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## **Prevalence of gastrointestinal protozoa and association with risk factors in free-range pigs in Kenya**

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### **Abstract**

The current study investigated the occurrence of gastrointestinal tract (GIT) protozoa and associated risk factors in free range pigs in Busia District, Kenya. A total of 306 pigs from 135 farms in 6 Divisions were sampled for feces, which were analysed for parasites using direct smear and McMaster floatation methods. Associations between the occurrence of the parasites and explanatory variables (sex, age, division of origin and rainfall) were undertaken using ANOVA, chi-square and Pearson's correlation statistics. The following gastrointestinal protozoan parasites were identified: Entamoeba spp. (87%), Balantidium coli (64%), Tritrichomonas suis (42%) and Coccidia spp (33%). The mean coccidial oocysts per gram (OPG) of all the sampled pigs was 1,276 (range = 0-28,000 OPG) and the proportions of the species included: Eimeria deblickei (40%), E. suis (26%), E. porci (16%), E. scabra (13%) and E. polita (5%). There was negative correlation between the amount of rainfall in the division of pig origin and prevalence of Eimeria spp, Tt. suis, and Entamoeba spp, but a positive correlation with prevalence of B. coli. The prevalences of Eimeria spp., Entamoeba spp. and Tt. suis were higher in males than females; but it was only the sex-differences for Tt. suis which were statistically significant ( $p < 0.05$ ). The prevalences of Tt. suis in sows were significantly ( $p < 0.05$ ) lower than that of growers and piglets. It was concluded that GIT protozoan parasites of economic and zoonotic significance occur in pigs in the study area and effective control strategies should be implemented.

**Key words:** Free range pigs, GIT protozoa, zoonoses