

EFFECT OF SUBSTITUTING PORCINE WHOLE BLOOD WITH CALF MILK REPLACER FOR THE GROWTH AND PERFORMANCE OF BULL CALVES

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Most of the calves in the commercial farms are fed with milk replacer during their liquid feeding period. As an alternative low cost protein ingredient, porcine whole blood was evaluated by substituting calf milk replacer. Twelve male Holstein-Friesian calves (body weight 40 ± 5 kg and age 21 ± 10 -days) were used in the experiment over 42 days. After adaptation period of 7 days, calves were assigned randomly to three treatment groups. The calves in the control group was fed with 100% milk replacer, other groups were fed with milk replacer substituted with 10% and 15% of whole blood. The animals were fed with 4L and 3L of milk replacer/milk replacer containing whole blood per day in the first month and for the rest of the research period, respectively. All other management practices were performed similarly for all the calves. Daily intakes of milk replacer/milk replacer with whole blood & concentrate and daily rectal temperature were measured. The fecal consistencies of the animals were also recorded daily. Body weight, heart girth, body length, skinfold thickness were measured weekly. Daily intake of milk replacer/milk replacer substituted with blood was the same for all calves throughout the experimental period. Body weight gain/week, heart girth, body length, skinfold thickness were analyzed as repeated measures ANOVA using the Mixed Procedure of SAS. There was no significant difference ($p > 0.05$) in the body weight gain (2.5 ± 0.6 kg/week), heart girth (85 ± 5 cm), body length (68 ± 5 cm) and skinfold thickness (1.090 ± 0.2 cm), concentrate intake (3 ± 1.9 kg/week) among the treatments. The result of this experiment demonstrates that 10% and 15% of calf milk replacer can be successfully substituted by porcine whole blood. The findings suggest the possibility of using whole blood of pigs (a slaughterhouse by-product) to reduce the cost of feed in rearing calves.

Keywords: Bull calves, Growth performance, Milk replacers, Porcine whole blood