PREVALENCE OF SWINE DIGESTIVE PARASITES IN TWO FREE-RANGE FARMS FROM TRANSYLVANIA AREA

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INTRODUCTION

Parasitic infections cause significant economic losses on swine farms by decreased production and reproduction, and also by augmented morbidity and mortality [1]. Intestinal malabsorption, impaired fertility, delayed or incomplete immunity subsequent to vaccinations, negative effects on the meat quality are all consequences such conditions can cause [2]. Pigs may subclinically harbor numerous intestinal parasites, most commonly protozoa (*Balantidium coli*, *Entamoeba* spp., *Cryptosporidium* spp.) and nematodes (*Ascaris suum*, *Trichuris suis*) [3].The vast majority of swine in Romania, are raised on low input farms, the number of which has been registered as increasing in the last decades [4]. Organic farming depends on the ecological factors focusing on environment protection, plant health, animal health, food safety, and consumer health [5]. Swine infections with gastrointestinal parasites are widely reported worldwide and are influenced by the type of swine management practices [6]. The raising of free-range pigs is common in rural areas of numerous developing countries despite its shortcomings such as poor food conversion, high mortality rates, and inferior products [7,8].

Fig. 1. Picture showing a free-range farm.

AIMS

The current study aimed to identify the parasitic profile of swine raised in two free-range (low-input) farms from Transylvania.

MATERIALS AND METHODS

A number of nine hundred sixty samples were collected from weaners, fatteners, and sows. The coproparasitological examination was performed using the following methods: flotation, active sedimentation, modified Ziehl-Neelsen stained fecal smear, modified Blagg technique and oocysts/eggs cultures. The number of cysts (CPG), oocysts (OPG), and eggs (EPG) were counted per gram of fecal matter.

Fig. 2. All the materials necessary for the coproparazitological methods.

RESULTS

The examination revealed parasitic infections with *Balantidium coli*, *Eimeria* spp., *Ascaris suum*, *Trichuris suis*, *Oesophagostomum* spp., *Strongyloides ransomi* and *Cryptosporidium* spp. Prevalence (P) and the average intensity (AI) of the infections varied according to swine category, season, and farm. The overall prevalence in both free-range farms according to the age category was 63.2% - *Eimeria* spp., 70.31% - *B. coli*, 9.38% - *Oesophagostomum* spp., 3.75% - *S. ransomi*, and 18.12% - *Cryptosporidium* spp. in weaners. In fatteners *Eimeria* spp. revealed a prevalence of 50.93%, *B. coli* - 72.5 %, *A. suum* - 63.13%, *T. suis* - 39.06% and in sows *Eimeria* spp. - 39.06%, *B. coli* - 62.19%, *A. suum* - 34.06%, *Oesophagostomum* spp. - 27.19%, *S. ransomi* - 1.56% and *Cryptosporidium* spp. - 9.38%.

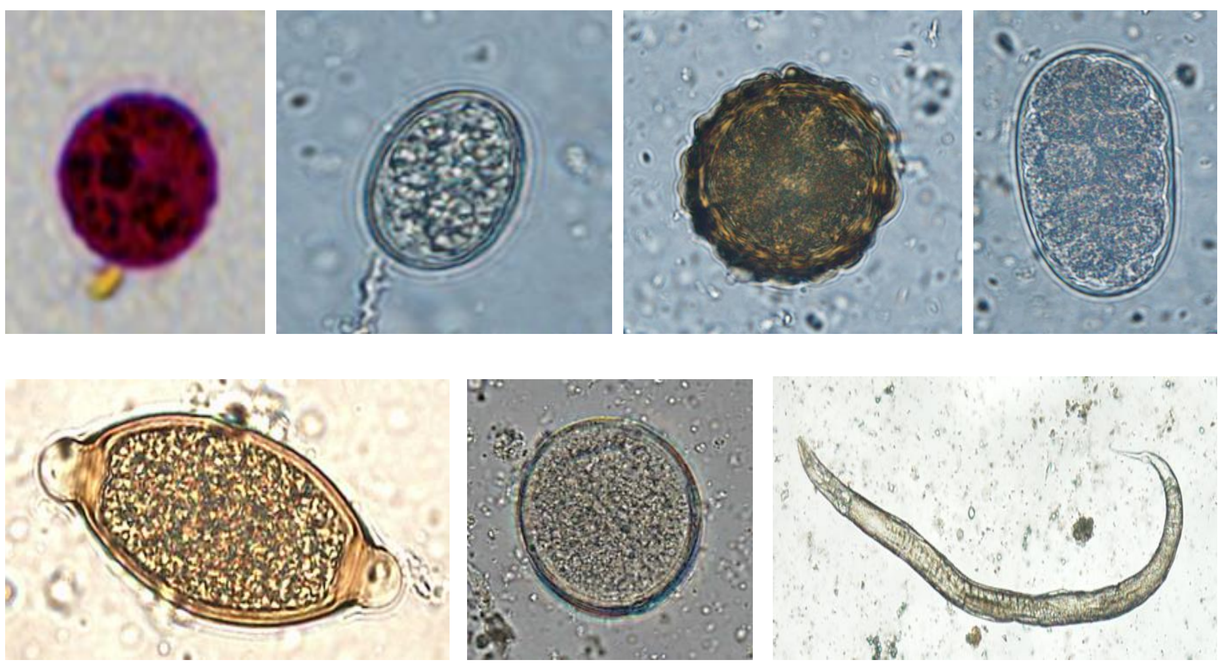

Fig. 3. Coproparasitological examination results: *Cryptosporidium* spp. cyst, *Eimeria spp.* oocyst, *A. suum* egg, *Oesophagostomum spp.* egg, *T. suis egg*, *B.coli* egg and *S. ransomi* female.

CONCLUSIONS

This study provides essential information on Transylvania's distribution of gastrointestinal parasites in pigs. It was demonstrated that different species of gastrointestinal parasites are present in most pigs reared in free-range farms in the study area. The current information has great value to farmers, policymakers, and researchers alike, that should contribute to safer and healthier pork production for public consumption. Specifically, control strategies are needed to raise awareness among pig farmers about the negative impact of these parasites on the productivity and health of pigs and, in some cases, on human health (certain pig parasites are zoonotic).

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