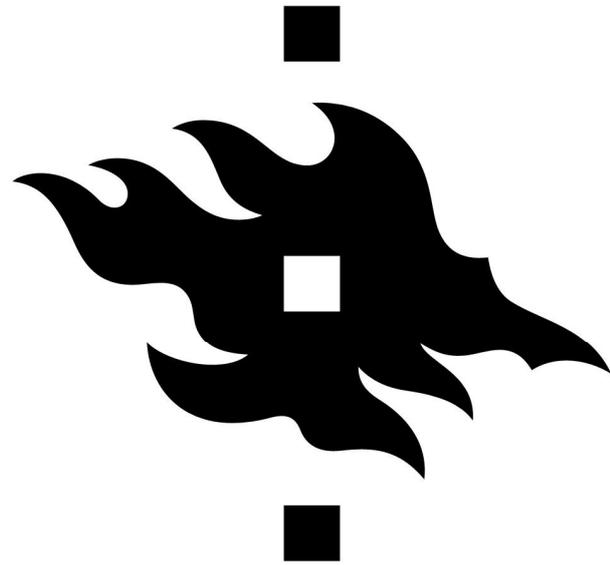




2010

Proceedings of ANIWEL Autumn Seminar



UNIVERSITY OF HELSINKI

5-6 October

Helsinki, Viikki Campus



ANIWEL Autumn Seminar 5.-6. October 2010



Graduate School in Animal Welfare

Scientific committee

Outi Vainio, Anna Valros, Mari Heinonen, Laura Hänninen, Olli Peltoniemi, Timo Soveri, Outi Laitinen-Vapaavuori, Marja Raekallio, Thomas Spillmann, Minna Rajamäki, Pertti Rannikko, Pekka Jokinen, Jaakko Mononen, Satu Raussi, Juha Räikkä, Markku Suksi

Marianna Norring
Marianna.Norring@Helsinki.fi

Autumn Seminar 5-6 October 2010
Helsinki, Viikki Campus



Dear ANIWEL Students and Supervisors,

You are cordially welcome to the ANIWEL Autumn Seminar which is held 5.-6.10. 2010 in Viikki campus in Helsinki. ANIWEL is a doctoral programme in animal welfare which is financed by the Academy of Finland. The research focus is in clinical veterinary medicine and in animal welfare.

Animal health and welfare have an increasing value in the society. A need for safe and good quality food is self evident. Global fur markets exist and therefore fur animals are bred. Healthy and well-being laboratory animals are the basis of high quality science. Companion animals have a positive input to public health.

Evidence based veterinary medicine is the only way to develop clinical treatments of animal patients. To fully understand the background of sicknesses of domestic animals we also have to understand their species specific needs. A disease is a disturbance of the physical and/or psychological balance. To help the animal to regain the balance we may need to use a medical intervention but it may also be necessary to make environmental changes. The public opinion and the position of domestic animals in the society cannot be figured out without the contribution of social sciences. ANIWEL doctoral programme is bringing together all these animal related interferences.

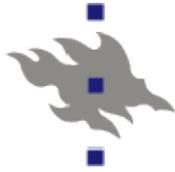
I hope that the ANIWEL Autumn Seminar 2010 in Helsinki will meet your expectations.

On behalf of the Organizing Committee

Outi Vainio



ANIWEL Autumn Seminar 5.-6. October 2010



UNIVERSITY OF HELSINKI



TAMPEREEN TEKNILLINEN YLIOPISTO



UNIVERSITY OF
EASTERN FINLAND 2010



UNIVERSITY of OULU
OULUN YLIOPISTO



Abstracts

Can Biomarkers Help to Differentiate Idiopathic Pulmonary Fibrosis and Chronic Bronchitis in Dogs?

