

Prevalence of *Eimeria spp.* in European broiler farms

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Introduction

- Avian coccidiosis is one of the most important diseases affecting the intensive poultry industry worldwide. In spite of this few studies are available on the distribution of species in the field.
- In Europe, few field surveys of *Eimeria* species are available and even less have been conducted using samples from broiler farms.
- In this study, litter samples obtained in broiler farms from Spain, Belgium, Italy and France were evaluated for the presence of the *Eimeria* species.

Materials and method

- The evaluation was performed 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 in broiler farms using the PCR

Country	Year in which samples were collected	Number of farms included in the study	% <i>E. acervulina</i>	% <i>E. maxima</i>	% <i>E. mitis</i>	% <i>E. praecox</i>	% <i>E. tenella</i>
Belgium	2003	11	90.9	45.5	36.4	90.9	81.8
	2005	10	100	50	40	90	80
Spain	2003	11	100	63.6	27.3	45.5	81.8
	2005	10	100	60	10	50	70
Italy	2008	15	93.3	33.3	20	60	80
France	2008	40	67.5	22.5	5	5	35

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 the four European countries examined.
- Species causing subclinical problems and affect productivity: *E. mitis* seems to be quite uncommon, **whereas *E. praecox* showed to be present in all countries.**
- Combinations of 3 species together were the most common especially: *E. acervulina*, *E. tenella*, and *E. praecox*. *E. praecox* was found to be highly associated with *E. acervulina*.