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The Effect of *Acalypha indica* to *Eimeria tenella* Oocysts, Schizonts, Macrogametes and Microgametes Count in The Caecum Tissue of Chicken

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**Introduction**

*Eimeria tenella* is pathogen to chicken and causes caecum coccidiosis with clinical sign of blood diarrhea and death in chickens. (Levine, 1985). The prevention and therapy of this disease using anticoccidicostat, such as sulfadimethoxine (Booth, 1982), but the continuous using of this drug can cause resistant to the *Eimeria tenella* and resulted residu of this drug in the meat and egg of chickens. Because of that it is important to choose another drug with plant. The *Acalypha indica* is a plant used as anti inflammatory and anti diarrhea, blood diarrhea and anti malaria (Wijayanusuma, 1993).  

The aim of this research was to find out the effect of the administration of *Acalypha indica* to chickens and to count the number of oocysts, schizonts, macrogametes microgametes in tissue of chicken caecum.

**Material and Method**

This research used 48 two-week old layer chickens divided into 6 groups for: 1.) negative control, 2.) positive control, 3.) infection with *Eimeria tenella* and treatment with sulfadimethoxine with the dose of 13 mg/kg body weight, infection with *Eimeria tenella* and treatment with *Acalypha indica* with: 4.) low, 5.) medium and 6.) high dose. The drug were given 2 hours for 6 days after infection with *Eimeria tenella* with the dose of 1x10^6 oocysts/chick. At days 6 and 18 after infection oocysts, schizonts, macrogametes and microgametes in the caecum tissue were counted.

**Results**

Six days after infection, the administration of the *Acalypha indica* resulted in the lower oocysts counts compared with those of positive control and the significant difference were found in the lower and medium doses. The schizonts, macrogametcs and microgametes counts were not significantly different compared with those of positive control and
sulfaquinocaxaline in all treatment with Acalypha indica, (Tabel 1)
Eighteen days after infection, the administration of the Acalypha indica
with low, medium and high doses resulted in a significantly lower
oocysts, schizonts, macrogametes and microgametes counts compared with
those of positive control. The oocysts counts were significantly lower
compared with positive control and sulfaquinocaxaline in all treatment with
Acalypha indica, (Tabel 2).
The decrease of oocysts, schizonts, macrogametes and microgametes
counts may be the action of phenol in the Acalypha indica that denaturated
microorganism cell (Wijesekera, 1991) and resulted in the death of cell
parasite.

Conclusion

The administration of the Acalypha indica to chickens at 6 days
after infection showed that the oocysts counts were significantly lower
compared with those of the positive control. The schizonts, macrogametes
and microgametes counts were not significantly different compared with
those of positive control and sulfaquinocaxaline in all treatments
with Acalypha indica. The administration of the Acalypha indica
at 18 days after infection showed that
the oocysts counts were significantly lower compared with positive control
and sulfaquinocaxaline in all treatments. The oocysts, schizonts, macrogametes
and microgametes counts were significantly lower compared with
those of positive control in all treatments.

References
Table 1. The average of oocyst, schizont, macrogamete, microgamete counts 6 days after infection and administration of *Acalypha indica*.

| Stadium of parasite | Control Positive | Control Negative | Sulfasqui-
| | | | noxaline
| | 13 mg / kg BW | | A1 | A2 | A3 |
| Oocysts | 42.00^a | 0.00^g | 38.75^ab | 31.25^bcde | 32.00^bcde | 32.50^abde |
| Schizonts | 37.00^abc | 0.00^g | 35.00^abcd | 34.24^abde | 32.50^abde | 31.75^bcde |
| Macrogametes | 28.75^bc def | 0.00^g | 28.25^cd ef | 26.00^def | 27.50^c def | 26.50^def |
| Microgametes | 28.00^cdef | 0.00^g | 25.50^def | 20.00^f | 24.50^ef | 26.00^def |

Different letters within columns indicate significant difference at 5 % level.
A1: low dose; A2: medium dose; A3: high dose

Table 2. The average of oocyst, schizont, macrogamete, microgamete counts 18 days after infection and administration of *Acalypha indica*.

| Stadium of parasite | Control Positive | Control Negative | Sulfasqui-
| | | | noxaline
| | 13 mg / kg BW | | A1 | A2 | A3 |
| Oocysts | 25.50^ab | 0.00^h | 22.00^b | 6.25^c def | 9.75^cd | 10.50^c |
| Schizonts | 21.25^b | 0.00^h | 10.75^c | 3.75^ef gh | 6.25^c def | 8.25^c de |
| Macrogametes | 28.25^a | 0.00^h | 7.00^c def g | 2.50^g | 4.75^ef gh | 6.25^c def g |
| Microgametes | 27.00^a | 0.00^h | 7.50^c def | 3.00^f gh | 5.25^c def gh | 7.00^c def g |

Different letters within columns indicate significant difference at 5 % level.
A1: low dose; A2: medium dose; A3: high dose