

Abstract Title

Scanning and transmission electron microscopy of *Haemonchus contortus* exposed to cranberry vine *in vivo*.

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Abstract Body

Purpose: Condensed tannins, also called proanthocyanidins (PAC), suppress gastrointestinal nematode infections in small ruminants. The objective of this study was to investigate the anthelmintic efficacy of the daily feeding of PAC-containing cranberry vine (CV) in lambs artificially infected with *Haemonchus contortus* using scanning (SEM) and transmission electron microscopy (TEM). **Methods:** Lambs (14) were experimentally infected with 10,000 *H. contortus* third stage larvae, and stratified into two groups (n = 7) based on gender and fecal egg count (FEC) once the infection matured. Lambs were fed either CV0 (0 g CV, 200 g chopped alfalfa hay (AH)), or CV200 (200 g CV, 0 g AH) for five weeks. Fecal egg counts were measured weekly for the duration of the trial. At the conclusion of the study, total worm burden was determined and five adult *H. contortus* worms were collected from the abomasum of each lamb and preserved until viewed under SEM or TEM. **Results:** There was no difference in FEC between CV0 and CV200. Although there was a slight reduction in worm burden in CV200 (3335 ± 378) versus CV0 (3908 ± 399), the difference was not significant. Evaluation of worms using SEM showed cracking in the cuticle of the adult worms from the CV200 group, compared to minimal or no cracking observed in CV0. Some accumulation of aggregate was observed on worms collected from CV200 lambs. Evaluation of internal structures of worms using TEM is pending. **Conclusion:** Preliminary results indicate that feeding 200 g of CV to lambs experimentally infected with *H. contortus* for five weeks resulted in cuticle damage on the adult worms and may have potential as an anti-parasitic against *H. contortus*. Further investigations using TEM and higher intake of CV are warranted.