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To Friday 30 November 2012 at 13:15-13:30
Concurrent Session 35: Nutrition and Feed Technology - 17 (S204 / LCS) Chairperson: Assoc. Prof. Pornsri Chairatanayuth (Thailand)

C35-OP-324 Effect of Dietary Sodium Diformate on the Egg Quality and Health Performance of Hiseh Brown Layers
K. J. Kühlmann, N. Chauynarong and C. Lückstädt (Germany)
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C35-OP-326 Isolation of Feather-Degrading Bacteria and the Effects of Medium Composition on Keratinase Activity
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R. H. Yeh, D. D. Lei, R. S. Chen and K. L. Chen (Taiwan)

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C. Y. Li, C. P. Wu and T. F. Lien (Taiwan)

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Concurrent Session 8: Nutrition and Feed Technology – 02
Using Animal Ethics and Welfare Course to Improve Attitude Towards Animals and Professional Ethics of Thai Students in Animal Science Program

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²The University of Western Australia, Crawley, WA 6009, Australia

ABSTRACT

In Thailand, animal welfare and ethology components are gradually included in the Degree of Veterinary Medicine (DVM) and Animal Science programs to equip graduates with the knowledge and skills necessary to meet ethical, biological, behavioral and human challenges relevant to animal welfare issues. Professional ethics, which is dependent on the attitudes of professionals towards animals, is also seen as a very important step in the development of ethical animal production. However, the impact of these new courses on the attitudes of students towards animals is not known. The aim of this study was to investigate whether learning experience from the animal welfare and ethics course can improve students’ attitude towards animals. Fourth year students (n = 148), enrolled in the Animal Science program, were recruited from four Rajamangala Universities of Technology and two other public universities. They listened to one recorded lecture of the animal ethics and welfare unit. The Attitude Towards the Treatment of Animal Scale (ATT) was administered before and within 3 weeks after the lecture. ATT scores on attitudes toward farming practices were more positive after the lecture (1.9 to 2.1; P<0.05) with the statements on the painless method of food production greatly approved. Attitude about painless methods used on research animals was also more positive (2.9 vs 3.1; P<0.05) while the attitude towards the use of animals in leisure was unchanged. The approval for the use of animals for research, education and pest control were also changed. Overall, gender had little impact on most ATT scores. However, ATT scores on the pain or killing method of food production were less approved by female students than male students, suggesting that female students had a more compassionate or humanistic attitude to animals. This study shows that attitudes towards animals can be influenced by short and targeted courses, and therefore impact on professional ethics.

Key Words: Animal Ethics and Welfare, Attitudes Toward Animals, Animal Science Students, Educational Program, Professional Ethics

INTRODUCTION

Concern about the welfare of farm animals has increased over the last couple of decades. Recent incidents such as avian influenza and swine flu have further increased consumers’ awareness for food safety and animal welfare issues (Verbeke and Vlaene, 2000). Although many animal producing countries have developed guidelines for good practice for farming that clearly articulate the conditions under which animal must be farmed, the adoption of ethical production is slow and varies between countries. In some countries such as Thailand, it seems necessary to develop an education/training program in the animal ethics and welfare component for people from the animal industry and for students in animal production. Integrated, knowledge-based practice in education/training programs could provide better strategies to improve professional ethics and welfare of production animals (Marie et al.,
In Thailand, the subjects of animal welfare and ethology are gradually added to courses in, for example, DVM and Animal Science. These subjects aim to equip graduates with knowledge and skills necessary to meet ethical, biological, behavioral and human challenges relevant to animal welfare issues. In addition, to improve the ethics in animal production it is necessary for professionals to adopt a positive attitude towards animals (Bebeau and Monson, 2008). In other science disciplines, it has been demonstrated that attitudes toward the subject represent an important factor contributing to the learning experience (Osborne et al., 2003). In 2006, a new course of animal welfare and ethics was developed and offered as an elective to students in the Animal Science program at Rajamangala University of Technology Thanyaburi but not to other Thai tertiary institutions. However, the impact on this new course on the attitudes of students towards animals is not known. This paper describes a study to test whether learning experience from a short introduction lecture on animal welfare and ethics can improve students’ attitude towards animals.

**MATERIAL AND METHODS**

We recruited 168 students enrolled in Agriculture Degrees in four Rajamangala University of Technology and 2 other public universities in Thailand. The students were asked to watch a recorded lecture (60 min) from the main content of the animal ethics and welfare unit, developed in 2006. The recorded unit covered the definition of animal ethics and animal welfare, the Thai code of practice, the assessment of animal welfare and examples of human-animal interactions such as production animals and companion animals. We tested the change in their attitudes towards animals using the Attitudes Toward the Treatment of Animals Scale (ATT, (Braithwaite and Braithwaite, 1982)). The students were tested one week prior and within 3 weeks after attending the recorded lecture. The ATT constituted 75 statements also varying the outcomes and the species but some items are investigating the impact on animals as described in terms of the degree of suffering such as painfully, painlessly and some others the morality of the human actions (It is wrong to eat meat). Each item was coded using a liker scale from 1 = strongly disapprove to 5 = strongly approve. The two repeats of the ATT test were matched using each student number. A few surveys were not fully completed and some were impossible to match, so 148 sets of surveys were included in the analysis.

Demographic information such as age, gender, education level, occupation of parents, number of pets, geographic region of origin (rural or urban area) and religious affiliation were collected. In addition, we investigated whether gender and societal origin, either from the country side or city would influence their attitude toward animals (Ajzen and Fishbein, 1980).

