

Prevalence and Associated Risk Factors of *Eimeria* Species of Chicken in Lagos, Southwest, Nigeria.

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Introduction

Background: *Eimeria* are apicomplexan parasites that can cause the enteric disease coccidiosis, most notably in chickens. *Eimeria* infection can limit chicken growth, welfare and productivity.

Aim: To determine the prevalence and risk factors associated with *Eimeria* infection in chickens in Lagos State, Nigeria.

Materials and Methods

A panel of 137 chicken farms were selected at random from the senatorial districts in Lagos State: Lagos-West (93), Lagos-East (30) and Lagos-Central (14). Pooled faeces/litter were collected from 245 flocks representing these 137 farms. *Eimeria* oocysts were separated by saturated-salt flotation and identified to species level following standard parasitological methods.

Results

- *Eimeria* oocysts were detected in 56% and 45% of farms and flocks, respectively.
- Mean oocyst count of $1.5 \times 10^4 \pm 7.3 \times 10^4$ opg was obtained from positive flocks (range: 5.0×10^1 to 7.3×10^4 opg).
- Younger birds (<10 wks) had higher prevalence rates and oocyst counts than older chickens.
- Oocyst counts were higher in deep litter than battery cage chicken systems.

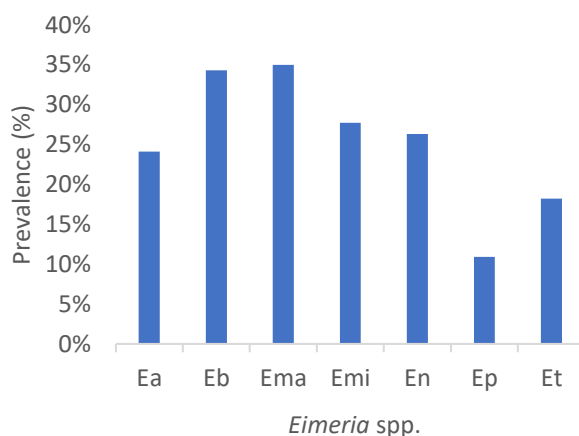


Figure 2: Prevalence of *Eimeria* species oocysts in chickens sampled in Lagos State, Nigeria.

Ea: *E. acervulina*, Eb: *E. brunetti*, Ema: *E. maxima*, Emi: *E. mitis*, En: *E. necatrix*, Ep: *E. praecox*, Et: *E. tenella*

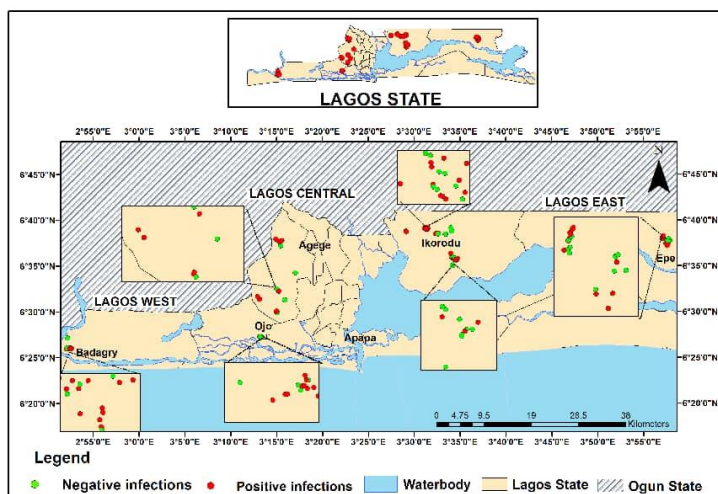


Figure 1: Distribution of *Eimeria* infection across commercial chicken farms in Lagos State

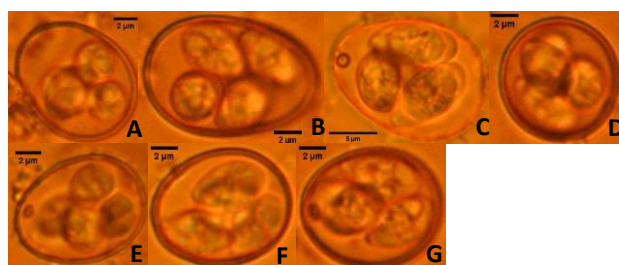


Figure 3 (A-G): Sporulated oocysts of *Eimeria* species recovered from chicken in Lagos State, Nigeria.

A – G: *E. acervulina*; *E. brunetti*; *E. maxima*; *E. mitis*; *E. necatrix*; *E. praecox*; *E. tenella*

Conclusion:

All seven established *Eimeria* species that infect chicken are circulating in Lagos State, Nigeria. Further studies are being conducted to validate species identification and explore population genetic diversity.