H. P. Heikkilä¹, E. Krafft², P. Jespers³, K. McEntee^{2,3}, M. M. Rajamäki¹, C. Clercx²

¹ Department of Equine and Small Animal Medicine, Faculty of Veterinary Medicine, University of Helsinki; ² Department of Clinical Sciences, Faculty of Veterinary Medicine, University of Liège, Belgium; ³ Laboratory of Physiology, Faculty of Medicine, Free University of Brussels, Belgium

Idiopathic pulmonary fibrosis (IPF) is an interstitial lung disease affecting West Highland white terriers (WHWTs). Differentiating IPF from chronic bronchitis (CB) is difficult and biomarkers would facilitate the differentiation. We investigated three biomarkers, procollagen type III aminoterminal propeptide (PIIINP), endothelin-1 (ET1), and transforming growth factor β -1 (TGF β 1) in canine IPF, CB and healthy dogs. Fifteen dogs with IPF, 19 dogs with CB and 13 healthy WHWTs (hWHWTs) were included. PIIINP was measured from serum and bronchoalveolar lavage fluid (BALF) by a radioimmunoassay (PIIINP RIA, Orion Diagnostica) and ET1 by ELISA (Endothelin-1 Assay kit, IBL). TGF β 1 was analyzed from serum by ELISA (Mouse/Rat/Porcine/Canine TGF β 1 Quantikine ELISA kit, R&D Systems). There was no difference in serum PIIINP between IPF dogs (median and interquartile range, IQ) (5.69, 4.48-9.49 μ g/L), CB dogs (6.53, 4.00-9.47 μ g/L) and hWHWTs (8.06, 6.59-9.03 μ g/L). BALF PIIINP was elevated in IPF dogs (0.39, 0.06-0.62 μ g/L) compared with CB dogs (0.02, 0.02-0.02 μ g/L), $p < 0.001$, and hWHWTs (0.02, 0.02-0.09 μ g/L), $p < 0.05$. Serum ET1 was elevated in IPF dogs (2.32, 2.05-3.38pg/mL) compared with CB dogs (1.54, 0.74-1.82pg/mL), $p < 0.005$, and hWHWTs (1.56, 1.25-1.85pg/mL), $p < 0.001$. BALF ET1 was undetectable in CB dogs and hWHWTs but detectable in IPF dogs. Serum TGF β 1 was higher in IPF dogs (55.6, 43.8-62.5ng/mL) compared with CB dogs (43.5, 25.3-53.0ng/mL), $p < 0.05$. There was no difference in serum TGF β 1 between IPF dogs and hWHWTs (66.5, 58.7-74.4ng/mL). The ability of BALF PIIINP and serum ET1 to differentiate IPF from CB was assessed with ROC-curves. The area under the curve and the optimal cut-off value were 0.833 and 0.097 μ g/L (sensitivity 75%, specificity 95%) for BALF PIIINP and 0.858 and 1.825pg/mL (sensitivity 100%, specificity 80%) for serum ET1. Unlike CB, IPF caused an increase in BALF PIIINP, and in BALF and serum ET1. Therefore, PIIINP and ET1, but not TGF β 1, are biomarkers that could help to differentiate IPF from CB.



Fibrinogen, haptoglobin, and serum amyloid A as diagnostic tools in young calves – example of umbilical disease

L. Seppä-Lassila¹, T. Orro², J.-P. LePage¹, T. Soveri¹

¹ *Department of Production Animal Medicine, University of Helsinki, Saarentaus;* ² *Department of Animal Health and Environment, Estonian University of Life Sciences, Tartu, Estonia*

