

CSAW



News

The Colonel K.L. Campbell

CENTRE for the STUDY of

ANIMAL WELFARE

Issue # 9

Winter 1997

Manitoba farmers face up to welfare issues

The Manitoba Farm Animal Council handled a hot topic last November when they organized an open forum on animal welfare and livestock housing.

The one-day meeting, entitled "Animal Care '96", brought together farmers, extension staff, government officials, humane society representatives, academics, students and the general public. The agenda was welfare implications of housing systems and procedures in livestock agriculture.

Controversial topics in animal behaviour and welfare were reviewed by four experts, followed by a panel discussion where speakers fielded questions from the floor.

A complex issue

Dr. David Fraser opened the meeting by discussing the complexities of animal welfare. Fraser, with Agriculture and Agri-Food Canada's Centre for Food & Animal Research in Ottawa (and recently appointed to the Chair in Animal Welfare at UBC - see article on page 8), pointed out that even an apparently simple decision about whether or not to cull a runt piglet, depends on values, economics, regulations, available technology and knowledge. He emphasized that because animal welfare issues are so complex, we should not expect to have universal agreement on every issue - but should be respectful of viewpoints from all sides.

Handle with care

Dr. Jeff Rushen, another scientist with Agriculture and Agri-Food Canada at the Lennoxville Station in Quebec, spoke about dairy cow and calf welfare. Rushen has been

carrying out experiments showing that cattle are very sensitive about how they are handled. Cattle remember how they've been treated - roughly or gently - and it has an effect on their production and their behaviour in the future. Although cattle can recognize handlers individually, they also make links with more general cues such as what the person was wearing and where the rough handling occurred. The message is clear; if something unpleasant has to be done to a cow, such as medical treatment, it should not be done by the normal caretaker and not in the animal's home stall or in the milking place.

Sensible alternatives

The matter of aversive procedures such as de-horning, castration and branding was dealt with by Dr. Joe Stookey of the Western College of Veterinary Medicine at the University of Saskatchewan. He emphasized that there is no real need to de-horn beef cattle when we can breed for cattle without horns by making use of the polled gene. He kept the audience on their toes by showing a series of slides of Hereford bulls with their heads out of view and asking the audience to guess whether they were horned or polled. The audience, including some knowledgeable beef farmers, were wrong more often than they were right! Fashion and pre-conceived ideas have a lot to answer for.

Find a balance

CSAW Director Dr. Ian Duncan drew the presentations together by talking about "Counting the Costs and Benefits". He indicated that many intensive husbandry

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Stray dogs a major problem in Taiwan

by Ian J.H. Duncan, CSAW Director

Abandoned pets are often considered a major welfare problem in Canadian towns. However, this pales in comparison to the problem in Taiwan where there are somewhere between half a million and two million stray dogs! This disturbing fact came to light when I made a recent visit to Taiwan to talk about animal welfare.

Taiwan's concern for farm animal welfare (see story below) is a harsh contrast to the overwhelming problem of stray dogs in the country.

Taiwanese like to have a dog around the house, but there seems to be just enough money to feed it, and not to have it neutered. Buddhist philosophy also states that a pet dog should have freedom to wander. The result – dogs breed and litter pups away from home.

The sub-tropical climate means the homeless pets do reasonably well. And with many elderly people putting food out for them, malnourishment appeared less of a problem than fleas. These strays are not the same as abandoned pets in the West; they are a semi-feral population that have arisen due to a combination of circumstances.

Stray dogs are a cause of traffic accidents and (probably) a source of some human infections. In response to complaints, local authorities will sometimes order a round up of strays. For some reason, this job falls on the garbage collectors, and the methods they use for trapping the dogs are anything but humane. Trapped dogs are taken to huge

“shelters”. We visited one that held 7,800 dogs in appalling conditions (despite the best efforts of a dedicated staff). The Buddhist philosophy also does not accept euthanasia as a solution; it is believed that these animals have a right to life. In fact, we were told that shelter supporters would stop donating money for dog food if any animals were euthanized. Shelter dogs are in such poor condition that few are ever adopted. And so the problem continues to escalate, with no solutions in sight.

