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A multicenter study demonstrating the added benefit of coproantigen testing to fecal flotation methods in the diagnosis of canine ascarid, hookworm and whipworm infections

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A study to assess the added benefit of coproantigen testing for ascarids, hookworms and whipworms in canine fecal diagnostics was conducted at three veterinary colleges (Cornell University, Oklahoma State University and Texas A&M University). At each site, approximately 200 owned and 200 shelter dog fecal samples were examined for intestinal parasites. A total of 1202 samples from dogs of varied age were each independently evaluated by a novice examiner performing the most common fecal flotation methodology, passive flotation (Fecalyzer[®]), and an expert parasitologist performing the gold standard methodology, Sheather's sugar centrifugal flotation. Blinded samples were then frozen and mailed to IDEXX for coproantigen testing. Centrifugal flotation by an expert detected 58 *Toxocara canis*, 223 *Ancylostoma caninum*, and 95 *Trichuris vulpis* positive samples, while respective results for passive flotation by a novice were 52, 217, and 67 positive samples. The percent positive agreement for these examinations was 69%, 83%, and 68%, respectively. Coproantigen detection identified more positive samples for ascarid (59) and hookworm (285) than either flotation method, and more positive whipworm samples (78) than passive flotation by a novice examiner. When results from passive flotation examination by a novice and coproantigen detection were combined, high positive agreement with the gold standard centrifugal flotation examination by an expert was obtained (91.4%, 93.7%, and 78.9% for ascarids, hookworms and whipworms, respectively). Results of this study support that by combining coproantigen detection with centrifugal examination by an expert, more ascarid, hookworm and whipworm infections may be detected, while still allowing more precise diagnosis of parasitic infections that may better inform treatment choice and zoonotic risk. Compared to passive flotation examination by a novice, coproantigen testing identifies more positives, may decrease misidentifications, and may help sort-out egg presence as a result of coprophagy.