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EFFECT OF 0.1%, 0.2% and 0.4% EFFECTIVE MICROORGANISMS (EM-1)  
AS WATER ADDITIVE ON THE PRODUCTION PERFORMANCE,  
MORTALITY AND MORBIDITY RATE OF  
BROILER CHICKENS

THESIS

MARIAH IEZA GRACE CRUTO APAYA

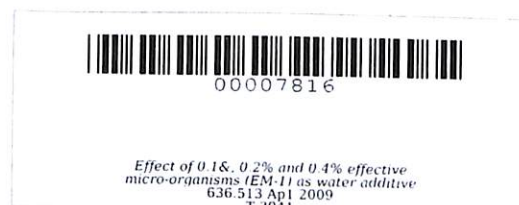
College of Veterinary Medicine and Biomedical Sciences  
CAVITE STATE UNIVERSITY  
Indang, Cavite

April 2009

**EFFECT OF 0.1%, 0.2% and 0.4% EFFECTIVE MICROORGANISMS (EM-1)  
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BROILER CHICKENS**

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**MARIAH IEZA GRACE CRUTO APAYA**  
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## ABSTRACT

APAYA, MARIAH IEZA GRACE CRUTO, **“EFFECT OF 0.1%, 0.2% and 0.4% EFFECTIVE MICROORGANISMS (EM-1) AS WATER ADDITIVE ON THE PRODUCTION PERFORMANCE, MORTALITY AND MORBIDITY RATE OF BROILER CHICKENS”**. Undergraduate Thesis. Doctor of Veterinary Medicine, Cavite State University, Indang, Cavite, October 2008. Adviser: Eugene M. Principe, DVM, MS.

This study determined the effect of 0.1%, 0.2% and 0.4% Effective Microorganisms (EM-1) as water additive on the production performance, mortality, and morbidity rate of broiler chickens. The study used 80 day-old Cobb strain chicks that were divided into four experimental groups with two replications each. The experimental groups were distributed as follows: Control (without probiotic additive), T1 (1ml probiotic additive per liter of water), T2 (2ml probiotic additive per liter of water) and T3 (4ml probiotic additive per liter of water).

Broiler chickens without water additive showed slightly higher body weight (2,555.00g), ADG (55.78) and slightly better FCR (2.13) compared to the treated groups, however the observed difference was not statistically significant likewise, the total feed consumption of the control (4,165.33gms.) and T3 (4,165.33gms.) was significantly higher than T2 (3,984.62) and T3 (4,056.41).

Mortality was not observed although mild respiratory signs were seen in the different groups at day 15. Control and T3 both have 60% morbidity rates while T2 and T3 had 50% and 40% respectively. The cost and analysis revealed that broiler chickens

raised without water additive is more profitable compared to those given with EM-1 as water additive.

In conclusion, the results of the study showed no evident improvement on the performance of broilers under actual backyard conditions.

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**MARIAH IEZA GRACE APAYA**

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<sup>1/</sup>A Thesis Manuscript submitted to the faculty of the College of Doctor of Veterinary Medicine and Biomedical Sciences, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Doctor of Veterinary Medicine with contribution no. CVMBS 08-09 0012. Prepared under the supervision of Dr. Eugene Principe.

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**INTRODUCTION**

In 2008, the Livestock and Poultry Inventory of the Bureau of Animal Statistics recorded that the broiler production reached up to 154,259.31 (in thousand heads), a much higher value compared to the production of 2007 with 135,640.20 (in thousand heads)<sup>2</sup>. The Philippine poultry industry meets about 95 % of local demand for chicken and duck products and is steadily expanding. The commercial (broiler and layer) chicken farms are large-scale, highly advanced, geographically concentrated and integrated, with efficient marketing. (Chang, 2005).<sup>3</sup>

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<sup>2</sup> <http://countrystat.bas.gov.ph/selection.asp>

<sup>3</sup> <http://www.aciar.gov.au/country/philippines>