

Measurable Indicators of Animal Welfare in Organic and Conventional Dairies in the United States

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Abstract

Animal welfare is an important aspect of organic dairying. It has been demonstrated that people who handle many animals each day can become numb and desensitized to animal suffering. Therefore, it is important to have third-party evaluations of animal welfare to be able to identify potential problems and monitor progress. Such evaluations must be done with measurable, repeatable, and defensible indicators based upon good science and research and not based on romanticized views. A database containing forty-two dairy farms, six of which were organic dairies, was analyzed for variables relating to body condition score and locomotion scores. Selected parameters evaluated in this paper include body condition score (scale of 1-5; 1=emaciated, 5=obese) and locomotion scores (scale of 1-5; 1=normal gait, 3=obvious limp, 5=animal refuses to bear weight on limb). Additional measures included as explanatory variables were percentage of cattle observed that slip or fall while walking, a hygiene score (scale of 1-4; 1=clean, 2=dirt extends to knees, 3=dirt on udder floor & belly, 4=dirt extends to top of cow), percentage of cattle observed with swollen hocks or knees, milking herd size, housing system, and whether a dairy was organic or not. Two statistical approaches were used to analyze the variables of interest – body condition score (BCS) and locomotion score (LS). The first approach was to compare the means of these variables for organic dairies versus conventional dairies using a t-test. This allows us to determine if these measures differ statistically between the two dairy types without accounting for other differences that might exist

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between the dairies. The second approach is to use Ordinary Least Squares (OLS) regression to model BCS and LS as a function of other dairy characteristics. The strength of the regression approach over the t-test is that it allows us to determine if these measures differ statistically between the two dairy types while accounting for other differences. This approach also allows us to determine which factors significantly impact the measures of interest and quantify the magnitude of this relationship. Body condition score was significantly impacted by locomotion score, percentage of swollen hocks or knees in the herd, and herd size. Impact of housing method and dairy type on locomotion score were not statistically significant. Results of this dataset suggest that measurable indicators of animal care and comfort can be used to evaluate animal welfare across various management systems. Measurable indicators of animal care and comfort are important if the industry, national or global, wants to monitor or measure improvement. Results from this dataset showed that these scientifically based indicators can be utilized across management systems, including both organic and conventional dairies.