



## Nursing ability of crossbred (Japanese Black X Holstein) cows on pasture and the effect of supplemental nutrition upon the twin calves and their dams

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### Summary

The aims of this study were to evaluate the nursing ability of crossbred (Japanese Black × Holstein) cows for twin production and the effect of supplemental nutrition on grazing calves or their dams. Seventeen pairs of twin calves (34 calves) grazed with their dams were divided in two groups. Ten pairs of calves were given concentrate diets ad libitum whereas their dams were not supplemented with concentrate (group C). The other seven pairs of calves were not given concentrate while their dams were supplemented with 1 to 2kg concentrate daily (group NC). Mean of suckled milk yield was 6.1(C) and 6.6kg(NC) per one calf. Body weight and body condition score point of dams were decreased during the study period. Concentrate intake of calves in group C increased as they grew, especially after 3 months age. During 0 to 4 weeks age, significant difference ( $P < 0.05$ ) was observed between two groups in the weight gain of calves, 0.80 (C) and 0.94 (NC) kg/day. However, during 4 to 26 weeks age, the mean daily gain was higher in group C than in the group NC, whereas no significant difference was found in suckled milk yields. In the body measurements of calves, both groups were similar at birth, but group C were rather bigger at 3 and 6 months age than the group NC. These results suggest that supplementary concentrate for twin calves with their dams under grazing was effective from the first month after parturition. And, it is suggested that the supply of the concentrate are needed for the dams in the pasture where supply of grass is inadequate

Key words: Crossbred, Twin calves, Grazing, Daily gain, Supplementary feed