

ASSESSMENT OF LARVAL DEVELOPMENT ASSAY FOR ANTHELMINTIC RESISTANCE DIAGNOSIS AND THE DETECTION OF INVOLVED PARASITE GENERA.

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Larval Development Assay (LDA) is one of the in vitro techniques most frequently used to diagnose anthelmintic resistance in gastrointestinal nematodes of ruminants. It's based on the ability of these drugs to inhibit the development of eggs to third-stage larvae and presents the advantage of being able to identify the genera involved in resistance.

In this study, we evaluated the diagnostic performances of LDA in 183 samples by comparing: 1) Benzimidazoles resistance levels estimated by both LDA and the Egg Hatch Assay (EHA). Both techniques being applied using a single discriminating dose of thiabendazole at 0.02 and 0.1 g/ml respectively. 2) Efficacy of LDA, against coproculture, in the detection of the genera present in the sample.

Correlation among resistance levels estimated by LDA and EHA was moderate (Spearman coefficient $r=0.45$), suggesting a disagreement in the estimation of resistance between both techniques. On the other hand, LDA showed a lower capacity than coproculture to reveal the presence of some genera in samples. So, *Haemonchus* and *Chabertia* had a lower probability to be detected in LDA than in coproculture whereas differences were not found by *Trichostrongylus* and *Teladorsagia*.

These results highlight the need to review the LDA and EHA's protocols based on discriminating doses in order to increase the comparability of the results obtained by both techniques. Likewise, it is also essential to research the origin of the lack of agreement between coproculture and LDA in the detection of genera in order to improve the diagnostic performances of this technique.

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Palabras clave: Larval Development Assay, anthelmintic resistance, discriminating dose.

