

WAAVP



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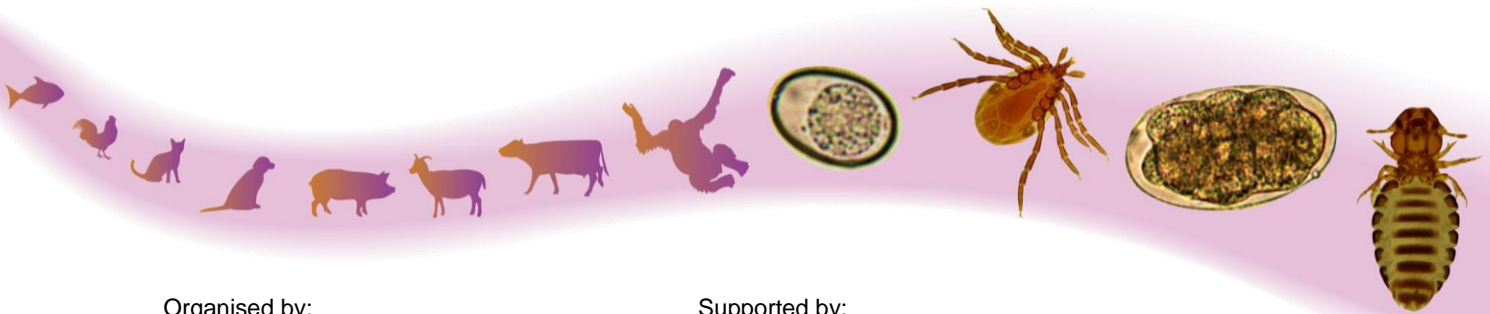
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Conference Theme

Combating Zoonoses: Strength in East-West Partnerships

ABSTRACT BOOK



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**Association of synthetic anthelmintics and natural monoterpenes against
*Haemonchus contortus***

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Abstract Content

The resistance of *Haemonchus contortus* to synthetic anthelmintics is an increasing concern and different strategies are being evaluated. The present trial studied the in vitro effect of the association of synthetic compound and natural monoterpene on eggs and larvae of *H. contortus*. The monoterpenes carvacrol, thymol, r-carvone, s-carvone, citral and p-cymene, and the synthetic anthelmintic ivermectin, and albendazole were used. Egg Hatch Test (EHT) and Larval Migration Inhibition Test (LMIT) were performed. The lowest efficient concentration of monoterpenes in EHT ($\leq 11\%$ of efficacy) and LMIT ($\leq 18\%$ of efficacy) was used in association with different concentration of synthetic compound. The IC50 and Synergism Rate (SR) were calculated. The highest efficiency of monoterpenes in EHT was obtained with r-carvone (IC50 = 0.25 mg/mL) and s-carvone (IC50 = 0.79 mg/mL) and in the LMIT with r-carvone (IC50 = 0.60 mg/mL). The best association was observed in the EHT with albendazole (thymol SR: 2.9 and r-carvone SR: 1.6) and ivermectin (citral SR: 1.9 and carvacrol SR:1.7). No synergistic effect was obtained using the LMIT. The combination of synthetic compound and natural monoterpenes could be positive to gastrointestinal nematodes control: However this strategy should be carefully analysed due to the possibility of antagonistic effects among the different compounds.

Keywords: carvacrol; thymol; citral; nematode