- in student writing competitions

To join the CCSAW Student Chapter, contact the club's president, Teresa Casey: tcasey@uoguelph.ca

Volunteering at the Animal Welfare Judging Competition, left to right: Hillary Dalton, Elyse Germain, Madison Kozak, Teresa Casey-Trott



Mark Your Calendars!

The Animal Welfare Foundation of Canada Lecture, in Memory of Basil Capes, will be held Wednesday March 26th, 2014, at 7:00pm, 1714 Lifetime Learning Centre, Ontario Veterinary College.

We are honoured to host Dr. Sandra Olsen, Research Associate in the Biodiversity Institute, University of Kansas. Until very recently, she was the Head of Anthropology and Director of the Center for World Cultures at Carnegie Museum of Natural History, where she was been employed since 1991.

As a zooarchaeologist, Olsen focuses on the social impact of horse domestication and breed differentiation, especially the development of the Arabian horse. She currently studies Saudi Arabian rock art with GigaPan photography and other advanced imaging techniques.



Dr. Sandra Olsen

Olsen co-curated the American Museum of Natural History exhibition *The Horse* and the International Museum of the Horse (Kentucky Horse Park) exhibition *A Gift from the Desert*:

The Art, History and Culture of the Arabian Horse. Olsen has published a catalogue for the *A Gift from the Desert* exhibition with Cynthia L. Culbertson as well as more than 50 articles and three edited volumes: *Scanning Electron Microscopy in Archaeology*, *Horses through Time*, and *Horses and Humans: The Evolution of Human-Equine Relationships*.

Her work has reached the media coverage by BBC radio, National Public Radio, Discovery Channel Canada, Discover magazine, LA Times, London Times, and Discovery Channel News, Live Science, and National Geographic Society News websites.

Olsen will be talking about the human-equine bond throughout antiquity and its link to equine welfare. For more information, visit the CCSAW website:

www.uoguelph.ca/ccsaw



CCSAW
CELEBRATING 25 YEARS
of Improving Animal Welfare
through Research and Education

Watch for our 25th Anniversary Issue, out this summer! This special issue will be dedicated to a quarter century of CCSAW history.



The Campbell Centre for the Study of Animal Welfare

To learn about how you can support the centre or to join our e-mail list, go to:

www.uoguelph.ca/ccsaw

or write to:

The Campbell Centre for the Study of Animal Welfare

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