

# Growth rate and faecal egg counts of parasitised Kacang goats fed Mindi (*Melia azedarach*) leaves

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In West Timor and surrounding islands, a lack of good quality fodder and infection with nematode parasites often limit growth of goats to less than 10 g/d. Improving protein nutrition is one of the parasite management tools available (Datta *et al.* 1999). During dry seasons, farmers feed Mindi leaves to their cattle, but seldom to goats. (Mindi is a local name for the tree, *Melia azedarach*, known in Australia as White Cedar). Mindi leaves contain about 21% crude protein and have a variety of pharmacological properties (Verma *et al.* 1989). A preliminary study *in vitro* confirmed extracts of Mindi leaves contained anthelmintic-like substance(s) that killed *Haemonchus contortus* worms. The study reported now was undertaken to compare the benefits of feeding Mindi leaves in either fresh or dried forms to parasitised goats.

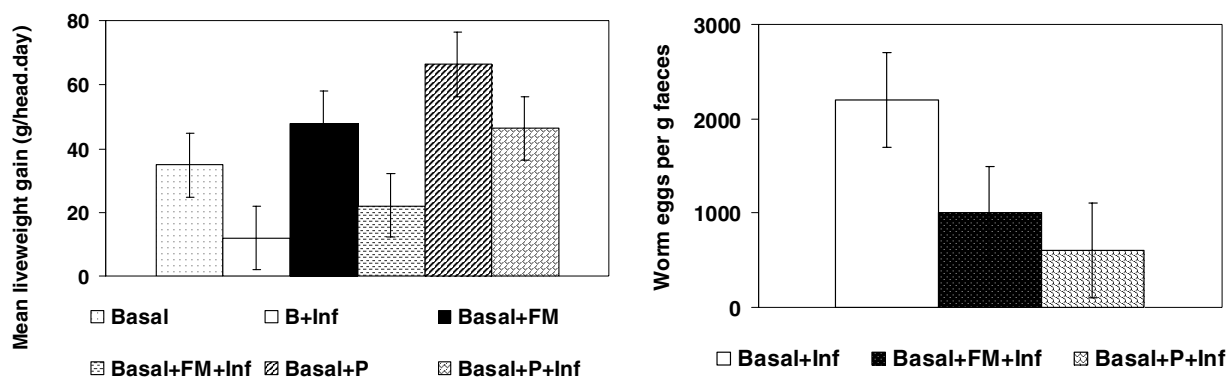
Twenty-four growing male Kacang goats (mean liveweight of 10 kg) were allotted to groups (n = 4) in a 2 x 3 factorial design (3 diets; infected or non-infected). All animals were treated with anthelmintic (Ivomec; 0.1 ml/kg liveweight) and then placed in individual pens for a 2-week adjustment period. Each pen had two feed bins. Throughout the preliminary and experimental periods (day 1–70) all goats were offered in one bin a basal diet (B) of freshly cut green grass that was sun dried, then chopped (3 cm length) and mixed with urea solution (20 g/kg) and mineral premix (10 g/head/d) prior to feeding. In the second bin, two groups were

offered fresh Mindi leaves (B + FM), and two other groups were offered pellets containing dried and ground Mindi leaves (B + P). Feed and water were available *ad libitum* and feed refusals were weighed daily at 08.00 h. After day 21, goats in one group representing each diet were infected with 300 *H. contortus* larvae twice a week (on Wednesday and Sunday); the other 3 groups were uninfected controls. Faecal samples for worm egg counting were collected weekly from day 28, and all animals were weighed before feeding on day 1 and every 14 d thereafter.

The mean liveweight gain and mean faecal egg counts are given in Figure 1. Both fresh and dried Mindi leaves suppressed ( $P < 0.05$ ) worm egg production and improved ( $P < 0.05$ ) growth rate in parasitised goats relative to their controls. This study has practical implications for low income farmers in the region.

Datta, F.U., Nolan, J.V., Rowe, J.B., Gray, G.D., Crook, B.J. (1999). Long-term effects of short-term provision of protein-enriched diets on resistance to nematode infection, and liveweight gain and wool growth in sheep. *International Journal for Parasitology* 29, 479–488.

Verma, S., Hamdard, M.E. and Dandiya, P.C. (1989). A note on neuropsychopharmacological studies of *Melia azedarach* leaves. *Indian Journal of Pharmacology* 21, 46–50.



**Figure 1** Mean liveweight gain and faecal egg counts in artificially infected (Inf) Kacang goats given a basal diet of fresh grass alone or supplemented with fresh Mindi (FM) or with pellets containing dried Mindi (P). Bars indicate 95% confidence intervals.