# UMR1213 Herbivores

## Adaptation and Social Behaviors Team (ACS)

# The welfare of French dairy cows under scrutiny

Pain, poor health and discomfort at resting are the major risks for the welfare of cows in most French dairy farms. Links between characteristics of farms (e.g. cubicles design, herd management ...) and the impairment of welfare have been identified. They still need to be confirmed before precise recommendations to improve the welfare of dairy cows are formulated.

Ensuring farm animal welfare is a major issue in animal production. Plans for the improvement of animal welfare require that major problems are highlighted, so that corrective actions can be prioritized, and that population of farms "at risk" are identified. Given the current concerns about the welfare of cows and the economic impact of the dairy industry, we conducted an epidemiological study of the welfare of dairy cows to identify the major welfare problems and their risk factors.

We visited 131 farms in Brittany, Rhône-Alpes, and Auvergne. We applied the Welfare Quality® assessment protocol and we recorded the characteristics of farms and the practice in place (called factors thereafter). Eleven welfare aspects were considered: absence of hunger, thirst, disease, injury and pain; resting comfort; ease of movement; access to pasture; social behavior; human-animal relationship; and emotional state. The most degraded aspects were pain due to dehorning, diseases, resting discomfort, aggressions between animals, fear of human, and poor nutritional state. Furthermore:

- Good health was associated with the practice of a middle culling rate of animals (neither too low nor too high), a good nutritional state and cow cleanliness, confirming the impact of herd management on health;
- Cows had more difficulties to lie down and more injuries in cubicle barns. Specifically, when the ratio between the size of the stall and that of the cow was lower than 1.6 or higher than 1.8, a higher prevalence of injuries on cow legs was noticed.
- The conditions of calving may influence human-animal relationship: it was easier to approach cows when the cow had not received any human intervention at calving. However, the variations between cows within the same herd were very high, suggesting a major involvement of individual factors (e.g. genetics, early environment...).


In order to substantially improve the welfare of dairy cows, action plan shall focus on the reduction of pain - especially due to dehorning -, the improvement of the comfort of resting areas – especially in cubicles -, and on health management. The results of this cross-sectional survey (one visit per farm) should be confirmed by a longitudinal study to better identify causal relations. Modeling shall allow synthesizing relationships already identified in the literature and formalizing the quantification of effects identified in surveys and their interactions, so that a comprehensive model of the construction of the welfare of dairy cows can be proposed.

**Publication/patent**

A. de Boyer des Roches, I. Veissier, R. Bastien, J. Capdeville, E. Gilot-Fromont & L. Mounier. Taking cows body dimension when designing housing system: A way to improve dairy cows wellbeing. International Ethological Conference, 4-8 August 2013, Newcastle, UK.
A. de Boyer des Roches, I. Veissier, M. Coignard, N. Bareille, R. Guatteo, J. Capdeville, E. Gilot-Fromont, & L. Mounier. The major welfare problems of dairy cows in French commercial farms – An epidemiological approach. Animal Welfare. Soumis.
M. Coignard, R. Guatteo, I. Veissier, A. de Boyer des Roches, L. Mounier, A. Lehébel & N. Bareille. Description and factors of variation of the overall health score in French dairy cattle herds using the Welfare Quality® assessment protocol. Preventive Veterinary Medicine. 112 : 296-308.

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