Objectives: The objective of the study was to establish reference values for acute phase proteins fibrinogen (Fb), haptoglobin, (Hp), and serum amyloid A (SAA) in young calves and to explore the diagnostic value of these proteins on the umbilical disease. **Methods:** For establishing reference values, blood samples were obtained from 120 clinically healthy calves (aged 5-55 days) on the farms around Production Animal Hospital (University of Helsinki, Finland). Sixty-three calves (aged 4-90 days) with umbilical disease were admitted to Production Animal Hospital. Blood sample was collected on the operation day or day before the umbilical operation. During the operation, the presence and extent of the inflammation was recorded and retrospectively classified as hernia (no inflammation), local infection (inflammation limited to the umbilicus, no inflammation in the abdominal cavity), and extended infection (inflammation in the abdominal cavity). **Results:** Reference values were 2.6-5.9 g/l, < 196 mg/l, < 178 mg/l, for Fb, Hp and SAA, respectively. Of all the operated calves, 14 calves had an umbilical hernia, 33 calves had local infection, and 16 calves had extended infection. There were no difference in acute phase protein concentrations between hernia and local infection groups. In ROC analysis comparing Fb, Hp, and SAA between calves with extended infection and calves with local infection, area under ROC curve (AUC) was 0.91 for Fb, and at cut-off value 5.9 g/l sensitivity was 88 % and specificity 85 %; for Hp AUC was 0.81 and sensitivity 56 % and specificity 88 % at cut-off value 196 mg/l and for SAA AUC was 0.78 and sensitivity 38 % and specificity 85 % at cut-off value 178 mg/l. **Conclusions:** Fibrinogen is good diagnostic tool in young calves for detecting systemic inflammatory response in umbilical disease, whereas the diagnostic value of SAA and Hp in this case is limited in young calves.



Milk yield affects time budget in dairy cows

M. Norring¹, A. Valros¹, L. Munksgaard²

¹ *Research Centre for Animal Welfare, Faculty of Veterinary Medicine, University of Helsinki;* ² *Faculty of Agricultural Sciences, Aarhus University, Denmark*

The daily milk yield of dairy cows has increased considerably during past decades. However, the effect of the increased yield on cow behavior is not yet clarified. We investigated the effect of milk yield on time budget and resting using 32 cows of parities 1-7 all in the 8th week of lactation, while kept in tie-stalls. Behavior (lying, eating, ruminating, lying with neck muscles relaxed) and milk yield were measured for 2 days using continuous recording. The data was analyzed per 24 h periods, and per 4-hour periods before and after milking. The effects of milk yield and parity on the different behavioral categories was analyzed with mixed models. The mean milk yield was 38.7 kg (SD 7.8, range 28 to 63 kg) per day. With increasing yield the cows spend more time eating and ruminating while standing and less time lying ($p < 0.05$). Multiparous cows ruminated more than primiparous cows (435 ± 17 vs. 372 ± 18 min/d) but there were no differences in the time spend eating (214 ± 11 vs. 227 ± 11) or lying (701 ± 45 vs. 617 ± 47). In the morning before milking and in the evening after milking higher yielding cows were lying less compared to lower yielding cows ($p < 0.05$). Latency to lie with neck relaxed after lying down was shorter in high yielders compared to lower yielders ($p < 0.05$). Cows with high milk yield needed to eat longer and thus their resting time was shorter. The degree of milk yield affected the behavior and the results indicated that high milk production may lead to increased time constraints. Time constraints may be even more pronounced in loose housing systems where cows have to walk between lying and feeding areas and wait for access to milking.

Morphological intestinal health and its implications to tail biting behavior

P. Palander¹, E. Brunberg², C. Munsterhjelm², H.-K. Sihvo³, A. Valros¹, M. Heinonen¹

¹*Department of production animal medicine, University of Helsinki;* ²*Department of animal environment and health, Swedish university of agricultural sciences, Uppsala, Sweden;*

