**Eksploration Dose of *Eimeria tenella* Sporozoites as Non-Attenuated Live Vaccine to the Protective Immunity Induction in Broiler Coccidiosis**

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**ABSTRACT**

The purpose of this research was to know the various doses sporozoites of *Eimeria tenella* (*E. tenella*) as non-attenuated live vaccine to the protective immunity induction in chicken coccidiosis. The complete random design of research was used in this experiment. Forty of broiler for one month divided into 4 treatments (P0, P1, P2 and P3) and each treatment composed 10 replications. P0 was chicken group without sporozoite inoculation. P1, P2, P3 were chicken group with sporozoite doses of $2 \times 10^4$, $4 \times 10^4$, $8 \times 10^4$, respectively. Observation of research that represented protective immunity was clinical sign, oocyst production and histopathological changes (Microscopic Lesion Scoring, MLS). MLS was observed by Goodwin method. The oocyst production and MLS were analyzed by ANOVA. On sporozoite inoculation step, level of clinical signs such as appetite, weakness, and diarrhea had positive correlation with each sporozoite doses that was from light to moderate. While on challenge test step, clinical signs there was no clinical signs of all chicken groups. For the oocyst production of sporozoite inoculation step, P1 was significantly lower than P2 and P3 ($p<0.05$). Moreover, P2 and P3 were not significantly different. On challenge test step, oocyst production of P0 was highest than P1, P2 and P3. The same statistical analyses result pattern of oocyst production was seen at MLS. Based on all observation research analyses could be concluded that sporozoite dose of $2 \times 10^4$ (P1) was the best alternative of material candidate of live vaccine.

**Key words:** *Eimeria tenella*, sporozoites, protective immunity