

Abstract:

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Title of diploma thesis: Use of SPE in analysis of benzimidazoles I

Anthelmintic resistance in parasitic worms is an up-to-date topic. In order to combat this resistance we need to find proper analytic methods of its monitoring.

The goal of this thesis is to find a suitable method of benzimidazole extraction, using a solid-phase extraction. During the experiments I used SPE tubes Supelco DSC-C8 (1ml, 100mg).

In my thesis I tested the influence of pH and composition of elution agents on recovery of extraction. I performed the extraction in acid, neutral and basic environment. Elution agents consisted of a mixture of acetonitrile and polar phase, with four different mixing ratios.

The best results were obtained during extraction in basic environment. For SPE tubes DSC-C8 the most suitable elution agent consisted of 4 parts of acetonitrile and 6 parts of 10% ammonia solution.

Keywords: benzimidazoles, flubendazole, mebendazole, solid-phase extraction, resistance, anthelmintics