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2007

SORY CHARACTERISTICS OF NATURAL DRAGON
FRUIT (*Hylocereus undatus*) JUICE

RESEARCH STUDY

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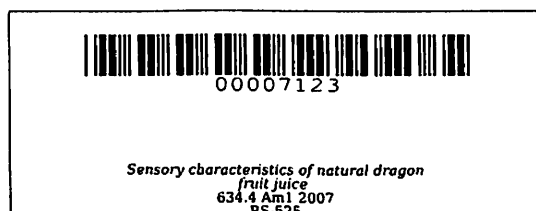
Science High School
CAVITE STATE UNIVERSITY
Indang, Cavite

April 2007

**SENSORY CHARACTERISTICS OF NATURAL DRAGON
FRUIT (*Hylocereus undatus*) JUICE**

**A Research Study
Submitted to the Faculty of the Science High School,
College of Education, Cavite State University
Indang, Cavite**

**In partial fulfillment
of the requirements for graduation**



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April 2007**

ABSTRACT

AMBION, ANGENELLE ANNE T.; MORANDARTE, DONNA ANGELA R.; TIOSEJO, ANNA PATRICIA D. Sensory Characteristics of Natural Dragon Fruit (*Hylocereus undatus*) Juice. Research Study. Cavite State University Science High School, Indang, Cavite. April 2007. Adviser: Mrs. Agnes Alimboyuguen.

This study, conducted from September 2006 to March 2007 at the Crop Science Laboratory, Cavite State University, Indang Cavite, aimed to determine the properties of natural dragon fruit juice. Specifically, its objectives were to evaluate the sensory characteristics of natural dragon fruit juice, to identify its best formulation based on sensory evaluation, and to determine its general acceptability.

The dragon fruits were extracted using a juice extractor. From the juice, the following treatments were prepared: Treatment 1 with 100% juice concentration (2 cups juice), Treatment 2 with 20% juice concentration (2 cups water + 1 cup juice + 1 cup sugar), Treatment 3 with 25% juice concentration (1 cup water + 1 cup juice + $\frac{1}{2}$ cup sugar), Treatment 4 with 30% juice concentration ($\frac{1}{2}$ cup water + 1 cup juice + $\frac{1}{4}$ cup sugar), Treatment 5 with 35% juice concentration ($\frac{1}{4}$ cup water + 1 cup juice + $\frac{1}{8}$ cup sugar). The sensory properties of dragon fruit juice were sensory evaluated. The best formulation was identified based on the sensory attributes and the general acceptability of the juice sample was determined.

Analysis of data using the Kruskal-Wallis Equality of Population rank test and median comparison revealed that Treatment 2 had the most significant taste, most perceptible flavor and most imperceptible off-flavor. It proved to be the best among all the treatments.

From the evaluations made, it proved that the dragon fruit juice prepared with 20% juice was the best formulation. It can be recommended to conduct a continuation of the study, which will determine the Vitamin C content, the packaging in tetra packs and the shelf life and the cost of production of the natural dragon fruit (*Hylocereus undatus*) juice to evaluate the affordability of the product.

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SENSORY CHARACTERISTICS OF NATURAL DRAGON FRUIT (*Hylocereus undatus*) JUICE^{1/}

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^{1/} A research study submitted to the faculty members of Science High School, College of Education, Cavite State University, Indang, Cavite, in partial fulfillment of the requirements for graduation, under the supervision of Mrs. Agnes Alimboyuguen

INTRODUCTION

Dragon fruit (*Hylocereus undatus*) or strawberry pear is a climbing cactus with big bright red fruit. In fact, it is popular as an ornamental in Hawaii. Like other fruits, it is very nutritious. It contains minerals, vitamins, and dietary fiber. It is rich in Vitamin C and water-soluble fiber. It is also claimed to have a high nutritional and medicinal value. It lessens cholesterol and is good for people with diabetes. Some say that it has the functions of improving the eyesight and preventing hypertension. It is also rich in phytoalbumins which are highly valued for their antioxidant properties, hence, can prevent the formation of cancer-causing free radicals.

At present, although dragon fruit has lots of medicinal uses, majority of the Filipinos do not know the fruit yet. It is cultivated at only few parts of the country, thus, consumption of this nutritious yet unknown fruit is very minimal.