

ANTIFUNGAL ACTIVITY OF WOOD VINEGAR SUBSTRATES AGAINST
Candida albicans AND *Trichophyton mentagrophytes*

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ABSTRACT

ALEÑO, CLARETTE MAIA C., ANDAL, JAYCEL ANNE A., and PONIENTE, FLORENCE MARIE L., “Antifungal Activity of Wood Vinegar Substrates against *Candida albicans* and *Trichophyton mentagrophytes*.” An Undergraduate Thesis, BS Medical Technology, Cavite State University, Indang, Cavite. August 2012. Adviser: Dr. Adelaida E. Sangalang.

The antifungal activity of four wood vinegar substrates was tested against two fungi, namely: *Candida albicans* and *Trichophyton mentagrophytes* using agar well diffusion method. The substrates were acapulco leaves, *madre de cacao* leaves, bamboo stem and banana peel. The inhibitory effect of the substrates was evaluated by measuring the zone of inhibition after 24 hours and 48 hours incubation for *Candida albicans* and *Trichophyton mentagrophytes*, respectively.

Results revealed that wood vinegar substrates contained fungicidal effectivity inhibiting the growth of the test pathogens. Bamboo stem substrate greatly inhibited the growth of *Candida albicans* and *Trichophyton mentagrophytes*, and was therefore the most effective. When substrates were used at different concentrations (20%, 40%, 60% and 80%), results showed that the minimum inhibitory concentration against *C. albicans* when using bamboo stem was 40 percent. The 20 percent concentration appeared to be the minimum concentration that caned inhibit *T. mentagrophytes* using *madre de cacao* leaves substrates. Sixty percent was the minimum inhibitory concentration when using the banana peel and bamboo stem substrates. Acapulco leaves substrate was not applicable for treating diseases in diluted form.

Trichophyton mentagrophytes showed susceptibility both to the fungicide and substrates, but had a higher zone of inhibition in the substrates than in the fungicide. For *C. albicans* the zone of inhibition was less in the substrate than in the fungicide. The results indicate that the

substrate, in which the test fungi are greatly inhibited, can be used as an alternative for the commercial fungicide used in the study.