Prevalence of *Eimeria spp.* in South African broiler farms

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Introduction

- Avian coccidiosis is one of the most important diseases affecting the intensive poultry industry worldwide.

- There are seven species of *Eimeria* that are known to parasitize chickens (*Gallus gallus*) (Williams, 1998): *Eimeria acervulina, Eimeria brunetti, Eimeria maxima, Eimeria mitis, Eimeria necatrix, Eimeria praecox* and *Eimeria tenella.*

- All seven *Eimeria* species were detected in surveys of commercial poultry farms in many countries.

- To date, no studies have been reported in the literature about the prevalence of *Eimeria spp.* in chickens in South Africa.

Materials and method

- In this study, litter samples were evaluated for the presence of *Eimeria* species using a polymerase chain reaction (PCR) developed at the Institute for Animal Health (Compton, UK) to specifically detect *E. acervulina*, *E. maxima*, *E. mitis*, *E. praecox* and *E. tenella*.

- Together with this molecular tool for detecting *Eimeria* species in litter samples, oocyst counts and the evaluation of the percentage of species by using a morphometry test were also performed to further evaluate the samples.

Results

Table. Summary of data collected from litter samples from South African broiler farms using PCR

Year in which samples were collected	Number of houses included in the study	% E. acervulina	% E. maxima	% E. mitis	% E. praecox	% E. tenella
2012	42	40.5	21.4	7.1	9.5	19.0

Conclusion/ Discussion

- Analysing the 3 species of *Eimeria* of known and high pathogenic potential (*E. acervulina, E. maxima* and *Eimeria tenella) Eimeria acervulina* has shown to be the most widespread in South Africa (40.5%).

- Regarding the 2 species that cause subclinical problems and affect flock productivity: *E. mitis* is less prevalent (7.1%) then **E. praecox (9.5%).**

- Combinations of 2 species together were the most common especially: *E. acervulina* + *E. tenella* and *E. acervulina* + *E. maxima.*

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