**Abstract**

This study was conducted to investigate the effects of different probiotics supplement on growth performance parameters, biochemical blood factors, immune response and health status of young dairy calves. A total of 40 neonatal calves, immediately after birth, were randomly assigned to one of 4 treatments, 10 replicates with 1 calf in each with a completely randomized design. Treatments included: control (C; without any probiotic supplement), CP (feed containing 2 g/d/calf commercial produced probiotic), DP (feed containing 2 g/d/calf domestically produced probiotic) and LP (feed containing 2 g/d/calf laboratory produced probiotic). Calves were weaned abruptly if they consumed 900 g dry matter of starter per day for three consecutive days. Compared with control, incorporation of the probiotics in the diet had significantly effect on final body weight, as the lowest and the highest average weight gain in the whole period of the study (day 1-60) were respectively seen in control and CP treatments (P<0.05). In addition, there was no significant effect on dry matter intake and feed conversion ratio (P>0.05). Including probiotic into diets resulted to decrease weaning time compare to control group (P<0.05). Feeding probiotics to calves had not remarkable effects on biochemical blood parameters and blood metabolites (P>0.05). At the end of trial, the fecal population of lactic acid bacteria was different (P<0.05) between treatments; as the average fecal population of LAB was greater (P<0.05) with CP than other treatments. Based on the results of this experiment, control group had higher population of *coli*form and *E. coli* (P<0.05) and lower the *Lactobacillus/coli*forms ratio in the feces compare to the supplemented groups. The results of the present study indicate that adding probiotics supplements could be a potential treatment for increasing health status, and better performance.

**Keywords:** Probiotic, Calf, Performance, Immunity, Health.
Impact of probiotic administration on growth performance, health and immune response of young dairy calves

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October 2015