Although Taiwan is one of the few Asian countries that is rabies free, we used the spectre of an outbreak to try and persuade the Minister of Agriculture (whom we met at the end of our trip) that something must be done immediately. Government-supported shelters would allow suffering dogs to be put down – and give staff the chance to

clean up, condition and spay/neuter the remainder who may then have a chance of being adopted. Combined with a vigorous spay/neuter campaign for all pet dogs, the problem may begin to get under control.

I was left with some wonderful impressions of Taiwan. When the Portuguese first landed on the island, they named it “Formosa” or beautiful place. The scenery is beautiful – but so are the people – very kind and hospitable and I saw none of the poverty that is all too often part of North American city life. It is a country that is developing quickly with a penchant for copying the West.

I hope they'll be selective about what they copy and will be careful to preserve the good things from their traditional lifestyle.

Taiwan hosts first ever Asian animal welfare conference

Last September, Taiwan became the first country in Asia to organize an international conference on animal welfare. Over the past several years there has been an increasing interest in a scientific approach to animal welfare in the Republic of China (Taiwan's official title) due mainly to the hard work and dedication of Dr. Liang Chou Hsia, a professor at the Ping Tung National Polytechnic Institute in the south of Taiwan. Dr. Hsia took his PhD on pig behaviour at Edinburgh University in Scotland, under the supervision of Professor David Wood-Gush – and while in Edinburgh developed an abiding interest in animal welfare. This year, Hsia persuaded the

Taiwanese Ministry of Agriculture, along with two industries, to sponsor an animal welfare conference, and I was invited, along with six other welfare experts from around the world, to take part.

The conference took place in two locations – at the Ping Tung Institute and one in the capital, Taipei, located in the north. The events attracted approximately 200 people and included farmers, academics, representatives from humane organizations, government officials and members of the public. Papers were all presented in English, and translated sentence by sentence into Chinese – testing the audiences' power of concentration!

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Taiwan, continued from page 2

Speakers were taken to see what the main animal welfare problems are in Taiwan. We toured various pig and poultry units and were impressed by the high standards of management. Housing units were not very different from what might be seen in Europe or North America, except that since Taiwan lies half in the tropics, housing environments are not completely controlled. The other big difference was the smaller size of units.

There are approximately 800,000 agricultural households in Taiwan – representing 19 per cent of the total population (compared to two per cent in Canada). The average land base is just one hectare for the four million people that live on farms. Taiwan's total population is just over 21 million.

There have been recent moves in Taiwan to increase unit sizes, in the hopes of improving economies of scale. We pointed out, however, that Europe, Canada and Australia are questioning the wisdom of huge industrial animal units on two accounts. Large units lead to large manure disposal problems and many welfare-friendly husbandry systems work much better on a small scale.

For some years now, Taiwan has paid much attention to waste treatment; 80 per cent of units raising 200 or more hogs have their own waste treatment facility. We also saw many poultry units which composted and sold their manure. Animal welfare is a much more recent concern.

It seems that Taiwan is looking to export both pig and poultry products throughout the Pacific rim and has realized that some customers may be looking for products from welfare-friendly systems.

The small size of their pig and poultry enterprises, and the high labour input, make Taiwan a great candidate for a gradual move to alternative husbandry systems. Some farmers are already keeping sows in groups rather than stalls. And a local breed of meat chicken is traditionally allowed to wander forested hillsides from their open housing to roost at night – so the management expertise required to make alternative systems work is available. Humane slaughter plants are the rule rather than the exception.

With encouragement, I think that Taiwan could soon be a leader in farm animal welfare.



Manitoba, continued from page 1

systems, such as battery cages for laying hens, stalls for dry sows, crates for veal calves and certain procedures such as beak trimming of poultry, tail-docking of pigs and castration of many farm species – all developed for very logical reasons. Very often, there were benefits for some aspect of the animals' health or welfare. Current evidence, however, suggests that these systems and procedures often 'cost' the animal in terms of its welfare.

