

Amount of gliricidia leaf eaten by sheep as affected by addition of additives

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Leaf of the fodder tree *Gliricidia sepium* is a potentially good source of protein for ruminants eating low quality roughages, but its feeding value is lowered by its low palatability for some animals (1). This low palatability might be associated with the presence of secondary compounds such as phenolics or tannins (2) as well as coumarin in leaves and bark (3). For this reason, farmers in some parts of the world have developed a negative perception of the value of gliricidia as a feedstuff for sheep and goats (3).

A trial was conducted to examine the effect of supplements in masking the taste of gliricidia leaf. Six supplements were compared using 10 sheep in a randomised complete block design in which the animals constituted the blocks. The sheep were maintained on a grass hay with a multimineral supplement. The gliricidia forage (leaf plus rachis) was chopped to a length of 3-4 cm and contained (% DM) CP 21.4; ADF 20.2; ADL 7.8 and condensed tannin 4.8%. Gliricidia leaf, 100 g, was mixed with 50 g of supplement (both as-fed), and offered at 0700 h to sheep which had been fasted overnight. Gliricidia leaf intakes were measured after 1 and 6 h.

None of the six additives significantly increased the amount of leaf eaten in the first hour ($P>0.05$). In contrast, addition of palm kernel meal significantly depressed the amount of leaf consumed. A similar trend was observed for the amount of leaf eaten over the whole 6 h period, except that molasses increased the consumption of the leaf ($P<0.05$) compared to gliricidia fed alone. This suggests that the taste of gliricidia can not be masked by the simple addition of other diet ingredients, and that improved intake may depend on inactivating the factors which are responsible for this lack of palatability.

Intake (g DM)	none	wheat millrun	molasses	grass hay	cottonseed meal	palm kernel meal	ground wheat grain	LSD ($P<0.05$)
In first h	34	41	49	28	51	8	56	25
Over 6 h	43	49	74	42	64	30	63	29

1. Lowry JB. Toxic factors and problems: methods of alleviating them in animals. In: Devendra C, ed. Shrubs and tree fodders for farm animals. Proceedings of a workshop in Denpasar, Indonesia, 24-29 July 1989. Ottawa, International Development Research Centre, 1990:76-88.
2. Arnold GW. Grazing behaviour. In: Morley FHW, ed. Grazing Animals. Amsterdam: Elsevier, 1981:79-104.
3. Atta-Krah AN, Sumberg JE. Studies with *Gliricidia sepium* for crop-livestock production systems in West Africa. Agroforestry Systems 1988;6:97-118.