

# Consumer Acceptability of *Daucus Carota* Jam Among the Students of Nueva Ecija University of Science and Technology, San Isidro Campus

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**Abstract:** *This study was conducted to prepare and produce jam made up of pure carrot. It was intended to evaluate the consumer's acceptability in appearance, color, odor, taste and texture. The 50 evaluators, purposely picked from Nueva Ecija University of Science and Technology, San Isidro Campus, were utilized as respondents. The respondents used a modified evaluation score sheet anchored on the Five-Point Hedonic Scale to assess the finished products. Means were utilized as the statistical tools. The results revealed that the respondent liked the appearance, odor, color, texture, and taste, which shows that the product was acceptable. It is recommended that carrots bits be cut slightly smaller than the usual, flavors like cinnamon should be added to carrot jam to enhance its odor, and sugar content must be reduced since the carrot jam tastes very sweet.*

**Keywords:** consumer acceptability, jam, *Daucus carota*

## 1. Introduction

The carrot (*Daucus carota* subsp. *sativus*) is a root vegetable, usually orange in color, though purple, black, red, white, and yellow cultivars exist [1]. Carrots are a domesticated form of the wild carrot, *Daucus carota*, native to Europe and Southwestern Asia. The most commonly eaten part of the plant is the taproot, although the greens are sometimes eaten. The domestic carrot has been selectively bred for it is greatly enlarged, more palatable, less woody-textured taproot [2].

Carrot has remarkable nutritional and health benefits. There are good reasons to include carrots in the human diet since they are enriched with carotenoids, phenolic compounds, polyacetylenes, and vitamins, and for this reason, they may help reduce the risk of some diseases. Experimental evidence has reported that these carrot compounds exert antioxidative, anticarcinogenic, and immune-enhancer effects. Antidiabetic, cholesterol and cardiovascular disease lowering, antihypertensive, hepatoprotective, renoprotective, and wound healing benefits of carrot have also been reported. The mechanism by which these carrot compounds decrease the risk of some diseases is complex and sometimes largely unknown [3].

Only 3 percent of the  $\beta$ -carotene in raw carrots is released during digestion. It can be improved to 39% by pulping, cooking and adding cooking oil [4]. Carrot may be chopped and boiled, fried or steamed, and cooked in soups and stews. An example of these is the well-known carrots julienne [5]. It is also an excellent source of carotenoids and other important anti-inflammatory and antioxidant compounds [6]. Fiber is good for your heart and your intestines and it helps keep you regular. Fruits and veggies with lots of potassium

help you have good blood pressure. Vitamin A keeps eyes and skin healthy and helps to protect against infections. Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy [7]. Carotenoids are plant pigments responsible for bright red, yellow and orange hues in many fruits and vegetables, including carrots. These pigments play an essential role in plant health. People who eat foods containing carotenoids get protective health benefits [8]. In India, carrots are used in various ways, as salads or as vegetables added to spicy rice or dal dishes. Carrot salads are usually made with grated carrots with a seasoning of mustard seeds and green chilies popped in hot oil. Carrots can also be cut into thin strips and added to rice, forming part of a dish of mixed roast vegetables or blended with tamarind to make chutney [9]. In North India, a popular variation is the Gajar Ka Halwa carrot dessert, which has carrots grated and cooked in milk until the whole mixture is solid, after which nuts and butter are added [10].

Jam is defined as fruits or vegetables pulp or juice to which sugar, pectin and citric acid are added. The mixture is usually boiled until it reaches reasonable consistency (spreadable), [11]. The sweetness of carrots allows the vegetable to be used in some fruit-like roles. Grated carrots are used in carrot cakes, as well as carrot puddings. Carrots can also be used alone or blended with fruits in jams and preserves. Thus, this study was conducted to prepare a jam made up of pure carrot.

## 2. Objectives of the Study

This study aimed to determine the acceptability of carrot jam. Specifically, it aimed to prepare a jam made up of pure carrot *Daucus carota* and evaluate the level of acceptability

of carrot jam in terms of appearance, color, texture and taste.

### 3. Materials and Methods

#### Research Design

This study utilized descriptive research to determine the consumer acceptability level of *Daucus carota* jam among respondents as to appearance, color, texture and taste.

