Optimizing Transition Health and Milk Performance in Holstein Dairy Cows through an Innovative Oral Effervescent Bolus Supplement with Live Yeast, Minerals, and Antioxidants

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Abstract

Objectives:
Periparturient cows are confronted with challenges associated with parturition, environmental changes and drastic dietary changes which affect adequate dry matter intake (Goff, 2001). This study aimed to evaluate the effects of an oral bolus supplement containing live yeast, magnesium, calcium, potassium, and niacin on early lactation Holstein dairy cows.
Material and Methods:
From July to October 2023, on a commercial dairy located in Cordoba (Spain), 60 Holstein primiparous and multiparous cows were enrolled into one of two treatments over a period of approximately 100 days. Cows were blocked on parity, previous lactation milk production, fat and protein and randomized into two groups of 30. Cows assigned to the control group (CTL; n=30) received no oral supplement post freshening; the treatment group received one dose (220 grams) of the fresh cow bolus [YMCP Vitall®, TechMix, LLC., Stewart, USA] immediately following parturition (BOL; n=30). Daily and weekly milk production (kg) and health parameters were recorded (DairyPlan C21 management software, GEA, Germany). Results were statistically analyzed with SAS (version 9.4; SAS Institute Inc., Cary, NC) using a linear mixed model (PROC MIXED).
Results:
Weekly average milk production was numerically higher from weeks 1 to 6 post calving for cows supplemented. Also accumulated milk production (kg) was higher for BOL relative to CTL cows at 30 DIM (days in milk) (+10.5%), 50 DIM (+7.6%), 60 DIM (+6.2%) and 100 DIM (+4.2%). BOL cows had lower incidence of retained placenta ($p<0.05$) and removals ($p<0.05$) during the first 30 DIM relative to CTL cows. Although no statistical differences were observed in milk production, clear numerical differences in the first 100 DIM in animals receiving the bolus are in line with previous studies (DeVries & Chevaux, 2014; Al-Qaisi et al., 2020).
Conclusions:
Supplementing cows postpartum with BOL reduced the rate of retained placenta and removals during the first 30 DIM. These results suggest that supplementing cows postpartum with an oral bolus containing live yeast, minerals, and antioxidants is a valuable strategy to improve animal health and productivity in fresh cows.

References:

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