

# A shorter on-farm dairy welfare assessment protocol that can provide useful feedback to producers

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## Introduction

On-farm dairy welfare assessments are important tools for the dairy industry. There are several existing assessment protocols; however, these can be quite time-consuming to complete on-farm. The aim of our study was to modify an existing Canadian assessment protocol, the basis for the Dairy Farmers of Canada animal assessment program, to reduce the amount of time needed to complete an assessment on-farm. The original assessment required 2 separate visits to the farm, which took on average 8 to 9 hours and 4 hours to complete, respectively. The goal for the modified assessment protocol was to complete an assessment in a single 6 to 8 hour visit.

## Materials and Methods

The modified assessment protocol was used to assess 80 commercial dairy herds throughout Nova Scotia, New Brunswick, and Prince Edward Island, Canada. These consisted of 34 tie-stall and 46 free-stall herds. Assessments were completed by trained observers, following the standard operating procedures developed for the original assessment protocol that help ensure measurements were collected similarly between observers. All observers were required to achieve and maintain an agreement level of weighted kappa  $\geq 0.6$  for the animal-based measurements in order to complete assessments on-farm. After the assessments were completed each producer was provided with feedback on their compliance with the recommendations and requirements of the Canadian code of practice for the care and handling of dairy cattle by calculating scores for 12 (free-stall) or 8 (tie-stall)

principal areas. These principal areas addressed welfare concerns such as lameness, body condition score, and injuries with possible scores ranging from 0 (expectations not met) to 100 (expectations met or exceeded). Descriptive statistics were explored for each principal area and each facility type.

## Results

A total of 3 observers were trained to complete on-farm assessments. These observers achieved and maintained an acceptable level of agreement (kappa  $\geq 0.6$ ) throughout the project. On-farm assessments were completed in a single visit, which took 3 to 8 hours to complete, depending on herd size. A large variability was seen between herds, with scores for the principal areas ranging from 0 to 100%. This variability was also seen between principal areas, with average scores ranging from 46 to 94%. Scores of 100% were achieved by the top herds for body condition, nutrition and feed management, and space allowance at the stalls. Scores  $< 50\%$  were seen in the bottom herds for lameness management, space allowance at the feeder, and stall configurations.

## Significance

These results show that the modified assessment protocol can distinguish between herds that are meeting the expectations of the code of practice and those that require improvements, while being completed in a reduced amount of time. The feedback provided to the producers through these assessments can help identify where changes may be required to improve the welfare of their herds.