To properly assess welfare, the costs and benefits must be weighed carefully. With regard to modern poultry production, he outlined what the benefits and costs might be. The welfare benefits include improved hygiene, protection from predators and climatic extremes, general control over the environment and provision of a balanced nutritious diet. The costs include a degree of deprivation, fear, frustration and pain. Dr. Duncan suggested ways that the cost to the animal can be reduced – without losing the benefits and therefore improving its welfare.

The real cost

The panel discussion with speakers, that wrapped up the day, confirmed the interest level of the audience by the quality of pointed questions being asked. There was great discussion on the financial costs of improving animal's welfare. The panel felt many improvements could be made at very little cost – which may even lead to improvements in productivity (e.g. more milk) and product quality (e.g. less bruising). Perhaps more important is the difficulty in predicting the ultimate "cost" if society lost confidence in animal agriculture and stopped buying certain products.

The Manitoba Farm Animal Council are to be commended for providing an open forum to deal with the controversial issues around farm animal welfare. Solutions to welfare problems are much more likely when there is dialogue between the interested parties, respect for different viewpoints and knowledge about how animals feel.



Research report

Why are broiler breeder roosters so aggressive?

S.T. Millman, I.J.H. Duncan and T.M. Widowski,
Department of Animal & Poultry Science

In 1993, concerns were raised by the poultry industry about a growing problem in broiler breeders, the parents of chickens produced for meat. Roosters, particularly those of one strain, were reported to be extremely aggressive toward hens, causing injury and mortality and posing a serious welfare problem.

Fighting between males and females is unusual in domestic fowl.

Roosters and hens have separate social hierarchies and use behavioural signals which aid in communication between the sexes. Roosters perform courtship displays that attract hens. Hens indicate their willingness to participate in mating by adopting a sexual crouch. So why are the roosters being so aggressive to hens?

Meat-type chickens have been bred for increased appetite and fast growth. Because of genetic differences, they must be managed very differently than the layer strains that we use to produce table eggs. In management of broiler breeding stock, feed intake must be severely restricted in order to prevent obesity. We know that frustration of feeding behaviour can increase aggression, and that broiler breeding fowl show signs of frustration - like excessive drinking and constant pecking at empty feeders.

The project reported here was conducted to determine whether the aggression displayed by broiler breeders was due to some genetic difference in the aggressive and sexual behaviour of meat-type roosters or to frustration of feeding.

The behaviour of males of two broiler breeder strains were compared with a commercial laying strain. Half of the males in each strain were full fed while the other half of the males were feed-restricted according to the management

guidelines. Restricted laying strain males were fed to maintain a body weight 90 per cent of laying strain males fed ad libitum.

Behaviour observations were taken from 25 through 37 weeks of age. Male courtship displays, matings and general female responses, such as approach, avoidance and escape were recorded. Forced matings were recorded as those in which the female appeared to be uncooperative through fleeing, struggling and/or squawking.

