

Consumer's Acceptance to The New Product- Pineapple Jam as Example

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Abstract

Based on the health and environmental considerations, consumers paid their more attention to the pursuit of natural ingredient. In other words, a safe and non-toxic diet is the basic consideration for the consumers. More consumers pay more attention on natural foods; they gradually change their eating habits. In recent years, many food safety events such as tainted milk, clenbuterol, poison starch, plasticizers etc. have been reported. Consumers tend to buy natural foods, less chemical additives and security food as the primary concern. This study attempts to take the natural pineapple jam as the major structure. And try to add dates and plum into pineapple jam instead of any artificial additives, and enhance the taste level. Meanwhile, different flavors could derive from the natural products according to the pineapple jam proportion of different formulations. The study expects to be able to create the pineapple jam which is not the same as made by the market products. The study selected 150 consumers of Tainan area to be tested of preferences of sensory evaluation, and SPSS 12.0 statistical software was used as the data analysis of the outcomes of the study. The result found among 123 valid questionnaires. The original flavor pineapple jam in its appearance, aroma, stiffness, acidity, sweetness and overall acceptability can be accepted by most consumers and there are significant differences with other products. Consumer also showed their strongest willingness to buy the original flavor pineapple jam and there are significant differences with other products.

Keywords: Pineapple, Pineapple Jam, Sensory Evaluation.

1. Introduction

Pineapple is low in calories, rich in vitamin C, B₁ and E, also with minerals, dietary fiber, water etc., it is widely used in health food and fruit juice [1]. However, the media often reported that pineapple could be sold out cheaply, destroyed directly or to be used as a plant fertilizer during in season period. Because fresh fruit is very difficult to save, it is necessary through using fruit processing to continue its value. Pineapple jam, a commercial commodity, is the other way to keep its "life".

In this study, the innovative pineapple jam was as the research theme to discuss the acceptance and purchase intention of consumers on different types of pineapple jams.

2. Literature Review

Pineapple is a kind of tropical fruit originated to the Amazon River. Presumably, it was introduced to Taiwan in 1664, or Emperor Kangxi, Qing Dynasty, from southern China. Current pineapple cultivars in Taiwan can be divided into local, foreign and hybrid species [1].

Codex Alimentarius Commission, CODEX, regulated only solidified or sticky products which have more than 65% sugar could be defined as "fruit jam". However, the liquid sugar and cooked sauce was taken as a jam in Japan marketing, even the sugar content was reduced to about 40 percent [2]. 50% - 65% sugar content of the jam could be acceptable for most of Taiwan consumers [3].

"Purchase intention" is an attempt to buy product possibilities [4]. The information resources will create the different opinions and preferences to consumers, thereby affecting their purchase intention [5]. In 1988, proposed to measure the purchase intention by perceived value such as possible purchase, want to purchase, consider to purchasing etc[6]. The study results of Wu and Peng in 2010 showed that the attitude to the brand will affect the purchase intention of consumers [7].

Institute of Food Technologists, U.S. defined sensory evaluation named in line with the basic human capacity for food or something of the sense of taste, smell, etc. Also, to obtain a correct conclusion of systematic knowledge through the scientific booting, measured, analyzed and judged the test done [8].

There are many kinds of sensory evaluation methods to be used. To select the appropriate method in accordance with the purpose of the test, then the results make sense [9]. In 2003, pointed out that consumer preferences referred to test scores of palatability [10]. However, the high or low score was not directly related to the actual strength of a certain taste. Hobby of tasting referred to appearance, flavor and overall acceptability, etc. In this study, the preferences evaluation was used to research the consumers' taste.

3. Research Methods

Kuanmiao-planted "Tai-farmer #2" pineapples were taken as the research object, because it contains less water, making jam time can be shortened and easy to obtain.

The study process was shown as in Fig. 1.

In this study, two preliminary tests were conducted in order to find a better formula for an official test. Original pineapple jam, date-added pineapple jam, plum-added pineapple jam and on the market pineapple jam were the

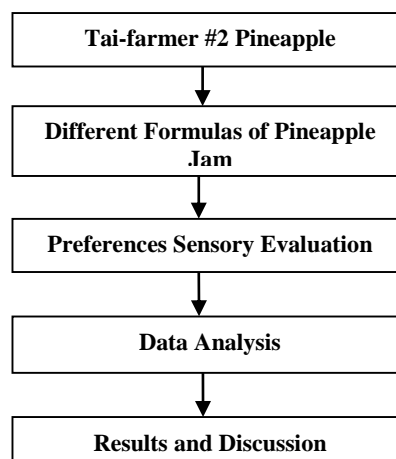


Fig. 1. Pineapple Jam Test Flowchart

official test samples. Then, preferences sensory evaluation test was conducted. A "five-point" score was used. "5" represents "very much like or very dark"; "1" represents "did not like very much or too light". Repeated evaluation was acceptable. The difference of evaluation results was analyzed by SPSS 12.0.

