

The Effect of Feeding Medicated or Non-medicated Milk Replacer on Growth, Morbidity and Mortality of Holstein Heifer Calves

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Introduction

With the emergence of antimicrobial resistance in the medical communities, the agricultural community has been heavily scrutinized on how antimicrobial agents are used. This has led to calling for more prudent use of such drugs in animal agriculture. Given the advances in veterinary preventive medicine, some question the necessity of adding antimicrobial agents to milk replacer for dairy calves. The purpose of this study was to determine the effect of feeding milk replacer with or without antimicrobial agents on growth, morbidity and mortality in dairy heifers.

Materials and Methods

Holstein heifer calves born during a one-year time period were enrolled in the study. The calves were randomly assigned at birth to receive either non-medicated or medicated milk replacer. Until each calf reached six months of age, the investigators made weekly visits to the farm to monitor health records for morbidity and mortality, and to measure calf weight and wither height up to weaning and again at five months of age.

Results

Preliminary results to date show 200 study calves have been weaned (96 non-medicated and 104 medi-

cated). Adjusted 42-day weight and average daily weight gain at 42-days of age were 38.9, 0.926 and 45.1, 1.073 lb (17.7, 0.421 and 20.5, 0.488 kg) for non-medicated and medicated groups, respectively. The mean height gain at 42 days of age for the non-medicated was 15.2 inches and 16.8 inches (6.00 cm and 6.60 cm) for medicated calves. A total 144 calves have completed the study (70 non-medicated and 74 medicated). Adjusted 150-day weights and heights are 352 lb (160 kg) and 262 inches (103 cm) for non-medicated, while medicated are 370 lb (168 kg) and 269 inches (106 cm). Morbidity rates are similar among the two treatments, with non-medicated at 11.46% and medicated at 11.54%. Mortality rates differ between groups, with 14.4% and 9.65% for non-medicated and medicated, respectively.

Significance

Preliminary results indicate a trend in higher weight gain for calves fed medicated milk replacer, but the benefit for height gain and morbidity has not yet been demonstrated. There is a difference in mortality, with the non-medicated calves having a higher death loss. Further data collection and complete statistical analysis is needed in order to make a conclusive decision as to whether medicated milk replacer is beneficial for the growth and well-being of dairy heifers.