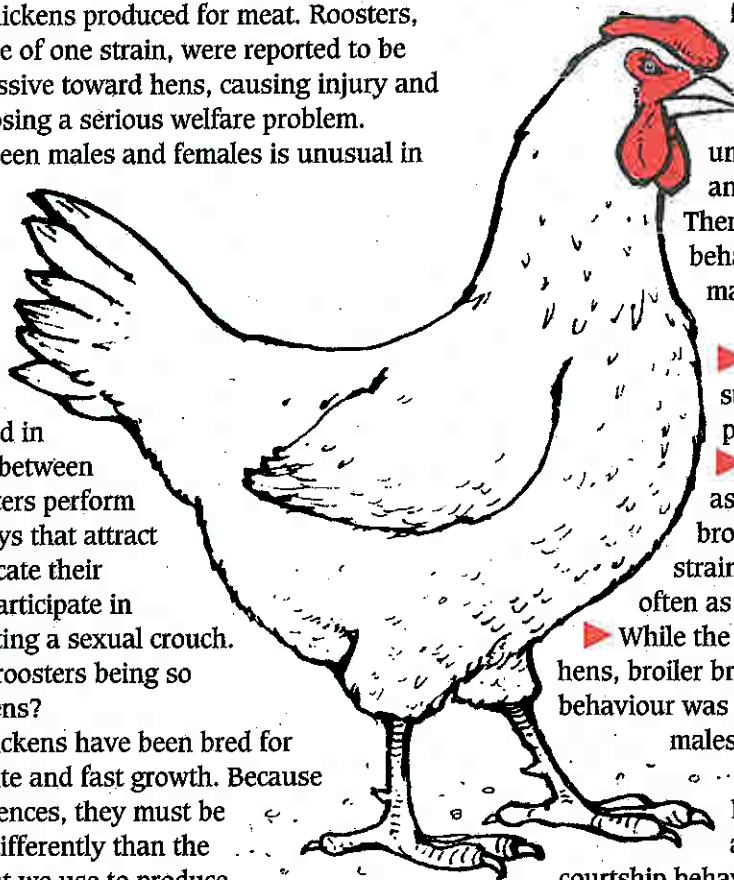
There were significant differences in the behaviour of the different genetic strains of male.

- ▶ Half of the matings by broiler breeder strains were forced compared with only 12 per cent by the laying strain.
 - ▶ Laying strain males showed three times as much courtship behaviour as did the broiler breeder males. Hens approached laying strain males three times as often as they did broiler breeder strain males.
 - ▶ While the laying strain males actively courted hens, broiler breeder males chased them. Chasing behaviour was rarely, if ever, observed in laying strain males. Hens responded with escape behaviour more frequently to broiler breeder males. Feed restriction did not increase the level of aggression but decreased the amount of courtship behaviour. Feed-restricted males seemed to spend more time engaged in searching for food and pecking at the feeder and spent less time attending to the hens.
- Hens mated with broiler breeder males were denuded of much of their feathering, particularly on the back of the head and neck as well as on the saddle and underneath the wings. Hen injuries were observed in pens in which the males were particularly aggressive. These injuries consisted of deep lacerations underneath the wing, likely resulting from struggling during mating.

Summary and implications

Broiler breeder males were found to be deficient in courtship behaviour when compared with commercial laying

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Student chapter news

Students take a stand on animal amusements

The Basketball-Shooting Chicken and the Piano-Playing Duck are no more. They used to be feature attractions at the Royal Agricultural Winter Fair's petting farm, but after members of the CSAW student chapter took their concerns to the Fair organizers, the 'acts' were canceled.

These "animal amusements" which had animals perform odd and comical behaviours, as people paid endless quarters to provide them with food rewards, didn't necessarily constitute an animal welfare problem, but they made many people uncomfortable. A number of visitor's at the 1995 Fair expressed their concerns to the CSAW Student Chapter staffing our exhibit at the Animal Care Education Centre. Concerned visitors felt the amusements were disrespectful to the animals, and our students agreed. As representatives of an Education Centre aimed at teaching children how to properly care for animals, the CSAW students felt that children were getting conflicting messages from the displays.

They took their concerns to the attention of the Fair organizers in a thoughtful letter jointly signed by 10 CSAW students. Members of the Student Chapter were pleased to receive notification that "animal amusements" were not to return to the Fair in 1996 and will no longer be a part of the Royal's Petting Farm.

Royal activities

Thirty-one students volunteered at CSAW's Animal Care Education Centre display at the Royal Agricultural Winter Fair in Toronto last November. Once again, baby chicks given choices were featured in our display "Asking the Animals" about using animal behaviour to answer questions about animal care.

