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Voluntary intake and palatability indices of pedi goats fed tanniferous *Acacia karroo* leaf meal by cafeteria method

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Acacia karroo is regarded as a multipurpose tree with great potential for increasing goat productivity and can be considered as a cheap source of protein in communal goat production despite the presence of condensed tannins in the leaves. A study was conducted to determine preference intake and relative palatability indices of *Acacia karroo* fed to 5 growing male Pedi goats with an average body weight of 19.81 ± 1.83 kg. A cafeteria feeding approach was used, thus, permitting free access to the diet of their choice. The position of the troughs was randomized each day to avoid 'habit reflex'. *Acacia karroo* was offered simultaneously with *Setaria verticillata* hay in a mixed diet at five different levels (Diet 1: S₈₀K₂₀, Diet 2: S₇₅K₂₅, Diet 3: S₇₀K₃₀, Diet 4: S₆₀K₄₀ and Diet 5: S₅₀K₅₀) for a period of 23 days. The daily Relative Palatability Index (RPI) obtained for each diet was subjected to analysis of variance with feeds as treatments and individual animals as replicates in a completely randomized design. Significant differences ($p < 0.05$) in RPI among the diets were observed. Preference rankings (i.e., 1st to 5th) for the diets produced the following order: diet 5 > diet 4 > diet 3 > diet 2 > diet 1. Diet 5 appeared to be the most preferred by goats with RPI of 96.91%. Palatability indices were positively and significantly ($p < 0.05$) predicted from dry matter intake of goats ($r^2 = 0.71$). Similarly, intake and palatability indices of the diets related positively ($p < 0.05$) with the nutrient and tannin contents. Result of this study indicates that tannin-rich plant, when fed as a mixed diet, can influence preference and intake by small ruminants. Toxin dilution could be a salient reason why ruminant animals select a mixed diet rather than a sole feed rich in secondary plant metabolites. Palatability studies could be used in designing supplemental feeding programs for ruminant livestock in the tropics.

Biography

David Brown is a PhD student and a part-time lecturer at the University of Limpopo (Republic of South Africa). His PhD is entitled "Evaluation of mixtures of *Acacia karroo* leaf meal and *Setaria verticillata* hay for indigenous pedi goat production in Limpopo province of South Africa. His study will generate information on the utilization of tanniferous *Acacia karroo* leaf meal by indigenous pedi goat during the critical dry season. He is an agro-entrepreneur having been exposed to intensive practical-based training by Israelis expertise from University of Jerusalem, in the following areas: vegetable farming, poultry production, aquaculture, beekeeping and agricultural business.

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