³*Department of basic veterinary sciences, University of Helsinki*

Tail biters have been suggested to be smaller than other pigs, possibly due to nutritional deficiencies or early life damage leading to poor utilization of feed. To study the connections between tail biting behavior and gut health, we examined the morphology of the gut mucosal cell wall. Age- and gender-matched blocks of fattening pigs were chosen according to their tail biting behavior using direct observations on a Finnish tail biting problem farm. Experimental groups were tail biters (TB, n=15), victims (V, n=16), control pigs in the same (Ctb, n=9) or in another pen without tail biting (Cno, n=13). After euthanasia formalin-preserved, paraffin-embedded and stained 4 µm jejunal samples were taken 50 and 100 cm past the bile duct. Villus height, crypt depth and villus to crypt ratio were measured morphometrically and values were adjusted to cube root of body weight. Carcasses were weighted after death. All data was tested against behavioural group and block using ANOVA and Bonferroni's test for multiple comparisons. Morphological models included days in the farm as covariate of age.

There was no evidence of intestinal cell wall damage or weight loss in tail biter pigs. All groups were at similar body weight (P=0.09). However, villi were shorter (P=0.01) in Ctb compared to TB (116 ± 7.7 SEM vs 153 ± 5.9 µm) or Cno (158 ± 8.4). Villus height in victims did not differ from other groups. Crypt depth or ratio of villus to crypt did not differ between the experimental groups. These differences in villus height might be due to stressfulness of pen environment or feed intake. Feed intake was not measured but is known to affect villus structure. There seems to be a connection between gut cell wall structure and tail biting behavior with unknown causal mechanism.



Why should we care about animal welfare?

K. Ranki

Department of Behavioural Sciences and Philosophy, University of Turku

One important issue behind animal welfare science is the motivation of the whole field. I will discuss the question, whether we can find an unconditional basis for our concern about the welfare of production animals, and after shortly considering three possible answers that I find insufficient I claim that Kantian ethics provides a promising solution. The approach in this paper is theoretical and philosophical, the answers are sought in philosophical literature.

Often, production animals have only instrumental value for us. We care about their welfare eg. out of respect to the legislative authorities, or in order to make them more productive. These conceptions lead to further questions: What makes animal welfare an issue that deserves a special legislation? What comes first—productivity or the quality of animal lives?

We can also ground our concern of animal welfare on the conception of animals as sentient beings who have an interest in the quality of their lives. However, our attitude to animals is dependent of our personal preferences. Attaining absolute certainty concerning animal experience is impossible: animal behaviour can be explained also without pleading to conscious perceptions. We are faced with further questions: What are the conditions of having intrinsic value? Can we find such a basis for our concern about animal welfare that it is independent from our contingent personal preferences?

Immanuel Kant proposed in the 18th century that good treatment of animals benefits our personality. He does not grant animals moral rights, but he regards good treatment of animals as a necessary implication of our humanity. This view deserves to be reawakened in the contemporary discussion concerning the significance of animal welfare.



The Supervision Based on the Finnish Animal Welfare Act (247/1996) and the Administrative Procedure Act (434/2003) during 1996-2006. Specifically Concerning Farm and Slaughter Animals in Western Finland (Area of Vaasa, Jyväskylä, Tampere and Turku)

B. Wahlberg

Åbo Akademi, Department of Law, Turku

The aim of this study was to investigate firstly, whether the animal welfare authorities apply the legislation concerning the protection and welfare of animals according to the objective of the Animal Welfare Act (AWA 247/1996) and secondly, if the administration of these cases achieves good administration and legal protection in administrative matters, and access to justice according to the Administrative Procedure Act (APA 434/2003). The study was based on a total of 10 468 documents produced by the local control authorities, the local veterinarians at slaughterhouses, and the veterinarians of The Regional State Administrative Agencies during 1996-2006. All of the documents were read five times and the documents from Western Finland (totally 4039 documents) were analyzed using SPSS. The analysis was based on 53 questions concerning the case and the administration of it. The questions were based on the demands regulated in both AWA and APA. Furthermore, five slaughterhouses were visited. From an animal point of view the research revealed inter alia that the control and supervision enforced by veterinarians at slaughterhouses presents quite a high threshold for interfering concerning how the animals are treated or cared for before slaughter. The actions taken were mainly connected with urgent measures to end the suffering of an animal. The actions taken according to AWA Sections 40 and 42-44 mainly by the municipal veterinarians varied exceedingly both in the content and how the sections were applied by the authority. The supervision mentioned above signifies that the actions may not protect animals and promote their welfare in the best possible way in accordance with AWA. Significant from an animal owner point of view was that only 57, 4 % (N=3084) of the documents concerning an inspection included a report of the inspection, and in only 30, 8 % (N=3080) of the cases the owner was heard. Furthermore, the reasoning for a decision was supplied in only 28, 2 % (N=3043) of the documents. These figures cannot be estimated to ensure the owners right to good administration and legal protection in administrative matters in accordance with APA. Keywords: animal welfare authorities, applying of animal welfare legislation and the legislation concerning administrative procedures, animal welfare and protection, animal owners legal protection in administrative matters, good administration.