OVMA conference

Two projects by associated faculty were featured at the CSAW exhibit at the Ontario Veterinary Medical Association conference held in January at the Westin Harbour Castle in Toronto. Students answered questions about the teaching video of Dr. Karol Mathews (Clinical Studies) on Pain Assessment and about the non-animal models developed by Dr. Joanne Cockshutt (Clinical Studies).

Research report, continued from page 4

strain males. Hens did not adequately respond to the sexual behaviour of broiler breeder males and this probably leads to the problems of decreased fertility and increased hen injury and mortality observed in the industry. Further study is needed to determine whether deficiencies are a result of genetic selection for increased meat yield, or due to mistaken selection for increased levels of aggression and excitability.

Recommendation for management of broiler breeder flocks will be possible after such information is known.

This project was supported by the 1994 CSAW Research Competition which was made possible by a generous donation from Eden Conservation Trust. Additional funding for the project was provided by the Poultry Industry Centre, OMAFRA and NSERC.



Spotlight on associated faculty

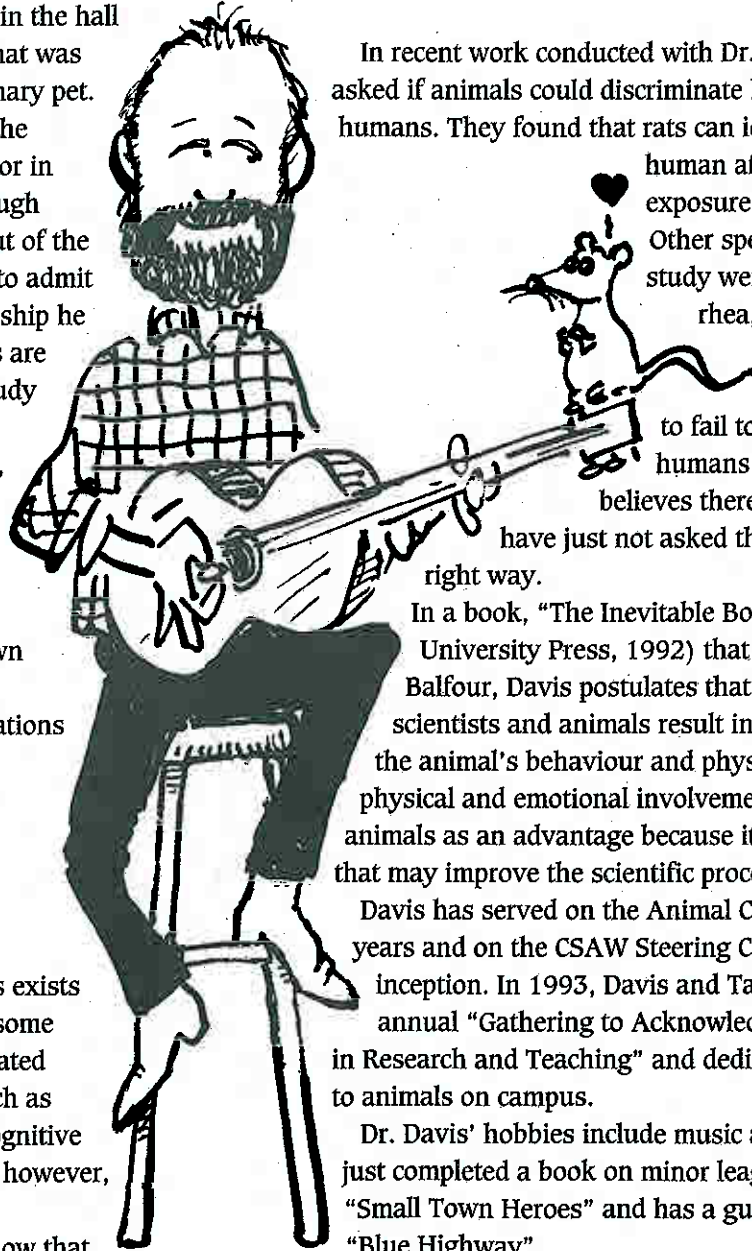
Dr. Hank Davis

by Deborah A. McWilliams

Buckwheat lived on a shelf in the hall closet in a knitted toque that was her nest. She was no ordinary pet. She was a laboratory rat living at the home of Dr. Hank Davis, a professor in the Psychology Department. Although Buckwheat's situation was a bit out of the ordinary, Davis would be the first to admit that theirs wasn't the only relationship he has had with a laboratory rat. Rats are his experimental animals in the study of cognitive psychology.