#### Sampling Design

Purposive sampling was employed in selecting the individuals as samples according to the purposes of the researchers as their controls. It is a non-scientific sampling design by which an individual is selected as part of the sample due to good evidence that he is representative of the total population.

#### Evaluators of the Study

The evaluators are the 50 students of Nueva Ecija University of Science and Technology, San Isidro Campus to determine the consumer acceptability of *Daucus carota* jam.

#### Materials, Tools and Equipment

In the conduct of this study, 10 kg of carrot was grated with

1 kg of sugar. The tools, utensils and other equipment used were containers, measuring cups, measuring spoons, ladle, blender, funnel, sterilized bottle, knife, weighing scale, chopping board, strainer and gas stove.

#### Procedure

Put on a show called *Mise en place*. 5 kilograms of carrots should be peeled. 1 kg of carrots should be sliced horizontally with uniform size to create a flower-like shape, while the remaining 4 kilos should be mashed. 1-kilogram sugar, dissolved in a large pan over high heat. When the sugar begins to melt, add 1 cup of water and constantly stir the mixture. Reduce the heat on the burner if the mixture is slightly condensed to maintain consistency. 1 pound sliced carrots in caramelized sugar. Allow the carrots to soften in the sugar for as long as possible, depending on the thickness of the sliced carrots. After 20 minutes, or if the carrots are already cooked, remove them from the pan. Set away after covering. Put 4 kilograms of sugar in a big casserole with medium fire, add a little water, and stir constantly. Reduce the heat to low once the mixture has become lumpy. Gradually whisk the mashed carrots with the caramelized sugar in the large casserole for around 40-45 minutes. Turn off the heat and remove the dish from the burner after thickening the mixture. Allow time for it to cool. Refrigerate after pouring into sterilized, covered jars.

**Table 1:** Rubric for Evaluating Squash Yema Spread

CRITERIA	5 Liked Very Much	4 Liked Moderately	3 Liked Slightly	2 Disliked	1 Disliked Very Much
Appearance	Looks very palatable that captures one's attention	Looks pleasing in its appearance	Looks slightly pleasing	Disliked the appearance and can't capture one's appetite	Very disliked appearance
Taste	It tastes savory with quality and increases one's appetite	It tastes partially good	It tastes not that good or bad	Disliked taste cause of too savory or it lacks something	Very disliked taste
Color	The color is very acceptable	The color is moderately acceptable	The color is slightly acceptable	The color is not acceptable	The color is not very much acceptable
Texture	Very soft and moist	Soft and moist	Slightly soft and moist	Hard and lacks moisture	Very hard
Odor	The odor is very acceptable	The odor is moderately acceptable	The odor is slightly acceptable	The odor is not acceptable	The odor is not very much acceptable

After the evaluation of the treatment, the score sheets were recorded, tallied, summarized and prepared for computation. Mean was used in determining the level of acceptability of its appearance, taste, color, texture, and odor. The following scale and descriptions were used:

- 4.21-5.00 – Liked Very Much
- 3.41-4.20 – Liked Moderately

- 2.16-3.40 – Liked Slightly
- 1.81-2.15 – Disliked
- 1.00-1.80 – Disliked Very Much

### 4. Results and Discussion

Table 2 shows the acceptability level of *Daucus carota* jam

**Table 2:** Acceptability of *Daucus carota* jam

Criteria	Weighted Mean	Interpretation
Appearance	4.10	Liked Moderately
Taste	4.15	Liked Moderately
Color	3.80	Liked Moderately
Texture	3.90	Liked Moderately
Odor	4.05	Liked Moderately

Table 2 shows the acceptability level of *Daucus carota* jam. The data revealed that the appearance, taste, color, texture and odor were liked moderately by the respondents. It only implies that the respondents accepted the jam made up of pure carrot. [12] support the result of the study. According to them, jam made up of carrot is tasty, and therefore was acceptable.

## 5. Conclusion

This study aimed to ascertain the acceptability level of the *Daucus carota* jam. The result showed that the jam made up of carrot as its appearance, color, taste, texture and odor were liked moderately by the respondents. With this, the overall consumer acceptability was acceptable.

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## Authors Profile



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