

MITRAGYNINE AS AN ANTHELMINTIC FOR CAPRINE STRONGYLES

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Abstract

Helminth infection is one of the most important causes of mortality and morbidity in small ruminant industries in Malaysia. Hence, helminth infection can lead to direct or indirect economic loss to farmers. Over the past 30 years, farmers have mainly relied on the use of commercial anthelmintics to control helminth infection. Unfortunately, heavy usage of the anthelmintics has led to the development of anthelmintic resistance. Therefore, an *in vitro* study was conducted to determine the anthelmintic properties of mitragynine (the major alkaloid in *M. speciosa*) against L3 stage larvae of strongyles. Five different concentrations of mitragynine were studied for their efficacy against L3 stage larvae of strongyles and five replicates for each concentration were prepared. The mortality was observed at 0, 2, 4, 6 and 24 hours post-treatment by observing the absence of motility of the larvae. The results revealed that the most effective and lowest effective concentrations of mitragynine within a 24 hour period were 0.4 and 0.2 mg/mL, respectively. Mitragynine also exhibited dose-dependent anthelmintic activity during the 24 hour period of observation.

Keywords: strongyles, anthelmintic, mitragynine