An Evaluation of Rally™ Dairy Feed on Holstein Transition Cow Performance

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Introduction

Improved performance during the transition period can have a significant impact on a dairy farm's profitability. Nutritional factors that promote dry matter (DM) intake and/or reduce the risk of metabolic disease can be a key factor in a manager's action plan.

Materials and Methods

Thirty-four multiparous cows were assigned to control or treatment (Rally), fed a pre-fresh ration starting 21 days prior to expected calving and fed a post-fresh ration from 1 to 28 days in milk (DIM), differing only in the inclusion of Rally™, a patent pending transition feed technology. All animals received a high cow total mixed ration (TMR) containing Rally from 29 to 58 DIM. Individual animal intake was measured daily throughout the period; feed was offered to insure 10% refusal. Milk production was recorded three times daily and milk samples were collected from three consecutive milkings once per week. Body weight and body condition score were measured on day -21 and 1, 28 and 56 DIM. In addition, production records from seven commercial herds were evaluated.

Results

Pre-fresh DM intake (33.0, 34.6 lb/d), day 1-56 DM intake (50.4, 48.3 lb/d) and day 1-56 milk production (104, 104 lb/d) were similar for Rally and control, respectively. Relative to week -1, the change in DM intake in week +1 was greater for Rally than control (+3.35 lb, +0.19 lb, P=0.09). Compared to control from 1 to 28 DIM, Rally had similar percent fat (4.53, 4.36), higher percent milk true protein (3.18, 3.04, P=0.08) and higher percent total solids (13.49, 13.00, P=0.10) and tended to have higher percent lactose (4.78, 4.66, P=0.13). From 29 to 56 DIM, Rally had higher percent fat (3.63, 3.19, P=0.02), percent lactose (4.89, 4.77, P=0.09), percent total solids (12.02, 11.42, P=0.01) and tended to have higher FCM (107, 99 lb/d, P=0.13). NEFA at day of calving was significantly lower for Rally (0.42, 0.70 meq/L, P=0.04). NEFA at day -21, day -7, day 10 and BHBA at day -21, -7, day of calving, and day 10 were similar. In a subsequent trial with identical pre-fresh rations, NEFA at day of calving was again significantly reduced with the inclusion of Rally (0.54 vs. 0.77 meq/L, P=0.06). Body weight, body condition score, changes in body weight and condition score and MUN were not different.

Evaluation of production records from seven commercial herds before and after introduction of Rally showed improved 1-30 DIM milk production (76.2, 73.0, P=0.07), FCM (96.8, 87.4, P<0.01), percent fat (4.48, 4.24 P=0.03), percent protein (3.21, 3.08, P<0.01) and improved 31-60 DIM milk production (104.7, 97.4, P=0.02), FCM (106.5, 95.3, P<0.01), percent fat (3.63, 3.43, P=0.05), and percent protein (2.77, 2.67, P<0.01) for multiparous animals. Primiparous animals had similar improvements, with the exception of milk production, which was not different.

Significance

When Rally was included in the transition period ration, cow performance as measured by change in DM intake after calving, NEFA at calving and milk composition was improved in a controlled setting. Application in commercial herds showed similar results.