

Title: Isolation and characterization of yeast from gallus gallus droppings in Kabigeriet village, Olenguruone

Author: Kemoi, Edson Kipyegon

The Avian family has been a significant source of human epidemic. Over the last three decades, reports on yeast infections in humans have increased especially with respect to immunocompromised individuals. This is associated with increased morbidity and mortality especially in HIV/AIDS immunocompromised individuals. The purpose of this study was to isolate and characterize pathogenic yeasts from domestic Chicken (*Gallus gallus*) dropping. The droppings were collected from Kabigeriet Villages, Olenguruone Division, Kuresoi District and Nakuru County. The samples were collected from cages, houses and roosting sites. The samples (droppings and soil) were collected by swabbing or scooping fresh dropping from Chicken houses, grass, soil and trees using sterile plastic spoons, labeled and inserted in a zip lock safety bag. A total of Eighty four samples (dropping and soil enriched with chicken droppings) were sampled during the study. The samples were transported to the lab using a cool box. Processing of the samples was done at the Mycology laboratory, Centre for Microbiology Research, Kenya medical Research Institute. The samples were plated onto Typan blue agar and incubated at 37°C for two weeks checking was done daily.

Abstract: The isolates were identified according to morphological and biochemical characteristics. The droppings were tested for *Cryptococcus* by direct plating on Niger seed while *Candida* and *Saccharomyces* species by direct plating on Typan blue agar. *Candida* and *Saccharomyces* species were sub cultured on CHROM agar and Com meal agar for presumptive identification of various *Candida* species. *Cryptococcus neoformans* were sub cultured onto Christensen's urease agar. *Geotrichum* species were presumptively identified by lactophenol cotton blue. Analytical profile index test (API 20C AUX) was used for confirmation. Four types of yeasts were isolated; 35(57.4%) *Candida* species (9 *Candida lusitanae*, 7 *Candida glabrata*, 5 *Candida albicans*, 5 *Candida tropicalis*, 3 *Candida parapsilosis*, 2 *Candida lipolytica* and 2 *Candida krusei*), 23(37.7%) *Geotrichum candidum*, 2(3.3%) *Cryptococcus* species (*Cryptococcus neoformans* and *Cryptococcus laurentii*) and 1(1.6%) *Saccharomyces cerevisiae* were isolated from Chickens dropping sampled. The results of this work demonstrated that domestic chicken (*Gallus gallus*) harbor *Cryptococcus* in their dropping and their close proximity to human habitation poses a risk of cryptococcal infection in HIV/AIDS immunocompromised persons. This could partly explain the high incidence of cryptococcosis in HIV/AIDS patients in Kenya.