



Tropentag, October 11-13, 2006, Bonn

“Prosperity and Poverty in a Globalised World—  
Challenges for Agricultural Research”

## Improving Calf Performance by Supplementation in Bali Cows Grazing Communal Pastures in West Timor, Indonesia

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### Abstract

Two on-farm experiments were conducted in west Timor to investigate the efficacy of strategic supplementation in improving calf performance both during dry and rainy season. In experiment 1, twenty four cow-calf pairs were grouped into three groups of eight pairs with balanced calf sex. They were grazed on communal native pastures for 8 months (control) or supplemented with 1 kg feed supplement consisting of 60 % rice bran and 40 % leucaena plus 100 g urea to Bali cows soon after calving or with 0.5 kg supplement directly to calves started at 2 months of age. Parameters measured included birth weight, milk production, and calf daily gain. In experiment 2, twenty nine one-year old calves were allowed to night grazing (control, n=19) or supplemented with 750 g rice bran (supplemented, n=10) during rainy season. Parameters measured in the experiment 2 included daily weight gain and body measurement. Most calves in experiment 1 were born during June and July and having birth weight varying from 11.4 to 21.5 kg with male calves were significantly ( $p < 0.05$ ) heavier than female calves. Birth weight was relatively unrelated to their dams size but it was well predicted by their body measurements. Daily gain significantly declined ( $p < 0.01$ ) with advancing dry season. Neither supplementation to cows or directly to calves has any significant effect to calves live weight gain and body measurements. Milk production was also unaffected by supplementation. In contrast, live weight gain and body measurements of older calves (experiment 2) were significantly improved ( $p < 0.05$ ) by supplementation of 750 g rice bran during rainy season.

**Keywords:** Bali calves, body measurements, live weight, strategic supplementation