

EFFICACY OF AQUEOUS EXTRACT OF PAWPAW (*Carica papaya*)
LEAF IN THE CONTROL OF COCCIDIOSIS IN CHICKEN.

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ABSTRACT

The study investigated the potency of aqueous extract of pawpaw leaf compared with a conventional anticoccidial drug, sulphamethazine sodium, in the treatment of coccidial infection in chicken. This was necessitated by the need to get an effective, readily available and comparatively cheaper drug to control coccidiosis.

Oocysts of coccidia (*Eimeria species*) were isolated from the intestine and caeca of infected chickens and subsequently cultured in 2.5% potassium dichromate solution. Three hundred, four weeks old cockerel chicks were used for this study. The experimental chicks were divided into five treatments of twenty each and the experiment was replicated thrice. Each group was infected with sporulated oocysts of the cultured *Eimeria* species through drinking water. The fresh pawpaw (*Carica papaya*) leaves were boiled (50 g / litre of water) for fifteen minutes to extract the juice and the supernatant was allowed to cool. There was no drug or extract administration to Treatment 1 chicks, the leaf extract was injected intramuscularly at the rate of 2 ml, 3 ml and 4 ml per kilogramme body weight to Treatments 2, 3 and 4 chicks respectively daily for four consecutive days. Sulphamethazine sodium, an anticoccidial drug, was injected at 0.5 ml per kg body weight to Treatment 5 for four days also. The feed intake, weight gain, mortality, consistency of faecal droppings, morbidity and abnormal chicks reaction due to the injection of the leaf extract were investigated.

The results of the study showed that there were significant differences in the feed intake and weight gain over time ($F = 3.84$, $P < 0.05$) between the different doses of pawpaw extract and the sulphamethazine sodium with the latter recording highest values for feed intake and weight gain respectively (87.9 g, 296 g). On the other hand, oocysts discharges per gramme of faeces, percentage mortality and percentage morbidity were lowest for sulpha drug treated chicks (2.3, 0% and 3.3% respectively)

($F = 3.84$, $P < 0.05$). There was a great reduction in the observed severity of the lesions in the intestine and caeca on post mortem examination in favour of sulpha treated chicks.

Nonetheless, higher values were observed in the average feed intake/day (82.1 g) and total weight gain per chicken (230 g), lower values in the average number of oocysts voided per gramme of faeces (2.3), percentage mortality (31.7%) and percentage morbidity (63.3%) for birds in Treatment 4 than the other extract or control groups. The extract was found to have a short-lasting itchy reaction on the chicks.

It was concluded that extract of *Carica papaya* leaf can be substituted substituted for sulpha drugs at the experimented dosage rates though it was found to be less effective as the conventional sulpha drugs. However, more concentrated experimented leaf extract dose proved more effective in controlling coccidiosis than the less concentrated doses considering the parameters investigated.