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A pain scoring protocol for dairy cattle

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In many animal welfare protocols, pain is assessed through measuring conditions that are thought to be related to pain, e.g. wounds or lameness. New developments in the field of pain assessment has shown that it is possible to measure acute pain in a more direct manner via the facial expressions and behaviour of the animal. In the current study we developed a pain scoring protocol for dairy cattle, including observations of attention, head bearing, ear position, facial expression, back position and response to approach. The behaviour of 43 dairy cows was assessed and based on a clinical examination they were divided in a pain group of 23 cows and a control group of 20 cows. All cows were treated randomly with either an analgesic (ketoprofen) or a placebo (saline). After 2-4 hours, the animals were re-assessed according to the pain scoring protocol by an observer blinded to the treatment of the animals. There was a significant difference before treatment, in the overall pain score between the pain and the control group (Mann-Whitney $P=0.0001$) and for the pain group, there was a significant reduction in the pain score of the ketoprofen but not the saline group (Wilcoxon $P=0.006$; $P=0.05$). In conclusion, the current pain protocol based on simple short term observations of behaviour has potential for assessment of pain in dairy cattle on farm.

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Foreword

WAFL is an international scientific conference on the assessment of animal welfare at farm or group level. Issues addressed during a WAFL conference can be:

- Welfare criteria,
Animal welfare comprises many aspects. The choice of welfare criteria to be covered is crucial before any assessment method is developed;
- Welfare indicators and methods to analyse them,
Valid methods to assess animal welfare in experiments may not be applicable in commercial settings. Methods adapted for monitoring animal welfare at group or farm level must be developed and validated. They are usually simpler and less time consuming. Their quality and conditions of use should be specified;
- Automation of measures,
The automation of measures offers new use of welfare indicators in on-farm welfare assessments. Devices for automatic recording of data and models to interpret the data into meaningful welfare information are developed;
- Ways to deal with a large amount of data from various welfare measures in order to assess the overall welfare of animals.
This questioned not only animal sciences but also ethics;
- Rationales underlying epidemiological studies and risk models.
Epidemiological studies can help us identify conditions that result in poor vs. good welfare. The principles of such studies could be made widely spread among animal welfare scientists;
- Consultation processes.
The choice of welfare criteria and the design of an overall welfare assessment cannot entirely be based on science. It is generally done after a consultation process. Ways to organise this consultation can be formalised;
- Implementation in practice.
How welfare measures are used in welfare plans to certify farms (or other types of animal units) or to monitor progresses should be shared.
- Communication of animal welfare assessment results.
Animal welfare may mean different things to different parties such as farmers, laypeople and experts.
- And other topics related to animal welfare assessment in practice.

WAFL2014 is the 6th edition of the conference. WAFL is typically a multidisciplinary conference. It is also largely open to a non-scientific audience. We believe a transdisciplinary approach is requested to go between and beyond disciplines and engage with society at large in order to stimulate innovations that can improve animal welfare.

Isabelle Veissier and Luc Mounier