4. Data Analysis

In this study, 150 convenience samples were collected from Tainan City residents to fill up the sensory evaluation survey, 150 questionnaires were distributed, and a total recovery of 123 valid questionnaires, 81%, while 27 were for invalid questionnaires, 17%.

Regarding the gender, male respondents accounted for 49.59% and 50.40% for female. Respondents of 21 to 30 years old were at most (36.58%). 48.78% received the higher education majority. 72.35% respondents considered that they always put their attention on the issue of processed food safety.

Preferences analysis results of pineapple jam were shown in Table 1. The analysis result on the difference of

Table 1. Preferences analysis results of pineapple jam

Item	Sample	Number	Average	Standard deviation	F test	Distinctiveness
Appearance	254	123	2.71 ^a ±1.233		35.317	0.000***
	396	123	4.05 ^c ±1.047			
	642	123	2.74 ^a ±1.240			
	875	123	3.07 ^b ±1.146			
Aroma	254	123	2.89 ^a ±1.144		16.430	0.000***
	396	123	3.63 ^b ±1.141			
	642	123	2.91 ^a ±1.138			
	875	123	2.68 ^a ±1.081			
Stiffness	254	123	3.14 ^b ±1.019		10.221	0.000***
	396	123	3.70 ^c ±0.949			
	642	123	3.14 ^b ±1.019			
	875	123	3.05 ^a ±1.144			
Acidity	254	123	2.98 ^b ±1.127		15.458	0.000***
	396	123	3.53 ^c ±0.969			
	642	123	2.99 ^b ±1.149			
	875	123	2.61 ^a ±1.013			
Sweetness	254	123	3.10 ^a ±1.190		13.968	0.000***
	396	123	3.76 ^b ±1.066			
	642	123	3.08 ^a ±1.178			
	875	123	2.89 ^a ±1.065			
Overall Acceptance	254	123	3.15 ^b ±1.248		20.710	0.000***
	396	123	3.84 ^c ±1.074			
	642	123	3.11 ^b ±1.248			
	875	123	2.63 ^a ±1.266			
Purchase Intention	254	123	3.03 ^b ±1.152		19.883	0.000***
	396	123	3.69 ^c ±1.174			
	642	123	3.05 ^b ±1.156			
	875	123	2.54 ^a ±1.160			

Note 1 : * $p < 0.1$, ** $p < 0.01$, *** $p < 0.001$

Note 2 : 396 = pineapple + apple + sugar + lemon; 254 = pineapple + apple + sugar + lemon + dates;
642 = pineapple + apple + sugar + lemon juice + plum; 875 = on the market jam

appearance preferences degree showed that the original flavor pineapple jam can be accepted by most respondents (396, average 4.05). The plum-added pineapple jam was followed by (642, average 2.74) and there was a significant difference ($P < 0.000$ ***) between them.

As for aroma analysis, the analysis result on the difference of aroma showed that the original flavor pineapple jam can be accepted by most respondents (396, average 3.63) and there were a significant difference ($P < 0.000$ ***) with the other three products ($P < 0.000$ ***). The original flavor pineapple jam can also be accepted by most respondents (396) in stiffness, acidity and sweetness.

Concerning the overall acceptance, the differences analysis showed that the original flavor pineapple jam can be accepted by most respondents (396, average 3.84), the on the market pineapple jam (875, average 2.63) was the minimum, and there were significant difference ($P < 0.000$ ***)).

Finally, concerning the purchase intention, the analysis result on the difference of purchase intention showed that on the market pineapple jam (875, average 2.54) and dates-added pineapple jam (254, average 3.03) can't be accepted by most respondents. The plum-added pineapple jam was followed by (642, average 3.05). However, the original flavor pineapple jam can be accepted by most respondents (396, average 3.69) and

there were a significant difference ($P < 0.000$ ***) amid them.

5. Conclusion and Suggestion

The finding results showed that the consumers had the highest preference on the appearance of original flavor pineapple jam. It might be that consumers preferred the original color of jam. Both the colors of plum-added and date-added jams were too dark, but, the contents of “on the market” pineapple jam was too little. The study suggested that the manufacturers should be noted the color and contents of pineapple jam.

The consumers had the highest overall acceptance on the original flavor pineapple jam. It might be that consumers considered that no any inference or other ingredients on pineapple jam would bring less health burden. The study suggested that the manufacturers should be noted with no added artificial additives or starch while making pineapple jam, although the shelf life is shorter, but will give less effect to health.

The study found only Tainan area consumers showed the strongest purchase intention to buy the original flavor of pineapple jam. The study suggested that manufacturers could be pay their attention on its differences with the other jams for their future market strategy such as the idea of safety and no artificial additives etc., or some free samples for tryout at the super market, so that consumers can experience the delicious pineapple jam directly.

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