

Effect of *Ganoderma lucidum* supplementation on growth performance and immune response in Holstein bull calves ⁽¹⁾

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Abstract

This study analyzes the effects of *Ganoderma lucidum* (GL) supplementation on the growth performance and immune response in Holstein bull calf. A total of 24 Holstein bull calves weaned at 8 weeks old were randomly divided into two groups. Calves received diets adding 0 (control group) or 10 g GL powder (treatment group) daily for 8 weeks. The calves were fed individually with all fine feed, Bermuda hay and clean water. At the start and end of the experiment diet intake, body weight, wither height, body length, heart girth, peripheral lymphocyte proliferation index, the blood biochemical parameters and bovine ephemeral fever (BEF) antibody titer were analyzed. The results showed that calves fed GL powder had the significantly ($P < 0.01$) increased peripheral lymphocyte proliferation index (4.25 ± 0.63 vs. 2.23 ± 0.32) and BEF antibody titer (1.55 ± 0.22 vs. 1.13 ± 0.29), compared to the control group. However, the diet intake, body weight, wither height, body length, heart girth, aspartate aminotransferase (AST) and blood urea nitrogen (BUN) were not significantly different between control group and treatment group. In conclusion, the addition of *Ganoderma lucidum* in the diet could enhance the activity of the immune cells of Holstein bull calves. In the future, *Ganoderma lucidum* may be used as an immunity enhancing supplement for calves.

Key words: Bull calf, Growth performance, Immune response, *Ganoderma lucidum*.

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