Evaluation of the anthelmintic activity of *Khaya senegalensis* extract against gastrointestinal nematodes of sheep: in vitro and in vivo studies

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**Abstract**

The anthelmintic effect of *Khaya senegalensis* is described.

In vitro and in vivo studies were conducted to determine possible direct anthelmintic effects of ethanolic and aqueous extracts of *K. senegalensis* towards different ovine gastrointestinal nematode. A larval development assay was used to investigate in vitro, the effect of aqueous and ethanolic extracts towards larvae of strongyles. The LC\(_{50}\) values of the effects of both the aqueous and ethanolic extracts were calculated. Another study was conducted in vivo to evaluate the therapeutic efficacy of the extracts administered orally at a dose rate of 125, 250 and 500 mg/kg of sheep harbouring naturally acquired infection of gastrointestinal nematodes.

The presence of *K. senegalensis* extracts in the cultures decreased the viability of larvae. The LC\(_{50}\) of the aqueous extract (0.69 mg/ml) is not significantly different \((P>0.05, t\text{-test})\) from the ethanolic extract (0.51 mg/ml). The activity of the extract is concentration dependent in vivo. Sheep drenched with 500 mg/kg *K. senegalensis* ethanolic extract had a mean faecal egg count (FEC) reduction of 88.82%. The extract of *K. senegalensis* could find application in anthelmintic therapy in veterinary practice.