

*Abstract*

# High Level of Energy and Protein Supplementation Effect on Feed Intake and Liveweight Gain of Bali Bulls Fed Elephant Grass <sup>†</sup>

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**Abstract:** This research was carried out on-farm at Malonas village, Central Sulawesi, Indonesia to examine the effect of high level supplementation of by-products formulated for high ME and CP. Feed intake, faecal pH and liveweight gain of Bali bulls was observed. The basal diet was elephant grass, and supplements were rice bran (RB), cassava (C), palm kernel meal (PKM), gliricidia (G) and urea. Fifty Bali bulls (weight  $168 \pm 4.48$  kg) were housed in individual pens for 18 weeks (2 introductory and 16 experimental) and allocated into five treatments: A = elephant grass (EG) ad libitum, B = EG offered at 1%W/d, plus 2.5%W/d mixed RB:G, (1:1), C = EG offered at 1%W/d plus 2.5%W/d mixed RB:PKM(1:1), D = EG offered at 1%W/d plus 2.5%W/d mixed C:G (1:1), E = EG offered at 1%W/d plus 2.5%W/d mixed C+ urea: PKM (1:1). Faecal pH was measured at weeks 3, 9 and 15. Bali bulls fed B, C, D and E, consumed supplement at the rate of 2.15, 2.19, 2.09 and 2.29 %W/d, respectively. Total feed intake was 2.47, 2.98, 2.99, 2.93, 3.13%W/d, liveweight gain was 0.30, 0.57, 0.60, 0.66, 0.69 g/d and faecal pH was 6.93, 6.76, 6.65, 6.45, 6.33 for treatment A, B, C, D, and E, respectively. Supplementation increased significantly ( $P < 0.05$ ) total feed intake, liveweight gain, but reduced faecal pH. The highest total feed intake and liveweight gain was achieved by treatment E. It is concluded that cassava can be provided at 1.15%W/d in combination with protein supplement for high liveweight gain of Bali bulls.

**Keywords:** energy; protein; Bali bull

**Author Contributions:** There were 5 authors involved in this study and publication. I.W.S. as a junior scientist did a ground activities to collect data daily, M.M., as a senior scientist, supervised field work, write the paper in English and data analysis, M.T., help junior scientist in collecting data and laboratory work, K.H. contributed in design experiment and edited the paper, D.P.P., edited and approved paper.

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