



ANIMAL WELFARE SCIENCE CENTRE

Animal Welfare Science Centre

Newsletter

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INSIDE THIS ISSUE:

Pork CRC	1
Ohio visit	1
Cameron off to Michigan	1
National AW	2
Seminar	3
US funding application	3
US Vet Curriculum	4
Recent publications	4

AWSC will be a key player in the new CRC for High Integrity Australian Pork

The CRC for High Integrity Australian Pork is about to get underway and applications for the 2011-2012 inaugural funding round for research projects are already being considered by the CRC's Expert Scientific Groups.

The CRC for High Integrity Australian Pork is aiming to revolutionise pork production systems to produce high quality pork for the same financial cost, while improving animal welfare by eliminating the need for confinement of sows, reducing antibiotic usage in production systems by 50%, providing world-class analysis systems, demonstrating human health benefits from pork consumption, reducing CO2 emissions, and delivering highly trained scientists and production staff capable of leading the industry forward for coming decades.

The four programs and main objectives of the CRC for High Integrity Australian Pork will be:

1. CONFINEMENT FREE SOW AND PIGLET MANAGEMENT will reduce and ultimately eliminate the need for sow confinement during farrowing, lactation and gestation by developing innovative housing, mating and suckling systems.
2. NEXT GENERATION HEALTH MANAGEMENT AND ANTI-BIOTIC REDUCTION will involve new and novel diagnostic tools to monitor enteric and respiratory pathogen loads in production units and better defining and understanding of the virulence genes which cause disease. The target is to reduce antibiotic use by 50%.
3. HEALTHY PORK CONSUMPTION involves innovative research to develop quality assessment and assurance tools for pork for domestic and overseas markets and an understanding of key Asian markets and how the High Integrity Australian Pork concept fits within these markets.
4. CARBON-CONSCIOUS NUTRIENT INPUTS AND OUTPUTS

will develop commercially viable feeding and effluent management systems for pig production that significantly reduce the net carbon footprint while maintaining production efficiency. The target is to reduce Carbon output to 1.0 kg/kg carcass produced.

Paul Hemsworth (AWSC, The University of Melbourne) is taking on the responsibility of Sub-program leader under program 1 and will lead the project "Management of Weaned Sows in groups" which will investigate the complex and challenging interactions between sows housed in groups.

Development of optimum management procedures for group housed sows while accommodating their individual requirements for nutrition, maintenance of health and well-being will be a focus for this project.

For more information see Pork CRC website at

<http://www.porkcrc.com.au/>



Sara Crawford wins award at OSU

Sara Crawford was recently awarded the Kunkle Award for the Outstanding Graduate Student in Animal Sciences at OSU for this past year. Sarah is nearing completion of her PhD studying the implementation of ProHand Pigs in contract growing farms in the US.



Visit to Ohio

In July this year, a group AWSC scientists and students from Monash and Melbourne Universities headed across the pacific to visit our counterparts in The Ohio State University.

On a stiflingly warm afternoon in Ohio, after a series of interesting presentations celebrating animal welfare research conducted by both staff and students in the centre, the group took a tour of the OSU Department of Animal Sciences (largest animal science department in the USA) research farm facilities. Stopping first at the dairy, the farm manager, Ms Reagan Bluel explained the history of the facilities and briefly gave a snapshot of current research projects.

The dairy is comprised of a full Jersey herd (selected for their smaller size and ease of handling for the purposes of research), and for the most part is efficiently run by students and supervised by Reagan. From the dairy the tour continued with Prof. Steven Moeller and Sara Crawford to view the pig, sheep, and horse facilities.



Megan Verdon with some of the Jersey herd

Cameron Ralph off to Michigan

Cameron Ralph is taking up a post-doctoral research fellow appointment at the University of Michigan, in the reproductive sciences program within the department of Medicine.



Cameron, who has almost completed his PhD studies at the University of Melbourne under the supervision of Paul Hemsworth, (Uni

Melbourne) and Alan Tilbrook (Monash University) will be working under Dr Mike Lehman and Dr Lique Coolen and will be making a move into neuroscience. The lab uses sheep as a model for reproductive disease in females and Cameron will be looking at the effects of the prenatal environment on the development of some reproductive diseases. In particular the effect of prenatal testosterone on development of the adult brain and ultimately the development of polycystic ovarian syndrome (PCOS).