Since coming to Guelph in 1971, Davis has contributed extensively to the literature on animal learning and cognition, and more recently on the scientist-animal relationship. Davis' work has shown that rats are capable of forming an ordered series of mental representations – thought to be prerequisites to deductive reasoning.

In research and teaching, Davis treats animals with respect by recognizing their potential and understanding them within their ecological niche. He believes a bias exists in research called specism, where some animals (such as primates) are treated with more respect than others (such as rats) because the primates have cognitive abilities most like our own. Davis, however, recognizes his animal subjects as individuals and has evidence to show that the practice may be mutual. He has recently published evidence that rats readily recognize familiar human individuals, as well.



In recent work conducted with Dr. Allison Taylor, Davis asked if animals could discriminate between individual humans. They found that rats can identify a familiar human after only one 10-minute exposure to that individual. Other species included in their study were sheep, emu, seals, rhea, llamas, rabbits, cows and chickens. Scallops were the only species to fail to identify familiar humans so far, but Davis believes there is a possibility they have just not asked the right question in the right way.

In a book, "The Inevitable Bond" (Cambridge University Press, 1992) that he edited with Dianne Balfour, Davis postulates that interactions between scientists and animals result in measurable effects on the animal's behaviour and physiology. Davis sees physical and emotional involvement with experimental animals as an advantage because it produces a sensitivity that may improve the scientific process.

Davis has served on the Animal Care Committee for 15 years and on the CSAW Steering Committee since its inception. In 1993, Davis and Taylor instituted the annual "Gathering to Acknowledge the Role of Animals in Research and Teaching" and dedicated a memorial stone to animals on campus.

Dr. Davis' hobbies include music and baseball. He has just completed a book on minor league baseball called "Small Town Heroes" and has a guitar/vocal CD called "Blue Highway".



CSAW public lectures

While roughly 80 per cent of the average population believes that animals have rights, more than 90 per cent of western U.S. ranchers hold that belief, says Bernard Rollin, a Professor of Philosophy, Physiology and Biophysics at Colorado State University. Rollin presented a spirited lecture titled "Animal Production and the New Social Ethic for Animals" to a full house on November 5, 1996. Rollin has lectured around the world and is author of four books on animal welfare and bioethical issues.

Rollin explained that as society evolves, some practices such as human sexual behaviour, move from the social ethic to the personal ethic - leaving people free to make their own choices. If society perceives that gross injustice or unfairness occurs, when matters are left up to individuals, it will move issues from the personal to the social ethic. The passing of animal welfare legislation around the world indicates that animal issues have moved into the realm of social ethics.

Rollin suggested that problems in farm animal welfare developed as traditional agriculture and animal husbandry were changed through the development of agricultural technology, and the application of industrial methods to the farming of animals. Rollin contends that most people want to use animals but also want them to live decent lives. He suggested that farmers would rather raise animals according to traditional husbandry methods...but the same forces that put animals in crowded boxes also put farmers in financial boxes.

Rollin's audience included animal rights advocates and members of the animal industries, but his moving presentation, and the long discussion that followed, left almost everyone feeling they were on the same side - the animals'. Bernard Rollin's lecture was made possible with support from the Ontario Ministry of Agriculture Food and Rural Affairs, the Ontario Agricultural Training Institute and Ontario's pork producer's (who sponsored a seminar by Dr. Rollin the next day).