Ethical consumerism and animal farming: exploring consumers' moral views about livestock production

S. Kupsala, M. Vinnari, P. Jokinen

Department of Geographical and Historical Studies, University of Eastern Finland

Consumption is a strengthening public arena of activism, and markets are more prominently than before used as a political tool to express other-regarding concerns, solidarity and care. Consumption politics has become particularly heightened in food issues as can be seen for instance in the growing popularity of alternative food networks. As the global effects of food production are becoming more acknowledged, there is a need to understand how consumers deal with moral dilemmas concerning food production and how they express their moral views in consumption practices.

In this paper we explore from a sociological perspective what kinds of moral dilemmas consumers associate with livestock production and what kinds of resolutions they construct for these moral dilemmas. The analysis draws on six group interviews with citizen-consumers carried out in Finland in 2009 and 2010.

The analysis shows that consumers construct animal welfare in multiple ways and these heterogeneous constructions of animal welfare are linked to various moral dilemmas associated to livestock production. Three main types of resolutions to these moral ambiguities are identified: 1) regulating the experienced distance, 2) regulating the experienced trust to different actors and 3) regulating consumption practices. The paper concludes that these different moral strategies are linked to the diversity of citizen-consumer positions people can adopt to influence animal welfare in everyday contexts. Due to the growing gap between food production and consumption, novel social institutions to facilitate welfare-friendly choices may be required.



Theme Veterinary Health and Concept of Animal Welfare

PROGRAMME

Tuesday 5.10.2010

(10.30- 12.30 Board meeting, for board members)

13.00 Opening / **Outi Vainio**

13.15 PLENARY Studies in Clinical Graduate School / Prof. **Markku Heikinheimo** + student **Mervi Mäyränpää**

15.00 ANIWEL student presentations (2x á 20 min) Chair **Mari Heinonen**

Can Biomarkers Help to Differentiate Idiopathic Pulmonary Fibrosis and Chronic Bronchitis in Dogs? **Henna Heikkilä**

Fibrinogen, haptoglobin, and serum amyloid A as diagnostic tools in young calves – example of umbilical disease **Seppä-Lassila Leena**

15.40 Coffee

16.10 ANIWEL student presentations (3x á 20 min) Chair **Eija Valkonen**

Milk yield affects time budget in dairy cows **Marianna Norring**

Morphological intestinal health and its implications to tail biting behavior **Pälvi Palander**

Why should we care about animal welfare? **Kreetta Ranki**

17.10 Get-together and refreshments in lecture room

Wednesday 6.10.2010

9.00 Coffee

9.30 PLENARY Concept of Animal Health and Welfare / **Stefan Gunnarson**

10.40 ANIWEL student presentations (2x á 20 min) Chair **Marja Raekallio**

The Supervision Based on the Finnish Animal Welfare Act and the Administrative Procedure Act **Birgitta Wahlberg**

Ethical consumerism and animal farming: exploring consumers moral views about livestock production **Saara Kupsala**

11.20 Closing

11.30 End of seminar