His research will focus on the GnRH neurons in the brain, a set of cells termed KNDy cells that are the precursors to the GnRH neurons with the aim of understanding how disruption to these cells changes the frequency and amplitude of GnRH pulses that ultimately leads to PCOS.

The Michigan lab also does neuroscience based work that involves reward behaviour. This work often uses drug addiction as the most extreme form of reward and strives to understand the neural mechanisms that control reward.

The science will be similar to his PhD research at the University of Melbourne however, the outcome will have a medical rather than an animal welfare focus. The lab has vast diagnostic capabilities as well as a small sheep farm on the outskirts of Ann Arbor.

Cameron and his partner Katie will be relocating at the end of November and we wish them all the best in the future.

National Primary Industries Animal Welfare RD&E Strategy—Update

The National Primary Industries Animal Welfare RD&E Strategy, (Strategy) is a component of the National Primary Industries RD&E Framework, an initiative of the Primary Industries Ministerial Council (PIMC).

The Strategy Steering Committee, (made up of the key funders and providers of animal welfare research together with State and Commonwealth Government representatives), identified seven strategic RD&E themes. Each theme is underpinned by more detailed focus areas to accommodate the needs of, and describe the priorities for, each of the livestock industries.

The seven strategic themes are:

1. Animal welfare assessment
2. Pain assessment and management
3. Management, housing and husbandry
4. Transport, euthanasia and slaughter
5. Public attitudes, social science and community
6. Education, training and extension
7. Policy and market access

A key component of the Strategy involves the formation of both formal and informal collaborative arrangements amongst RD&E providers and to strengthen linkages between major research providers and research funders.

At a recent National Forum, Australian providers and funders of animal welfare RD&E, together with representatives from State Governments and New Zealand research organisations, joined in a facilitated discussion to identify RD&E priorities, to share scientific knowledge and to identify and recommend solutions to capability, resource and other issues relevant to the implementation of the Strategy.

Key outputs from the Forum were the identification of two high priority, nationally significant projects which are cross-sectoral in design and will require significant collaboration between research providers.

A team led by Drewe Fergusson from CSIRO and including Paul Hemsworth (Animal Welfare Science Centre [AWSC] University of Melbourne), Ian Colditz (CSIRO), Lindsay Matthews (AgResearch NZ), Teresa Collins (Murdoch University) and Vivien Kite (RIRDC Chicken meat) are working on a project under *Theme 1. Animal welfare assessment*, which aims to identify and integrate measures of animal welfare that meet the needs of animals and society.

Grahame Coleman (AWSC Monash University) is leading a research development team comprising Dominique Blache (University of Western Australia), Clive Phillips (University of Queensland), Samia Toukhsati (AWSC Monash University), Bridget Peachey (Dairy Australia) and Chris Buller (consultant to AAWS). This team is developing a project under *Theme 5. Public attitudes, social science and community* which aims to develop a public attitude monitoring scheme which will be used to inform animal welfare policy development.

Both projects will be presented to the next Strategy Steering Committee meeting in November for discussion around the projects and potential funding mechanisms.

The National Primary Industries Animal Welfare RD&E Strategy is available as a pdf document and can be downloaded by following this link:

<http://www.animalwelfare.net.au/sites/default/files/Animal%20Welfare%20RDE%20Strategy%20Sept%202010%20Endorsed.pdf>



National Primary Industries RD&E Framework - Animal Welfare RD&E Strategy

AWSC Seminar - *Building consumer trust*

TUESDAY NOVEMBER 22nd

2.00pm – 3.45pm

(Coffee & Tea available at 1.30pm)

Lecture Theatre - DPI Attwood

475 Mickleham Rd Attwood VIC 3049

The Animal Welfare Science Centre is pleased to present this seminar which will focus on the way in which agriculture, (particularly the livestock industries), need to understand how their customers make purchasing decisions so that communication on farming practices serve to build the level of trust that consumers have in the food that they purchase.

“Economically Productive Animals and the Community’s right to Know”

Siobhan O’Sullivan

Research Fellow in the School of Social and Political Sciences at the University of Melbourne



In her forthcoming book ‘Animals, Equality and Democracy’ Dr. Siobhan O’Sullivan argues that there is a relationship between an animal’s level of visibility and the effectiveness of the welfare protection that animal receives.

