The major welfare problems of dairy cows in French commercial farms: an epidemiological approach

A de Boyer des Roches* †‡ , I Veissier‡† , M Coignard§, N Bareille§, R Guatteo§, J Capdeville#, E Gilot-Fromont¶¥ and L Mounier†‡

† Université de Lyon, VetAgro Sup, UMR1213 Herbivores, F-69280 Marcy L'Etoile, France
‡ INRA, UMR1213 Herbivores, F-63122 Saint-Genès-Champanelle, France
§ LUNAM, ONIRIS, INRA, UMR1300 BIOEPAR, CS 40706, F-44307 Nantes, France
* Institut de l'Elevage, Antenne de Toulouse, Castanet Tolosan, F-31321 Castanet Tolosan Cedex, France
# Institut de l'Elevage, Antenne de Toulouse, Castanet Tolosan, F-31321 Castanet Tolosan Cedex, France
¶ Université de Lyon, VetAgro Sup, F-69280 Marcy L'Etoile, France
¥ Université de Lyon, Université Lyon 1, UMR CNRS 5558 - LBBE, F-69622 Villeurbanne, France
* Contact for correspondence and request for reprints: alice.deboyerdesorches@vetagro-sup.fr

Abstract

Animal welfare enhancement requires that problems are reliably identified and ranked in order to prioritise corrective actions. Welfare problems vary with the conditions in which animals are maintained. The objectives were to highlight major welfare problems for dairy cows on farms in France, and find out how farm characteristics (housing and milking systems, breed) could impact specific welfare aspects on these farms. We conducted a cross-sectional survey on 131 French dairy farms. We used the Welfare Quality® protocol, which addresses all aspects of welfare, and yields scores for principles and criteria that represent how well farms meet welfare requirements (from 0 for a very adverse situation to 100 for an excellent one). We used descriptive statistics to highlight low welfare scores, and variance analyses to compare farms. Most farms were found ‘Acceptable’ according to the Welfare Quality® classification. Principles scores for Health, Feeding and Behaviour ranged from 33 to 39. The median score for eight of the welfare criteria was below 50 (‘Pain’, ‘Integument alterations’, ‘Diseases’, ‘Comfort around resting’, ‘Social behaviours’, ‘Human-animal relationship’, ‘Positive emotional state’, ‘Hunger’), while the median score was above 50 for the four other criteria (‘Thirst’, ‘Lameness’, ‘Expression of other behaviours’, ‘Ease of movement’). The scores varied widely between farms, within and between systems. Farms with cubicles obtained lower scores for ‘Comfort around resting’, ‘Injuries’; farms with Holstein cows obtained lower scores for ‘Hunger’; farms using an automatic milking system obtained lower scores for ‘Expression of other behaviours’ and ‘Diseases’ in Holstein herds. This survey yields information on bottlenecks in dairy cow welfare with all dimensions of welfare considered together. The results can be used by stakeholders to prioritise corrective actions in welfare plans, focusing either on the whole population of farms or on farms with characteristics that are at high risk for specific welfare problems.

Keywords: animal welfare, dairy cows, farm characteristics, risks factors, welfare criteria, welfare plan

Introduction

Animal welfare is covered by legislation in many countries (eg Directive 98/58/EC in Europe, Prevention of Farm Animal Cruelty Act in the US). Nevertheless, some animal populations are still affected by serious welfare problems. The European Food Safety Authority (EFSA 2009) pinpointed lameness, mastitis, metabolic disorders, low fertility and short longevity as major problems affecting welfare in dairy cows. To implement control plans designed to improve the welfare status of cows, it is essential to identify major vs minor risks, based on severity of effects and likelihood of exposure (EFSA 2012).

Animal welfare has many components: good health, expression of normal behaviour, absence of fear, etc (Farm Animal Welfare Council 1992). A protocol allowing the assessment of all these components is necessary to describe precisely the different risks for welfare. The Welfare Quality® project designed such an expert-based protocol: four principles split into 12 independent welfare criteria are listed, covering all aspects of welfare, and measures are proposed to assess how well farms meet them. Scores are calculated, based on the severity of problems and their prevalence (Botreau et al 2007; Botreau 2008). Scores are calculated using an evaluation model that reflects the opinion of a group of experts — from different disciplines — consulted during the Welfare Quality® project. A common value scale allows the results from different criteria to be compared so that priorities can be more easily set. The results should therefore provide a guide to identifying major welfare risks on a farm and, in turn, at population level.