ABSTRACT

VILLANUEVA, ERICKA JEAN SACALA, March 2013, "Isolation, Identification and Biological Control Activity of Endophytic Bacteria Associated with Coffee Leaves". Undergraduate Thesis, Bachelor of Science in Biology, Major in General Biology, Cavite State University, Indang, Cavite. Adviser: Dr. Yolanda A. Ilagan

This study was done to isolate and identify bacterial endophytes present in four varieties of coffee. Specifically, this aimed to differentiate the bacterial endophytes from four varieties of coffee based on their morphological and physiological characteristics; and determine which among these bacterial endophytes can serve as effective biocontrol agents against *Ralstonia solanacearum, Aspergillus niger,* and *Erwinia carotovora.*

Fifty-seven isolates were obtained from coffee leaves collected in Amadeo (n = 20), Alfonso (n = 17), and Indang (n = 20). Based on morphological, cultural and physiological tests, the isolates were identified as *Enterobacter aerogenes and Enterobacter cloacae, Serratia marsecens, Bacillus* sp, *Alcaligenes* sp, and *Aminobacter* sp. These bacteria are found in coffee regardless of town and varieties sampled.

Four out of five genera exhibited an inhibitory effect against *A. niger* but none to *R. solanacearum* and *E. carotovora.*