Through an analysis of welfare legislation and other source material O’Sullivan demonstrates that the more high visibility a particular animal is, the more strongly the animal tends to be protected against harm. O’Sullivan argues that this trend is problematic for two reasons. The first is that many common animal uses are not highly visibility. Second, variances in welfare protection, predicated on visibility, disempowers the community and renders them unable to exercise their liberal-democratic right to participation in setting welfare standards.

“Lost in translation – Learning to speak “consumer” in a way that builds trust in agriculture”

Charlie Arnot

CEO of the Center for Food Integrity, President of CMA



Charlie Arnot is President of CMA, a consulting company with offices in Missouri, Iowa, Indiana and Ohio and CEO of The Center for Food Integrity which is a US non-profit organization dedicated to building consumer trust and confidence in today’s food system.

In his role as president of CMA, Charlie and the CMA team work with companies and associations across the food system in issues management, public relations, strategic facilitation and marketing communications. Charlie is recognized as a thought leader on food and agriculture issues and is a thought provoking writer and speaker.

Charlie spent ten years as vice president of communications and public affairs for Premium Standard Farms; he worked for a public relations agency, was an award winning radio journalist and worked in video and film. Charlie grew up in southeast Nebraska and graduated from the University of Nebraska with a Bachelor of Journalism degree.



The AWSC gratefully acknowledges the assistance received from the Australasia-Pacific Extension Network, NSW Department of Primary Industries and Australian Pork Limited in facilitating the presentation of this seminar.

RSVP before 30th October by emailing Jeremy Skuse jskuse@unimelb.edu.au

OSU in bid for sow research funding

Research and Extension Personnel from The Ohio State University (Steve Moeller), Michigan State University (Ron Bates & Dale Rozeboom) and Purdue University (Jeremy Marchant-Ford, Don Lay, Brian Richert) have submitted a Tri-State Research and Extension Seed Grant Proposal to study sow space allocation in the gestation phase from days 42 to 110.



If funded the study design will address the influence of 1.5, 1.8 and 2.13 square meters space allocation in groups of 10 sows per pen and will build on research funded by Australian Pork Limited which has been carried out in Australia by the AWSC (University of Melbourne). Characteristics addressed will include wounds, injuries, cortisol, farrowing and litter performance and return to estrus.

The study will be conducted in nine replications within an existing, commercial-scale 2400-sow breed to wean facility. Cooperation between OSU, MSU, Purdue and the Ohio, Michigan and Indiana Pork Councils will provide all parties with valuable research to support the shift from individual stalls to group production settings.

For further information, contact Steve Moeller moeller.29@osu.edu.

Steve Moeller



ANIMAL WELFARE
SCIENCE CENTRE

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If you have any comments, questions or suggestions, please contact our Executive Officer, Jeremy Skuse at our Parkville Offices.

Please feel free to pass this newsletter on to those who may be interested.

If you wish to be removed from our mailing list, please send an email to:

awsc-info@unimelb.edu.au

Quoting "remove" in the subject line.

Fisher appointed to US curriculum group

Professor Andrew Fisher (AWSC, University of Melbourne School of Veterinary Science) has been appointed to the American Veterinary Medical Association's newly formed Model Animal Welfare Curriculum Planning Group.

While the discipline of animal welfare is not wholly absent from US veterinary curricula, a 2009 symposium determined that that instruction in animal welfare science and ethics in colleges of veterinary medicine was insufficient and disconnected in its delivery. Animal welfare has consistently been identified as an area for increased focus and recognizing this gap, the AVMA Animal Welfare Strategic Goal Team identified development of a model curriculum as a high priority. The task of the group is to develop an animal welfare curriculum suitable for veterinary schools that can be taken up and used by veterinary schools in Universities – particularly the USA.



Andrew Fisher

Andrew attended the first meeting of the working group at the AVMA Headquarters in Chicago in June this year.

Recent publications

Book chapter:

Hemsworth, P.H. and Boivin, X. (2011). Human contact. In "Animal Welfare", edited by M. C. Appleby, J. A. Mench, I. A. S. Olsson and B. O. Hughes. CAB International, Oxon UK.

Refereed journals:

Bland, I. and Hill, J. (2011). Review - Tackling dog obesity by tackling owner attitudes. CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources 2011 6, No. 006.

