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**PHYSICAL-CHEMICAL ANALYSIS OF BREADFRUIT
(*Artocarpus altitis*) EXUDATE UTILIZED IN GLUE
PRODUCTION**

Research Study

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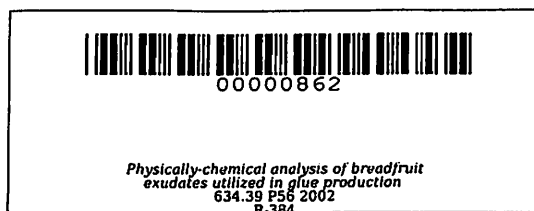
**CAVITE STATE UNIVERSITY
Indang, Cavite**

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**PHYSICAL-CHEMICAL ANALYSIS OF BREADFRUIT (*Artocarpus altitis*)
EXUDATE UTILIZED IN GLUE PRODUCTION**

**A Research Study
Presented to the Faculty of the
Laboratory School, College of Education,
Cavite State University
Indang, Cavite**

**In Partial Fulfillment of the Requirements
for Graduation**



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ABSTRACT

CR UZ, RIA ARGYLL, LEYNES, MONALIZA, MATILLA JACQUIELYN, VELASCO, RICKY MARTIN. Applied Research III (general Science Curriculum), Cavite state University, Indang, Cavite, March 2002 entitled, "Physical-Chemical Analysis of Breadfruit (*Artocarpus altilis*) Exudate Utilized in Glue Production.

Advisers: Mr. Rene B. Betonio
Prof. Dulce Ramos

This study was conducted at Mangs, Alfonso, Cavite on august 2001, Physical Science Department , Cavite State University from August 2001 to October 2001 and Department of Science and Technology, Forestry Products Research and Development Institute of the University of the Philippines, Los Baños, Laguna from November 2001 to December 2001 in order to determine the physical properties of breadfruit exudate and to determine if the breadfruit exudate can be processed into glue. It aimed to determine the general acceptability of glue from breadfruit exudate.

This study was arranged in an ANOVA Table with 5 ratios. The ratios were Ratio 1 - 90% breadfruit exudate and 10% starch, Ratio 2 - 80% bredfruit exudate and 20% starch, Ratio 3 - 70% breadfruit exudate and 30% starch, Ratio 4 - 60% breadfruit exudate and 40% starch and Ratio 5 - 50% breadfruit exudate and 50% starch.

It was observed and proven that the breadfruit exudate that is sticky in nature and pleasant in odor can be processed into glue specifically once combined with other binding materials such as starch. It was also observed that out of 5 ratios used, ratio 5 with 50% breadfruit exudate and 50% starch was considered as the most acceptable breadfruit exudate glue product statistically.

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A Research Study presented to the Faculty of the Laboratory School, College of Education, Cavite State University, Indang, Cavite, in partial fulfillment of the requirements for graduation, under the direct supervision of Mr. Rene B. Betonio.

INTRODUCTION

The breadfruit is the globular or oval fruit of the breadfruit tree (*Artocarpus altilis*), an evergreen member of the mulberry family, Moraceae. It is a staple crop in parts of the Pacific, particularly Polynesia, and a significant food elsewhere in the moister tropics. On various species of the tree ripens at different periods of the year, thus affording an almost constant supply.

The 40 species of the breadfruit are found throughout the tropical regions of both hemispheres. The tree grows from 12 to 18 m (40 to 60 ft) high and is often limbless for half its height. It requires a hot, moist climate, and good drainage. The yellow-green fruit, which is rich in starch, can be eaten baked, boiled, or fried, and tastes like bread. The fruit grows from 4 to 6 inches (10 to 15 cm) in diameter. The fruit is seedless and as it matures, it turns from green to brown and, finally, when ripe, to yellow covered with pickles. The pulp is starchy, bland, and very palatable when cooked in variety of ways. It may also be dried and ground to make biscuits, breads, and puddings.