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Evaluation of chemical composition *in vitro* and *in sacco* degradability of Karanj cake

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Karanj cake was evaluated by chemical, *in vitro* and *in sacco* techniques. The proximate analysis revealed that the dry matter, organic matter, crude protein, ether extract, crude fibre, nitrogen free extract and total ash content of Karanj cake was 89.38, 16.70, 14.98, 2.84, 38.10, 33.46 and 10.62 percent, respectively. Fiber fraction analysis revealed neutral detergent fibre, acid detergent fibre, hemi cellulose, cellulose, lignin and silica content of 68.8, 36.2, 32.6, 29.9, 5.7 and 0.63 percent, respectively. Among the major elements, calcium, phosphorus, magnesium, potassium and sulfur content was 0.026, 0.94, 0.011, 0.78 and 0.63 percent, respectively in Karanj cake. Among the trace elements, iron, cobalt, zinc, molybdenum aluminium, silicon and arsenic content in Karanj cake were 1016.43, 409.62, 70.97, 746.85, 131.45, 357.84 and 957.92 ppm, respectively. The *in vitro* dry matter digestibility value of Karanj cake was 61.4 percent, when incubated with buffalo rumen liquor. *In sacco* studies with fistulated rumen buffaloes revealed an average dry matter disappearance of 54.26, 63.75, 69.63, 74.99 and 81.18 at 12, 24, 36, 48 and 72 hours of incubation. The protein disappearance (%) was 11.75, 22.90, 26.64, 34.25 and 47.05 at incubation intervals of 3, 6, 9, 15 and 24 hours. The rumen kinetics, a, b and c values for dry matter and crude protein content of Karanj cake was 42.15, 1.688; 46.43, 54.16 and 0.025 and 0.073, respectively. The effective degradable dry matter of Karanj cake was 57.8 and that of protein was 34.0 (k=0.05). This study revealed that Karanj cake could be used as a good roughage source for ruminants.

Biography

Ramesh S is currently working as an Assistant Professor in the Department of Animal Nutrition at College of Veterinary Science, Sri PVNR Telangana State University for Veterinary animal and Fisheries sciences, India

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