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Planta Med 2011; 77  
 DOI: 10.1055/s-0031-1282954

## Anthelmintic activity of *Cymbopogon schoenanthus* and *Cymbopogon martinii* essential oils evaluated by four different in vitro tests

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Anthelmintic resistance is a worldwide matter in small ruminant industry and new compounds derived from plants are being studied to be used as an additional tool to control nematodes [1,2]. *Cymbopogon schoenanthus* Spreng. and *Cymbopogon martinii* (Roxb.) J. F. Watson (family Poaceae) essential oils were chosen to be evaluated against development stages of trichostrongylids from sheep by Egg Hatch Assay (EHA), Larval Development Assay (LDA), Larval Feeding Inhibition Assay (LFIA) and Larval Exsheathment Assay (LEA). The essential oils were analyzed by gas chromatography and mass spectrometry, and their major constituents were geraniol (55.3%) and geranial (13.3%) for *C. schoenanthus* and geraniol (81.4%) and geranyl acetate (10.1%) for *C. martinii*. In all *in vitro* tests *C. schoenanthus* oil presented the best activity against ovine trichostrongylids. LC<sub>50</sub> values are presented in Table 1. Considering these results, *C. schoenanthus* essential oil was selected for further experiments to evaluate its anthelmintic activity in *in vivo* models.

**Table 1:** CL50 (µL/mL) and confidence limits of *Cymbopogon schoenanthus* and *Cymbopogon martinii* essential oils in egg hatch assay (EHA), larval development assay (LDA), larval exsheathment assay (LEA) and larval feeding inhibition assay (LFIA) against

	<i>C. schoenanthus</i>	<i>C. martinii</i>
EHA	0.05 (0.04-0.06)	0.15 (0.13-0.17)
LDA	0.07 (0.06-0.08)	0.18 (0.17-0.19)
LEA	27.10 (21.37-32.38)	32.02 (29.87-34.47)
LFIA	0.01 (0.01-0.02)	0.04 (0.04-0.05)

**Keywords:** Anthelmintic activity, essential oils, *Cymbopogon schoenanthus*, *Cymbopogon martinii*

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