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“Filling gaps and removing traps
for sustainable resource management”

The Evaluation of Dry Matter and Nutrient Intake Adequacy in Dairy Cattle in Indonesia

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Abstract

The scale of ownership of lactation dairy cows in Indonesia is relatively low with an average of 3–4 heads. This study aims to determine and evaluate adequacy nutrient and nutrient utility in milk production for dairy cows based on the scale of ownership of farmers. This research was carried out in dairy cattle villages on the island of Java, observing 144 lactating cows from 56 farmers. The parameters measured in this study were the amount of feeding, nutrient intake, body weight, (BCS) Body Condition Scoring, milk production, milk quality and nutrient adequacy. Observation data were analysed by using a T-test based on the scale of ownership. The results of this study indicate that the performance of dairy cows in Indonesia is still not optimal. The average body weight was between 394.54 ± 37.26 and 424.38 ± 43.33 kg, and BCS ranged from 2.51 ± 0.27 to 2.60 ± 0.26 . The consumption of dry matter (DM) in high-production cows was higher compared to medium-production cows and low-production cows: the average consumption of DM was 12.8 kg, 12.37 kg and 11.22 kg per head, respectively, with a total digestible nutrient content varying from 57.1 to 67.5 %. However, based on the analysis of nutrient adequacy, there were still cows fed with no standard feeding, namely 51.8 % of high-production cows, 37.2 % of medium-producing cows and 38.6 % of low-production cows. Milk production was largely determined by the scale of ownership. The average milk production on the scale of ownership of 1–3 heads, 4–5 heads and > 6 heads, respectively, was 12.42 ± 5.07 , 11.81 ± 3.62 , and 16.00 ± 2.00 kg per head with milk fat varying from 4.2 ± 1.73 % to 4.8 ± 1.73 %. Based on these results it was concluded that the feeding of lactating dairy cows in Indonesia is still below the standard requirements so that it does not support high milk production.

Keywords: Dairy cattle, milk production, milk quality, nutrient intake