



Blue Pea As Ice Cream: Basis For Product Development

Reynan Jay D. Navales¹, Ezra Great L. Mirano², Kia F. Faulan³

¹Central Philippines State University

nreynanjay@gmail.com, ezragreatmirano@gmail.com, kiafaulan@gmail.com

Abstract- This study sought to determine the acceptability in using blue ternate as an ingredient in making ice cream. Specifically, it sought to determine the extent of acceptability of teachers, students and ice cream vendors in using blue ternate as an ingredient in making ice cream in terms of aroma, taste, appearance, texture, and sweetness, the significant difference between the extent of acceptability of teachers, students, and ice cream vendors. The design used in this study will be an experimental and descriptive research design that will describe the sensorial characteristics of blue ternate ice cream. The study will be conducted on 15 teachers and 15 students of Central Philippines State University-Hinigaran Campus and 20 ice cream vendors in the Municipality of Hinigaran. The researchers made use of a non-parametric purposive quota sampling technique to determine the participants of the study. It was found that most of the teachers accepted blue ternate in making ice cream as acceptable. Students slightly accept the aroma, taste and appearance while accepting the texture and sweetness of blue ternate in making ice cream. Meanwhile, it was found that students slightly accept aroma, taste, and appearance whole accepting texture and sweetness. Moreover, it was found that ice cream vendors accepted the aroma and taste as acceptable while slightly acceptable in terms of appearance texture, and sweetness. Furthermore, it was found that there was no significant difference between the assessment of teachers, students and ice cream vendors in using blue ternate in making ice cream. It was concluded that Teachers, students and ice cream vendors' assessments do not differ. Meaning, that the extent of their acceptability in using blue ternate in making ice cream was almost the same. Lastly, it was recommended that the students and ice cream vendors that they should refer to these product customers and to promote locally made products, teachers were recommended to conduct similar studies related to blue in the future or to try others in using ice cream. Local Government Units were recommended to promote this product of ice cream makers in the Municipality of Hinigaran as well as presenting this product as the delicacy of the Municipality.

Keywords: Blue Ternate, Ice Cream, Aroma, Taste, Texture, Appearance and Color

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INTRODUCTION

Clitoria Ternatea commonly known as Asian Pigeon Wings, Blue Bell Vine, Blue Pea, Cordofan Pea and Darwin pea, 'Butterfly Pea' is an amazing brain boosting herb native to tropical equatorial Asia. A traditional Chinese and Ayurvedic medicine, *Clitoria Ternatea* has been consumed for centuries as a memory enhancer, brain booster, anti-stress and calmatative agent. Known for its luminous indigo colour, Butterfly Pea has traditionally been used as a vegetable in cooking, to colour deserts or to make a strikingly vibrant coloured tea. Butterfly Pea is jam-packed full of health promoting antioxidants, flavonoids and peptides and has shown considerable promise in animal studies as a natural remedy for a range of health complaints. Many beauty products have also been derived from Butterfly Pea because of the effects of the flavonoid, quercetin has on skin and hair. (Majestic Herbs, 2019). This flower is already used as tea – believed to help fight high blood pressure, the researcher decided to conduct a study regarding the acceptability of the flower as an ingredient in ice cream. With this, the researcher come up with study on the use of blue pea as ice cream as basis for product development.

LITERATURE REVIEW

Clitoria ternatea, commonly known as butterfly pea, is a perennial herbaceous plant from the Fabaceae family. It has recently attracted a lot of interest as it has potential applications both in modern medicine and agriculture, and as a source of natural food colorants and antioxidants. *C. ternatea* has long been cultivated as a forage and fodder crop, and early studies assessed the plant for these purposes (Reid and Sinclair, 1980; Barro and Ribeiro, 1983; Hall, 1985). Numerous field trials in Queensland, Australia, eventually led to the registry of *C. ternatea* cv. 'Milgarra' (Oram, 1992), the only cultivar in Australia that was released for grazing purposes (Conway and Doughton, 2005). Additionally, *C. ternatea* has been widely used in traditional medicine, particularly as a supplement to enhance cognitive functions and alleviate symptoms of numerous ailments including fever, inflammation, pain, and diabetes (Mukherjee et al., 2008).

Abdelhamid A. M., Gabr A. A. (1993). The evaluation of new sources of fodder (*Clitoria* and *Phillipesara*) under Egyptian conditions. *Arch. Anim. Nutr.* 44 85–93. 10.1080/17450399309386060 [CrossRef] [Google Scholar]

The origins of ice cream can be traced back to at least the 4th century B.C. Early references include the Roman emperor Nero (A.D. 37-68) who ordered ice to be brought from the mountains and combined with fruit toppings, and King Tang (A.D. 618-17 of Shang, China) who had a method of creating ice and milk concoctions. Ice cream was likely brought from China back to Europe. Over time, recipes for ices, sherbets, and milk ices evolved and served in fashionable Italian and French royal courts. (Bellis, 2017)

Tesaro, M. (2016). *Ruminations: A Brief History of Ice Cream*. Retrieved December 15, 2019 from <https://lifeandthyme.com/food/reflections/ruminations-brief-history-of-ice-cream/>

METHODOLOGY

This chapter describes the research design, time and location of the study, study participants, sampling technique, data collection instrument, data collection procedure, and data analysis for this study.

