

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

Pagès<sup>1</sup>, M.; Dardi<sup>\*1</sup>, M.; Rubio<sup>1</sup>, R.

<sup>\*</sup>Corresponding author ([martina.dardi@hipra.com](mailto:martina.dardi@hipra.com))

<sup>1</sup>HIPRA, Amer (Girona), Spain.



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The Reference  
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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	% <i>E. acervulina</i>	% <i>E. maxima</i>	% <i>E. mitis</i>	% <i>E. praecox</i>	% <i>E. tenella</i>
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*.