Drug Resistance of *Eimeria* Field Isolates from Commercial Broiler Flocks in Romania: Preliminary Results

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**SUMMARY**

During August – December 2010 faeces samples were collected and *Eimeria* strains isolated from 14 commercial broiler flocks. Four *Eimeria* spp. were identified by PCR: *E. acervulina* (88%), *E. tenella* (64%), *E. maxima* (28%) and *E. praecox* (12%). Among these, 14 field isolates of *E. acervulina* and *E. tenella*, belonging to 7 flocks, were the subject of drug resistance study in a battery test, during January – July 2011. Isolates were tested against monensin (M) (125 ppm), salynomicin (S) (60 ppm), lasalocid (L) (125 ppm), maduramicin (M) (5 ppm), narasin/nicarbazin (N/N) (50/50 ppm), diclazuril (D) (1 ppm) and robenidine ® (36 ppm). Drug resistance was evaluated by anticoccidial sensitivity test (AST) based on the reduction (%) of the mean lesion score. Experimental groups were: negative control (untreated and unchallenged), positive control (untreated and challenged) and experimental groups (treated and challenged). Each groups consisted in 2 replicates of 10 chickens. Experimental infections were made with $10^4$ oocysts of *E. tenella* and $10^5$ oocysts of *E. acervulina* per chicken, at 14 days-old. Feed with coccidiostats were included in diet 2 days before experimental infection. Seven days after experimental infection (pi) chickens were euthanasied and lesion score performed. Also, weight gain, feed conversion and oocyst/g faeces (day 4-7 pi) were evaluated. Drug resistance was noticed for both species and almost for all coccidiostats, as follows: 50% field isolates of *E. acervulina* to M, S, N/N and R; 37.5% field isolates of *E. acervulina* to L; 100% field isolates of *E. tenella* to R; 50% field isolates of *E. tenella* to M, N/N and D; and 25% field isolates of *E. tenella* to S and L. *E. acervulina* was sensitive to maduramicin and diclazuril and *E. tenella* to maduramicin.

**Keywords:** *Eimeria*, drug resistance, poultry, flock.

**Acknowledgements.** This study was supported by the Ministry of Education, Research, Youth and Sport from Romania, through Executive Unit for Financing Higher Education, Research, Development and Innovation, Grant PNII RUDP 188/2010.