RESEARCH DESIGN

This study will employ a descriptive type of research design. It attempts to determine the extent of acceptability in using blue pea as ice cream in terms of their taste, texture, appearance and acceptability using a self-made questionnaire made by the researchers.

THE RESPONDENTS OF THE STUDY

There are 30 selected individuals considered as the respondents of the study. The respondents of the study are composed of thirty (30) randomly selected people and composed of 10 teachers and students of Central Philippines State University, and 10 ice cream vendors in the Municipality of Hinigaran, Negros Occidental.

DATA COLLECTION INSTRUMENTS

The data to be gathered for the parameters of Blue Pea as ice cream and the process of making and the researcher discussed developing it into ice cream. Communication letters were sent to personalities who have direct contributions and participated in the study. Letter of approval was addressed to the Campus Administrator, Research Adviser and Research Coordinator prior to conduct of the study. Then, the researcher informed the respondents that they selected as the participants of the study and respondents answer the research instrument based on the level of their acceptability.

DATA COLLECTION PROCEDURE

The researchers developed a product from Blue Pea as ice Cream. To determine its sensory characteristics and also as an alternative livelihood platform for the local community in the Municipality of Hinigaran to be their new source of income. Before the trials, the researchers came up with their own recipe using Blue Pea (*Clitoria Ternatea*) as ice Cream. The researchers aim to developed a product out of Blue Pea (*Clitoria Ternatea*) as ice Cream. The following procedures were followed by the researchers based on the characteristics of gathering data below.

Collecting/Harvesting of Primary Ingredient

Storing of Primary Ingredient

First Trial

Observation

Areas for Improvement

Second Trial

Observation

Areas for Improvement

Third Trial

Observation

Areas for Improvement

RESULTS & DISCUSSION

The section presents the results and discussion on the acceptability of Blue Ternate as ingredient in making Ice Cream. Extent of Acceptability of Teachers, Students and Ice Cream Vendors in Using Blue Ternate as Ingredient in making Ice Cream

The table shows that aroma has a mean of 4.425 and standard deviation of 0.315, taste has mean of 4.400 and standard deviation of 0.308, appearance has mean of 4.413 and standard deviation of 0.347, texture has mean of 4.333 and standard deviation of 0.287 and sweetness has mean of 4.425 and standard deviation of 0.467 was found acceptable as assessed by teachers.

It implies that majority of the teachers rated blue ternate in the ice cream as acceptable.

Additionally, Aroma has a mean of 4.175 and standard deviation of 0.345, taste has mean of 4.175 and standard deviation of 0.354, appearance has mean of 4.175 and standard deviation of 0.381, texture has mean of 4.216 and standard deviation of 0.363 and sweetness has mean of 4.325 and standard deviation of 0.494 was found acceptable as assessed by students. It implies that students slightly accepted the blue ternate in ice cream in terms of aroma, taste and appearance while acceptable in terms of texture and color.

Moreover, Aroma has a mean of 4.284 and standard deviation of 0.345, taste has mean of 4.300 and standard deviation of 0.321, appearance has mean of 4.196 and standard deviation of 0.477, texture has mean of 4.175 and standard deviation of 0.335 and color has mean of 4.175 and standard deviation of 0.335 was found acceptable as assessed by ice cream vendors.

It implies that the extent of using blue ternate in ice cream was acceptable in terms of aroma and taste while slightly acceptable in terms appearance, texture and color.

Difference between the Extent of Acceptability of Teachers, Students and Ice Cream Vendors

Table 2 shows the difference between the extent acceptability of teachers, students and ice cream vendors in using blue ternate in making ice cream in terms of aroma, taste, appearance, texture and sweetness.

Aroma has a p-value of 0.108, taste has a p-value of 0.193, appearance has a p-value of 0.394, texture has a p-value of 0.550 and color has a p-value of 0.250 which was interpreted to have no significant difference which means that it failed to reject the null-hypothesis.

It implies that there was no significant difference between the assessment of teachers, students and ice cream vendors which means that their assessment in using blue ternate in ice cream were almost the same.

CONCLUSION

It was found that most of the teachers accepted blue ternate in making ice cream as acceptable.

Students slightly accept the aroma, taste and appearance while accepts the texture and sweetness of blue ternate in making ice cream. Meanwhile, it was found that students slightly accept aroma, taste and appearance whole accepts texture and sweetness.

Moreover, it was found that ice cream vendors were accepted the aroma and taste as acceptable while slightly acceptable

in terms of appearance texture and sweetness.

Furthermore, it was found that there was no significant difference between the assessment of teachers, students and ice cream vendors in using blue ternate in making ice cream.

RECOMMENDATIONS

The researcher recommends to the students and ice cream vendors that they should refer this product customers and to promote locally made products.

Additionally, students were recommended to conduct similar studies related to blue ternate in the future or to try others in using ice cream.

Local Government Units were recommended to promote this product of ice cream makers in the Municipality of Hinigaran as well as presenting this product as the delicacy of the Municipality.

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