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## Digestibility of Nutrients and Evaluation of Energy of Pangola Grass in Sheep as Compared to Napier Grass

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### Abstract

In this study, sixteen cross-bred native × Merino sheep were randomly allocated to 4 treatments, and confined in metabolic cages with clean water supply at all times. The experiment was conducted at the farm and laboratory of the Department of Animal and Aquatic Science, Faculty of Agriculture, Chiang Mai University, Thailand. Sheep in each treatment were fed as follows: T1 fed with Napier grass, T2 fed with fresh Pangola grass, T3 fed with Pangola grass hay, and T4 fed with Pangola grass ensiled with 5% molasses.

The results showed that the crude protein (CP), ether extract (EE) and ash contents of the Pangola grass + 5% molasses silage in T4 were significant higher than those from the other treatments (9.3, 2.6 and 13.3, respectively;  $p < 0.05$ ) while organic matter (OM), neutral detergent fibre (NDF), acid detergent fibre (ADF), acid detergent lignin (ADL) and nitrogen free extract (NFE) contents of T3 were higher than the rest (91.5, 73.5, 42.2, 4.9 and 51.2, respectively;  $p < 0.05$ ). However, crude fibre (CF) content of fresh Pangola grass (T2) was higher than of Napier grass, Pangola hay and Pangola grass silage (31.4, 31.2, 31.1 and 30.5%, respectively;  $p < 0.05$ ). The digestibility coefficients of DM, OM, CP and EE of Pangola grass silage (T4) were the highest (75.7, 65.2, 57.8 and 50.9, respectively;  $p < 0.05$ ). The metabolisable energy (ME) of T4 was also significantly higher than those of T2, T3 and T1 (8.5, 8.4, 8.1 and 7.7, respectively;  $p < 0.05$ ). The net energy lactation (NEL) in T4 was higher than in the other treatments (4.95, 4.38, 4.85 and 4.63, respectively;  $p < 0.05$ ).

**Keywords:** Metabolizable energy, net energy lactation, Napier grass, nutrient digestibility, Pangola grass