

Impact of Prepartum Administration of Rumensin CRC on Milk Production in Lactating Dairy Cows in Quebec.

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Introduction

This study evaluated the use of Rumensin CRC on milk production in lactating dairy cows.

Materials and Methods

A total of 722 cows from 38 herds were enrolled in a double-blind, randomized clinical trial. Within each herd, all cows were randomly assigned to the administration of either a placebo or a Rumensin CRC treatment, two to four weeks before the expected calving date. CRC-treated cows were further divided into two subgroups: cows that received the Rumensin CRC less than two weeks before the actual calving ("Early CRC group"), and the other cows ("Targeted CRC group"). Milk production data from the first three DHI tests were retrieved and statistical analyses were performed with mixed linear models using Proc Mixed in SAS.

Results and Discussions

On repeated measured analysis of milk production (2.29 lb), there was an overall trend ($p=0.06$) toward higher milk production of 2.29 lb (1.04 kg) per day in CRC treated cows. When the analysis was stratified by Dairy Herd Improvement Association (DHI) test number for cows of all parities, Targeted CRC cows produced significantly more milk (+3.70 lb; 1.68 kg per day) than placebo cows at DHI test 2 ($p<0.01$). A trend toward

improvement (+2.16 lb; 0.98 kg per day) on DHI test 3 was also favored the Targeted CRC treated cows.

Repeated milk yield measures were examined in details for primiparous animals because of the significant impact ($p<0.05$) of the presence of ionophores in the pre-calving heifer ration on milk production. In fact, the analysis revealed that lowest milk production was in heifers that received ionophores in their pre-calving diet until calving and an Early CRC treatment (48.84 lb; 22.2 kg per day). Heifers that received ionophores in their ration only up to two to three weeks before calving, and a CRC treatment more than two weeks prior to calving, showed a significant increase in daily milk production of +9.24 lb (+4.2 kg) per day (63.36 lb; 28.8 kg) compared to non-treated heifers (54.12 lb; 24.6 kg) ($p<0.08$).

Conclusions

This study showed milk production increased significantly in Targeted CRC-treated cows at the second DHI test post-calving, and an overall trend toward higher milk production in cows treated with Rumensin CRC more than two weeks before calving. Based on results from primiparous cows, Rumensin CRC should be administered more than two weeks before the expected calving date to allow time for rumen adaptation. Further, it is advisable to stop feeding ionophores two to three weeks before calving if Rumensin CRC is to be administered.