How we choose our speakers

With a shoestring budget for our public lecture series, we have been fortunate to make many guest speaker connections through CSAW staff and faculty. When we hear of friends, colleagues or professional contacts that will be traveling to the Guelph area, we take the opportunity to invite them to make a

presentation at our lecture series. This network of contacts has allowed us to feature excellent speakers and save on costs. We realize this may have resulted in the lecture series being heavily weighted toward farm animal welfare. We do try our best, however, to offer a variety of topics, views and approaches - practical and theoretical - on all aspects of animal welfare.

If you know of a potential speaker coming to our area or would like to sponsor a lecture in our series, please contact the Centre office. The CSAW public lecture series receives support by the George Raithby Memorial Lecture Series in Animal Science.

Upcoming March lecture to look at our attitudes towards dogs

Don't miss our first public lecture on dogs. Dr. James Serpell, professor of Humane Ethics and Animal Welfare, School of Veterinary Medicine, University of Pennsylvania, will present:

"From paragon to pariah: some reflections on human attitudes to dogs."

Wednesday, March 26

7:30 p.m.

Room 1714 OVC

The Lifetime Learning Centre

Dr. Serpell is an expert on dog behaviour and human relationships with dogs through the ages. He is author of "In the Company of Animals" and editor of "The Domestic Dog."

Congratulations to new UBC Chair

Dr. David Fraser will be the first Chair in Animal Welfare at the University of British Columbia. He presently is a research scientist at the Centre for Food & Animal Research of Agriculture and Agri-Food Canada in Ottawa (CFAR). Dr. Fraser took his Bachelor's Degree in Psychology at the University of Toronto and his PhD at Glasgow University. He became interested in farm animal behaviour and welfare while a Research Associate at the University of Edinburgh in the 1970s. From 1975-1981, Dr. Fraser worked as a research scientist with the Ontario Ministry of Natural Resources and then took up his position at CFAR. He is recognized internationally as an expert in pig behaviour and welfare. We have been fortunate to have Dr. Fraser on the CSAW Advisory Board since its inception.

The importance of animal welfare has been enormously strengthened by the establishment of the UBC Chair, and the appointment of such a worthy candidate. We wish Dr. Fraser every success.



Farewell to committee members

We are sorry to be losing the services of two Steering Committee members, Andrew Luescher and Clayton MacKay.

Dr. Luescher (Population Medicine) has taught animal behaviour to veterinary students for over 10 years and supervised the student's fourth year rotation at the OVC Behaviour Service. He has served on the CSAW Steering Committee since its inception in 1989. Dr. Luescher has taken a position as Director of the Animal Behavior Clinic in the School of Veterinary Medicine at Purdue University in Indiana.

Dr. MacKay first began lending his expertise to the Centre as an Advisory Board member when he had a veterinary practice in Whitby. In 1992, he joined the University of Guelph as Director of the OVC Teaching Hospital and at that time began serving on the CSAW Steering committee. Dr. MacKay has taken a position in the pet food industry.

Good luck and many thanks to Dr. Luescher and Dr. MacKay.

Animal behaviour and welfare specialists converge on Guelph

The International Society for Applied Ethology met in Guelph last year for a congress organized by CSAW staff Ian Duncan, Tina Widowski and students. More than 170 visitors from nearly every continent attended the four-day event. The keynote address was given by David Fraser (Agriculture and Agri-Food Canada) on *Animal Ethics and Animal Welfare Science: Bridging the Two Solitudes*. The plenary session on the *Behaviour and Welfare of Laboratory Animals* included presentations by CSAW faculty Denna Benn (Animal Care Services) and

Hank Davis (Psychology).

Many of the world's experts on human and non-human obsessive-compulsive behaviour were involved in a half-day workshop on stereotypic behaviour, organized by Caroline Hewson and Andrew Luescher (Population Medicine). Over 130 other scientific papers and posters were presented on farm, laboratory, zoo and companion animals.

Conference proceedings are still available from the CSAW office for \$20 each.

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MISSION STATEMENT

As a group of individuals with diverse interests and views, our primary goal is to promote the welfare of animals through research and education.



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