

Comparison of Nutritive Value of Widely Used Feed Materials for Feeding Dairy Cows in Kilinochchi District, Sri Lanka

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A study was conducted to examine the nutritive value of the major roughages and concentrate feed materials used for feeding dairy cows in the Kilinochchi district, Sri Lanka. The most widely used feed materials were identified using a pre-tested structured questionnaire from eighty medium-scale (*i.e.* 20-25 L milk yield per day and herd size of 10-15 cows) dairy farmers. Based on the statistical analysis, six concentrates (gingelly (*Sesamum indicum*) cake, coconut (*Cocos nucifera*) cake, dairy mash (CIC), wheat (*Triticum aestivum*) bran, rice (*Oryza sativa*) bran, dhal (*Lens culinaris* husk)) and six roughages (CO-3, *Pennisetum americanum* × *Pennisetum purpureum*), sugar graze (*Sorghum bicolor*), azolla (*Azolla pinnata*), groundnut (*Arachis hypogaea*) leaves, gliricidia (*Gliricidia sepium*), and paddy straw) were chosen for the analyses of chemical composition and *in vitro* digestibility of nutrients using standard protocols. Among the concentrates, gingelly cake had the highest ($P < 0.05$) percentage of Crude Protein (CP) (41.52 % DM), ash (13.89 % DM) and *In-vitro* dry matter digestibility (DMD) (70.32 % DM), whilst dairy mash had the highest metabolisable energy content (ME) (10.98 MJ/kg DM). Among the roughages, the highest ($P < 0.05$) percentage of CP (29.74 % DM) and ash (20.91 % DM) and lowest percentage of neutral detergent fiber (NDF) (16.64 % DM) were observed in azolla while paddy straw had the lowest percentage of CP (4.12 % DM) and DMD (34.43 % DM). Data collected from the current study, coconut poonac, gingelly poonac, wheat bran and dairy mash were identified as both energy and protein supplementing concentrates. Whereas azolla can be used as a protein supplement and gliricidia can be used as both energy and protein supplementing roughage.

Keywords: Concentrates, Feed resources, Nutritional value, Roughages