# UTILIZATION OF AERIAL POTATO (Dioscorea bulbifera) FOR THE PRODUCTION OF ALCOHOL

RESEARCH STUDY

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# UTILIZATION OF AERIAL POTATO *(Dioscorea bulbifera)*

# FOR THE PRODUCTION OF ALCOHOL

A Research Study Submitted
to the Faculty of the Laboratory School,
College of Education of the Cavite State University,
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In Partial Fulfillment of the Requirements
For Graduation



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# ABSTRACT

**ANDRADE, ADENNY S.; MERAÑA, EVANGELINE L.; MOJICA, IVY V.; PAPA, MARNELLIE, E.,** Applied Research III (General Science Curriculum) Cavite State University, Indang, Cavite, February, 2000 **"Utilization of Aerial Potato for the Production of Alcohol."**

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Prof. Dulce L. Ramos

This research study entitled, "The Utilization of Aerial Potato for the Production of Alcohol," dealt with the extraction of alcohol from aerial potato. It was conducted to determine the alcohol content present in aerial potato and the physical and chemical properties of the alcohol produced

Aerial potatoes were gathered in Buna Lejos, Indang, Cavite. They were peeled and boiled for an hour to facilitate extraction. The extract was fermented for 2 weeks. After the last racking period, the extract, measuring a volume of 500 ml was distilled up to the boiling temperature of the solution. The weight of the distillate was measured in the analytical balance and the percent yield of alcohol was calculated. The physical and chemical properties of the alcohol was determined in terms of specific gravity, boiling point, flammability test , miscibility test and specific chemical tests for the presence of methyl and ethyl alcohol and iodoform test.

The specific gravity obtained using hydrometer method was 0.88 with a boiling point of $80^0$C which was determine using capillary method. The test for the presence of methyl alcohol did not show positive result which means the absence of methyl alcohol. However, the test for ethanol showed positive result which indicates its presence. To

further identify the presence of ethanol, iodoform test was conducted which gave favorable result. Another test was done, which was flammability test. The test showed slight flammability of the sample, which further indicates the presence of ethanol in the sample. Miscibility test showed that the alcohol extract is soluble in water, 95% ethyl alcohol and slightly soluble in water.

Based on result of the study. It showed that alcohol can be produced from aerial potato.

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## INTRODUCTION

Potato is the fourth most important food crop in the world after wheat, rice, and maize. Potato production represents roughly half of the world's annual output of all roots and tubers. Since early 1960's the percentage increase in the developing countries has been higher for potato than for any other major food crops. Production increase have been second only to wheat.

In the Philippines , there are at least two varieties of potatoes. One is called potatoes or patatas and the other is sweet potato or camote. Both of these are root vegetables which are found in the market. (Garcia, 1997)