

**PREVALENCE OF *CRYPTOSPORIDIUM* (EUCOCCIDIORIDA:  
CRYPTOSPORIDIIDAE) AND *GIARDIA* (GIARDIIDA:  
GIARDIIDAE) INFECTIONS IN LIVESTOCK REARED  
AT BACKYARD AND COMMERCIAL SCALE  
FARMS OF CAVITE, PHILIPPINES**



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## ABSTRACT

Prevalence of *Cryptosporidium* and *Giardia* infections in livestock (hogs, cow and chicken) reared at backyard and commercial scale farms of Cavite was determined using Merifluor® *Cryptosporidium/Giardia* (Merifluor® C/G) direct immunofluorescent assay. Fecal samples were collected from a total of 18 piggeries, 10 cow barns and 12 poultries. Based on the morphometrics of *Cryptosporidium* oocysts, there is a significant difference ( $p>0.05$ ) on the length and width of the oocysts across various livestock which is suggestive of different species such as *C. suis* (pigs), *C. andersoni* (cow) and *C. baileyi* (chicken). *Giardia* cysts on the other hand, did not manifest significant difference ( $p>0.05$ ) on their length measurement across different livestock. Hence, the width of cysts obtained from the backyard poultry is significantly different ( $p>0.05$ ) from those recovered in backyard barn, commercial scale and backyard piggeries. Results indicated that prevalence of *Cryptosporidium* oocysts and *Giardia* cysts is relatively higher in stock reared at backyard than grown in commercial scale farms. For the *Cryptosporidium*, 11.1% of the piggeries, 40.0% of the cow barns and 33.3% of the poultries were infected. An average oocysts/10 $\mu$ l preserved-stool of 4.67 for drift of hogs; 4.59 for herds of cow; 6.34 for flocks of chicken were recorded. Infections likely occurred in livestock farms with >50% younger groups such as 1-2 month-old suckling piglets and weaners (50.55%), and 1-7 month old calves (53.34%). Commercial scale farms do not exhibit *Cryptosporidium* infection. For *Giardia* cysts, the livestock reared at backyard farms showed higher prevalence of infection, were 11.11% infected in piggeries, 20.0% in cow barns, and 16.67% in poultries, while only one piggery of the commercial scale farms exhibited infection (11.11%). There is a significant difference ( $p>0.05$ ) between the number of *Giardia* cysts reared at backyard and commercial scale piggeries, with higher cyst concentration (30.50 cysts/10 $\mu$ l preserved-stool) in the commercial scale farm than the backyard farm (3.67 cysts/10 $\mu$ l preserved-stool). Other livestock in the backyard shows an average cysts/10 $\mu$ l preserved-stool of 5.33 for herd of cow and 3.50 for flock of chicken. All positive results were consistently found in piggeries and cow barns with >50% younger group of livestock with ages 1-2 month old suckling piglets and weaners (55.56%), and 1-7 month old calves (66.67%). Infected livestock farms are predominantly found in upland municipalities including Amadeo and Silang. Co-occurrence of *Cryptosporidium* and *Giardia* was also observed in 28.57% of the rearing sites studied. While positive results for the presence of parasites was observed, oocyst/cyst concentration of the parasites is lower compared to the infective doses for *Cryptosporidium* (<132 oocysts/10 $\mu$ l preserved-stool) and *Giardia* (<10 oocysts/10 $\mu$ l preserved-stool) which suggests that infections do not pose immediate threat to the livestock. Possible risk factors on the higher prevalence of parasites in the backyard rearing sites are related to environmental sanitation, nutrition and the health maintenance of the livestock.

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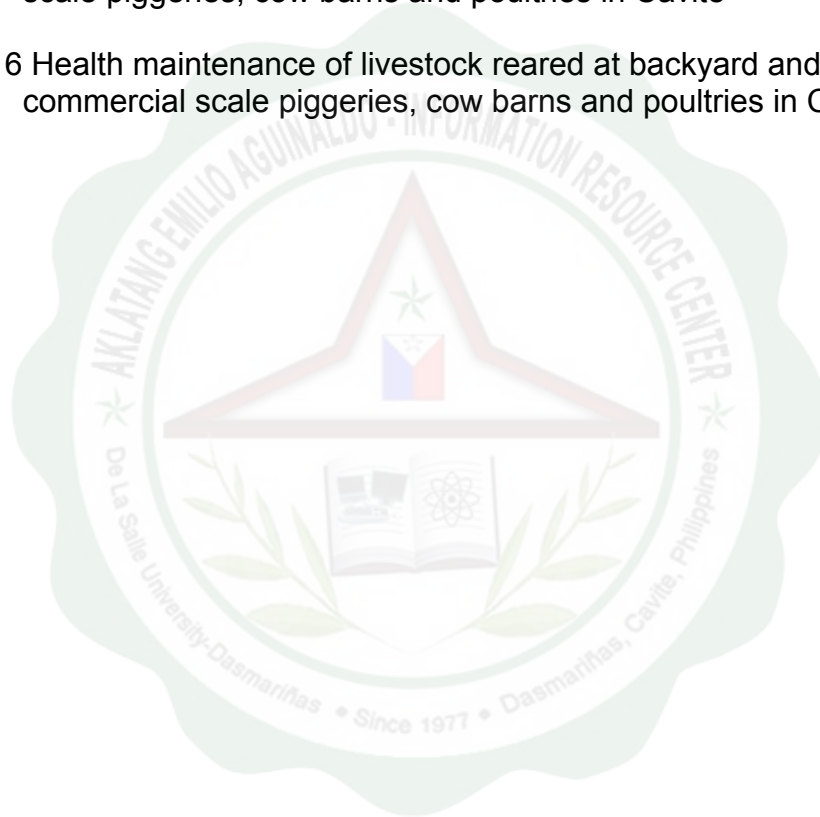
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