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EFFECTS OF MATURITY AND POSTHARVEST HANDLING
ON THE PHYSICAL AND SENSORY PROPERTIES OF
ASPARAGUS SPEARS PROCESSED IN BRINE

RESEARCH STUDY

APPLIED RESEARCH IV

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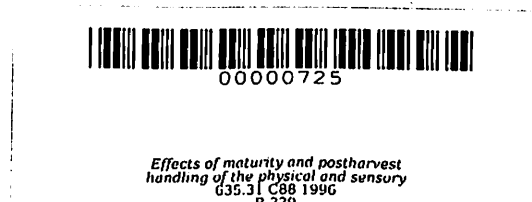
Indang, Cavite

April 1996

**EFFECTS OF MATURITY AND POSTHARVEST HANDLING
ON THE PHYSICAL AND SENSORY PROPERTIES OF
ASPARAGUS SPEARS PROCESSED IN BRINE**

**A Research Study Submitted to the Faculty
of Laboratory School, School of Education
of Don Severino Agricultural College
Indang, Cavite**

**In Partial Fulfillment of the
Requirements in Applied Research IV
(Agri-Science Curriculum)**



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April 1986

ABSTRACT

CRUCENA, RENALYN R., Applied Research IV (Agri-Science Curriculum), Don Severino Agricultural College, Indang, Cavite, "EFFECTS OF MATURITY AND POSTHARVEST HANDLING ON THE PHYSICAL AND SENSORY PROPERTIES OF ASPARAGUS SPEARS PROCESSED IN BRINE".

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The study entitled "Effects of Maturity and Postharvest Handling on the Physical and Sensory Properties of Asparagus Spears Processed in Brine" was conducted to determine the effects of maturity and storage duration to the physical and sensory properties of asparagus spears for processing in brine. This study was conducted at the Department of Food Science and Technology from September to December 1995.

Asparagus spears samples with two degrees of maturity - S_1 , spears harvested one day after emergence and S_2 , spears harvested two days after emergence were used. Both samples were subjected to three treatments - T_1 , processed immediately after harvest, T_2 , stored for 5 days in the refrigerator with potassium permanganate ($KMNO_4$) prior to processing and T_3 , stored for ten days in the refrigerator with potassium permanganate ($KMNO_4$) prior to processing.

Maturity and storage elicited significant differences in clearness of brine among samples. The 2-day spears stored for 10 days had the clearest brine.

In terms of color, treatment did not cause significant differences among samples. Pigments responsible for characteristic color of asparagus spears did not change with maturity and storage. On the other hand, spears gathered 2 days after emergence and stored for 5 days received the highest score for wholeness of spears.

On sensory evaluation, results showed that color of asparagus spears was not affected by maturity and storage prior to processing. In terms of flavor, no significant differences were observed. Flavor of asparagus did not change significantly with maturity and storage prior to processing. No significant differences in texture were observed between spears gathered one day after emergence and spears gathered two days after emergence. Texture of asparagus did not change significantly in a matter of one day. No significant differences were observed among samples of different treatments in terms of off-flavor. All samples were equally acceptable and all the scores fall in between acceptable to slightly acceptable.

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by

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¹/A research study presented to the faculty of the Laboratory School, School of Education of the Don Severino Agricultural College, Indang, Cavite, in partial fulfillment of the requirements in Applied Research IV, under the advisorship of Prof. Julia U. Razon and Prof. Fe N. Dinero.

CHAPTER 1

INTRODUCTION

Asparagus (*Asparagus officinalis* Linn) is a member of Lilicea family which originated near the Mediteranian Sea. It is considered an important herbicious perennial grown for its healthful and palatable young shoots called spears. Asparagus can persist in the field for 25 years. Its numerous branches are very fine and the delicate foliage make the tops valuable for decorative purposes.

Individual plant is characterized by an underground network of fleshy roots and underground stem called rhizome. A mature underground crown consist of many individual buds which become edible spears (New Zealand Ministry of Agriculture, 1993).