

EVALUATION OF COMMON FODDER SPECIES USED
FOR FEEDING SMALL RUMINANTS IN MID COUNTRY
AND DRY ZONE OF SRI LANKA

by

VAJIRA PARAKRAMA JAYAWARDENA

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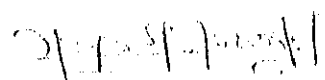
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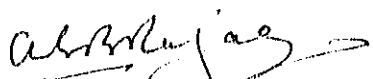
SRI LANKA

Approved:


Supervisor


(Dr. N. Perera)

Examiner


(Prof. A.S.B. Rajaguru)

Examiner


(Prof. K.K. Pathirana)

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ABSTRACT

Twenty nine species of plants commonly fed to goats and sheep in the Dry zone and Mid country were collected and identified. The fodder samples were analyzed for proximate components and cell wall constituents. In vitro dry matter and organic matter digestibilities were also determined. The average dry matter, total ash, ether extract (EE) and crude protein (CP) contents of the fodder leaves were 26.80, 11.10, 3.22 and 16.33%, respectively. Acid Detergent Fibre (ADF) contents varied from 16.42 to 50.08% between fodder species. The mean cellulose and lignin contents were 17.34 and 11.29%, respectively. The average Dry Matter Digestibility (DMD) and Organic Matter Digestibility (OMD) values were 52.25 and 50.30%, respectively. Despite the higher crude protein and mineral contents, the low digestibility of many of these leaves could be a limiting factor in feeding livestock.

Metabolism and balance trials (Nitrogen and Phosphorus) were conducted using goats for five fodder species viz. Erythrina varigata, Gliricidia sepium, Albizia falcataria, Tithonia diversifolia and Artocarpus heterophyllus. Rumen fluid samples were analyzed for ammonia, total volatile fatty acids (total VFA) and individual VFA's. Daily dry matter intake (DMI) of Erythrina, Albizia, Tithonia and Artocarpus treatments were 46.12, 52.85, 42.08 and 76.74 g/Kg^{0.75}, respectively. The mean In-vivo DMD of Erythrina, Albizia, Tithonia and Artocarpus were 62.75, 42.23, 67.60 and 51.38%, respectively. The OMD varied from 42.42 to 70.41%

between the treatments. Digestibility of ADF in Erythrina, Albizia, Tithonia and Artocarpus treatments were 41.68, 18.70, 39.66 and 16.37%, respectively. Very low concentrations of ruminal VFA' s were observed in all animals (6.0 to 9.01 mol/l). Ruminal fluid pH was around 7.0. Comparatively higher rumen ammonia nitrogen concentrations were observed in Erythrina leaves fed goats (22.79 mg/dl). Positive Nitrogen balance was observed in all treatments. Phosphorus balance was positive in all treatments except in Albizia leaves fed group. These fodder leaves have a good potential for small ruminant feeding.