Barnett, J. L., Hemsworth, P. H., Butler, K. L., Schirmer, B. N., Borg, S. S. and Cronin, G. M. (2011). The effects of stall dimensions on the welfare of pregnant sows. *Animal Production Science* 51, pp. 1–10.

Crony, C.C. and Anthony, R. (2011). Invited review: ruminating conscientiously: scientific and socio-ethical challenges for US dairy production. *J Dairy Sci.* 2011 Feb 94(2), pp. 539-46.

Doyle, R.E., Lee, C., Deiss, V., **Fisher, A.D.**, Hinch, G.N. and Boissy, A. (2011). Measuring judgment bias and emotional reactivity in sheep following long-term exposure to unpredictable and aversive events. *Physiology and Behavior* 102 (5), pp. 503-510.

Doyle, R.E., Hinch, G.N., **Fisher, A.D.**, Boissy, A., Henshall, J.M. and Lee, C. (2011). Administration of serotonin inhibitor p-Chlorophenylalanine induces pessimistic-like judgment bias in sheep. *Psychoneuroendocrinology* 36, pp. 279-288.

Dunsha, F.R., Cronin, G.M., **Barnett, J.L., Hemsworth, P.H.**, Hennessy, D.P., Campbell, R.G., Luxford, B., Smits, J., **Tilbrook, A.J.**, King, R.H. and McCauley, I. (2011). Immunisation against gonadotrophin-releasing hormone (GnRH) increases growth and reduces variability in group housed boars. *Animal Production Science* 51, 695–701.

Edwards, L.E., Arnold, N.A., **Butler, K.L.** and **Hemsworth, P.H.** (2011). Acute effects of mulesing and alternative procedures to mulesing on lamb behaviour. *Applied Animal Behaviour Science Online*. DOI information: 10.1016/j.applanim.2011.05.014.

Hemsworth, P.H., Rice, M., Karlen, M.G., Calleja, L., Barnett, J.L. and **Coleman, G.J.** (2011). Human-animal relationships at abattoirs II: relationships between handling and animal stress in sheep and cattle. *Applied Animal Behaviour Science* (accepted for publication doi: 10.1016/j.applanim.2011.09.007).

Hemsworth, P.H., Smith, K., Karlen, G., Arnold, N.A., Moeller, S.J. and **Barnett, J.L.** (2011). The choice behaviour of pigs in a Y maze: Effects of deprivation of feed, social contact and bedding. *Behavioural Processes*, Volume 87 (2), pp. 210-217.

Howell, T.J., Conduit, R., **Toukhsati, S.** and Bennett, P.C. (2011). Development of a minimally-invasive protocol for recording mismatch negativity (MMN), in the dog, (*Canis Familiaris*) using electroencephalography (EEG). *Journal of Neuroscience Methods*, Volume 201, pp. 377-380.

Howell, T.J. and Bennett, P.C. (2011). Puppy power! Using social cognition research tasks to improve socialization practices for domestic dogs, (*Canis Familiaris*). *Journal of Veterinary Behaviour*, Volume 6, pp. 195-204.

Lambert, E., Lambert G., Ika-Sari C., Dawood, T., Lee, K., Chopra, R., Straznicki, N., Eikelis, N., Drew, S., **Tilbrook, A.** and Dixon, J. (2011). Ghrelin modulates sympathetic nervous system activity and stress response in lean and overweight males. *Hypertension* 58 43-50.

Papargiris, M. M., Rivalland, E. T. A., Clarke, I. J., Smith, J. T., Pereira, A., **Tilbrook, A. J.** (2011). Evidence that RF-Amide Related Peptide-3 is not a Mediator of the Inhibitory Effects of Psychosocial Stress on Gonadotrophin Secretion in Ovariectomised Ewes. *Journal of Neuroendocrinology*, 23 (3), pp.208-215.

Spencer, S.J. and **Tilbrook, A.J.** (2011). The glucocorticoid contribution to obesity. *Stress*, published online DOI: 10.3109/10253890.2010.534831.

Thesis:

Laine, S. M. (2011). Animal preferences: effects of environmental and animal factors on the choice behaviour of laying hens, *Gallus gallus domesticus*. PhD thesis, The University of Melbourne.