**Data analysis**

The score of ATT was averaged according to the group of questions previously identified, such as farming practices or practices including killing questions and for different categories of animals (see Table 1 and Vadhanabuthi and Blache 2008). Average scores in each category obtained for all students before and after exposure to the lecture were analyzed using Two-Way Analysis of Variance (ANOVA) for repeated measurements.

**RESULTS**

Ninety six female (65 %) and 52 male (35%) students were in the fourth year of their study and ranged in age from 19 to 27, with a mean age of 21.7 ± 0.1 years. The ATT score on attitudes toward farming practices was more positive after the lecture (1.9 to 2.1; P<0.05) with the statements on the painless method of food production greatly approved. Attitude
about painless methods used on research animals was also more positive (2.9 vs 3.1; P<0.05) while the attitude towards the use of animals in leisure was unchanged (Data not shown). The ATT score on the pain or killing method of food production was smaller in female students than male students (1.83 ± 0.05 vs 1.99 ± 0.09, P=0.03) but there was no gender difference for the score on the painless method (3.24 ± 0.05 vs 3.27 ± 0.07, P=0.54).

**Table 1** Selected ATT scores (mean ± s.e.m) of Thai students (scale: 1 = strongly disapprove to 5 = strongly approve)

<table>
<thead>
<tr>
<th>Statement (number of items)</th>
<th>Time</th>
<th></th>
<th></th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming practices (9)</td>
<td>Before</td>
<td>1.92 ± 0.04</td>
<td>2.01 ± 0.04</td>
<td>0.04*</td>
</tr>
<tr>
<td>Method of food production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Painful (3)</td>
<td>Before</td>
<td>1.89 ± 0.05</td>
<td>1.89 ± 0.04</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>3.36 ± 0.04</td>
<td>3.14 ± 0.05</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td>Painless (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Game practices</td>
<td></td>
<td></td>
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<tr>
<td>Painful (5)</td>
<td>Before</td>
<td>2.07 ± 0.05</td>
<td>2.14 ± 0.05</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>1.81 ± 0.04</td>
<td>1.80 ± 0.04</td>
<td>0.86</td>
</tr>
<tr>
<td>Painless (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Research</td>
<td></td>
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</tr>
<tr>
<td>Painful (5)</td>
<td>Before</td>
<td>1.84 ± 0.05</td>
<td>1.89 ± 0.06</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>2.86 ± 0.07</td>
<td>3.13 ± 0.08</td>
<td><strong>0.006</strong></td>
</tr>
<tr>
<td>Painless (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practices including killing (23)</td>
<td>Before</td>
<td>2.10 ± 0.04</td>
<td>2.17 ± 0.04</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>1.82 ± 0.04</td>
<td>1.89 ± 0.05</td>
<td>0.25</td>
</tr>
<tr>
<td>Painless practices (10)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Before</td>
<td>2.54 ± 0.05</td>
<td>2.64 ± 0.05</td>
<td>0.15</td>
</tr>
<tr>
<td>Painless practices (14)</td>
<td></td>
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</table>

**DISCUSSION**

Our study demonstrates that even a short course in animal ethics and welfare can modify some aspects of the attitudes of students towards animals. However, after the 1 h lecture, only a few categories of items were modified toward a greater approval, mainly items related to farming practices and to painless practices. The positive effect of the lecture could be explained by societal and cognitive factors known to modify attitudes (Ajzen and Fishbein, 1980). We did not observe an effect on attitudes towards painful practices possibly because the attitudes were already greatly disapproved. Overall, our study suggests that well developed courses could improve the attitudes towards the use of animals and therefore stimulate the ethical awareness in Thai students studying to become professionals working with animals.

The learning history of the students could have contributed to more leniency towards farming practices and painless attitudes before being exposed to the lecture. For example, the opinions of American veterinary students about the necessity or desirability of treating pain varies between individuals and between years (Hellyer et al., 1999). The shift of attitudes towards less approval of painless procedures could be due to the exposure to the lecture since students taking courses on learning, cognition, brain and behavior have a more positive attitude toward animal research, suggesting that education and knowledge can change the attitudes toward animals and their use (Saucier and Cain, 2006). In contrast, the exposure to the lecture did not change the student attitudes towards painful procedures. The scores were very low (less than 2 on a scale of 5) before the lecture so leaving very little room for improvement. The disapproval of painful practices could be due to the adherence to Buddhist’s precepts by the majority of students, precepts that advocate the respect of any form of life (Webster, 2005).
Overall, gender had little impact on most ATT scores, except on the pain or killing method of food production where they were less approved by female students than male students, suggesting that female students had a more compassionate or humanistic attitude to animals as previously observed in other countries (Eldridge and Gluck, 1996; Herzog, 2007). It is likely that the gender differences in attitudes would be mirrored by gender differences in moral sensibility (Bebeau and Brabeck, 1987). However, it is not clear how the gender differences could be integrated in the further development of animal ethics and welfare course.

From the changes in attitudes observed after exposure to a single lecture, it is possible to extrapolate that specific training/educational packages can be developed to better equip the future professionals of the Thai animal industry, such as producers, small scale farmers or veterinarians. These packages should include skills to develop a critical and ethical approach to animal ethics and welfare of animal production. An education promoting good attitudes to animal health and wellbeing would be advantageous to the exporters of Thai products toward countries where ‘ethical’ products will be in high demand.

REFERENCES


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