

Effects of Pair Housing on Feeding Behaviour and Weight Gain in Dairy Calves

J. H. C. Costa¹, R. K. Meagher, M. A. G. von Keyserlingk and D. M. Weary

Animal Welfare Program, University of British Columbia, 2357 Main Mall, Vancouver, BC, V6T 1Z4

Email: jhcardosocosta@gmail.com

Group and pair housing for calves is becoming more common on dairy farms, but little is known about how social rearing affects the development of feeding behaviour and intake. The aim of this study was to assess the effects early and late pairing feeding behaviour and weight gain before and after weaning. Holstein bull calves were either reared individually (n=8) or in pairs. Early paired calves (n=8) were grouped at 3d and late paired calves at 42d of age (n=8). All calves were fed 8 L of milk/d for 4 wk, 6 L/d from 4 to 6 wk and weaned at 8 wk of age. Calves were provided *ad libitum* access to calf starter and total mixed ration (TMR). Body weight and feed consumption were followed weekly from 6 wk until 10 wk of age. At 6 wk, intake of TMR averaged (\pm SEM) 0.25 \pm 0.05 Kg/d, 0.32 \pm 0.09 Kg/d, 0.41 \pm 0.12 Kg/d, for individual, late paired and early paired housed calves, respectively. Starter intake was similar for the individually reared and late-paired calves (0.09 \pm 0.03 Kg/d and 0.04 \pm 0.01 Kg/d) but higher for the early-paired calves (0.23 \pm 0.07 Kg/d). Consumption increased substantially after weaning in all treatments, but this increase was greatest for the early-paired calves. At 10 wk of age, TMR intake averaged 2.89 \pm 0.54 Kg/d, 3.08 \pm 0.46 Kg/d and 3.27 \pm 0.72 Kg/d for individual, late paired and early paired housed calves, respectively. Starter intake averaged 1.26 \pm 0.33 Kg/d, 1.09 \pm 0.25 Kg/d and 2.20 \pm 0.22 Kg/d for the same three treatments. Calves in the early pair treatment showed higher average daily weight gains (1.13 \pm 0.05 Kg/d versus 0.92 \pm 0.04 Kg/d and 0.84 \pm 0.05 Kg/d for the individual and late-paired calves). We conclude that pairing housing of dairy calves at an early age increases solid feed intake and weight gain in comparison with individual and late paired calves.

Implications: Pair housing soon after birth increased calf feed intake and weight gains in comparison with late pairing (at 6 wk of age) and individual housing.