

SWEET POTATO (IPOMOEA BATATAS) TOASTED MUFFINS

*Cristino B. Valleser
**Irene G. Maglajos
***Miraflores M. Andoy
****Valerie B.de Castro
*****Lady Jane M. Halawig
*****Dennis D. Lacea
*****Rj L. Mejia
*****Darwin S. Painit

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Corresponding Author: Cristino B. Valleser; **Email:** cristinovalleser102789@yahoo.com; doi:10.46360/cosmos.ahe.520231010

Abstract

This research aimed to formulate toasted muffins using sweet potato as the main ingredient. Specifically, the study aimed to present the profile and description of the product. The study utilized the experimental method of research employing the three-treatment formulation that is: Treatment 1 containing 25 grams of cooked mashed sweet potato; Treatment 2 containing 30 grams of cooked mashed sweet potato; and Treatment 3 containing 35 grams of cooked mashed sweet potato. Based on the result, Treatment 3 has the highest total cost of ingredients which is ₱658.90 due to the amount of sweet potato used. The three treatments utilized the same tools and equipment and underwent the same process. Further, the researchers described the product according to its shelf life, organoleptic characteristics, and packaging specifications. It was found that the Sweet Potato Toasted Muffins in three treatments have a shelf life of 90 days compared to muffins that are not toasted. In terms of organoleptic characteristics, the product in three treatments has a circle or round shape and has a golden brown color; the smell of sweet potato was striking; it was smooth to the touch and had a sweet taste with a tender and rough texture. In terms of product packaging, the Sweet Potato Toasted Muffins in three treatments were packed in two types: the product was sealed in a transparent zip bag, and the secondary type of packaging was with the use of a paper box which protected the product from being deformed. With the findings presented, the researchers concluded that sweet potato could be used as the main ingredient in making a new variety of muffins, and Sweet Potato Toasted Muffins could be introduced to the food business industry.

Keywords: Sweet Potato, Toasted Muffin, Sensory Attributes, Shelf Life.

Introduction

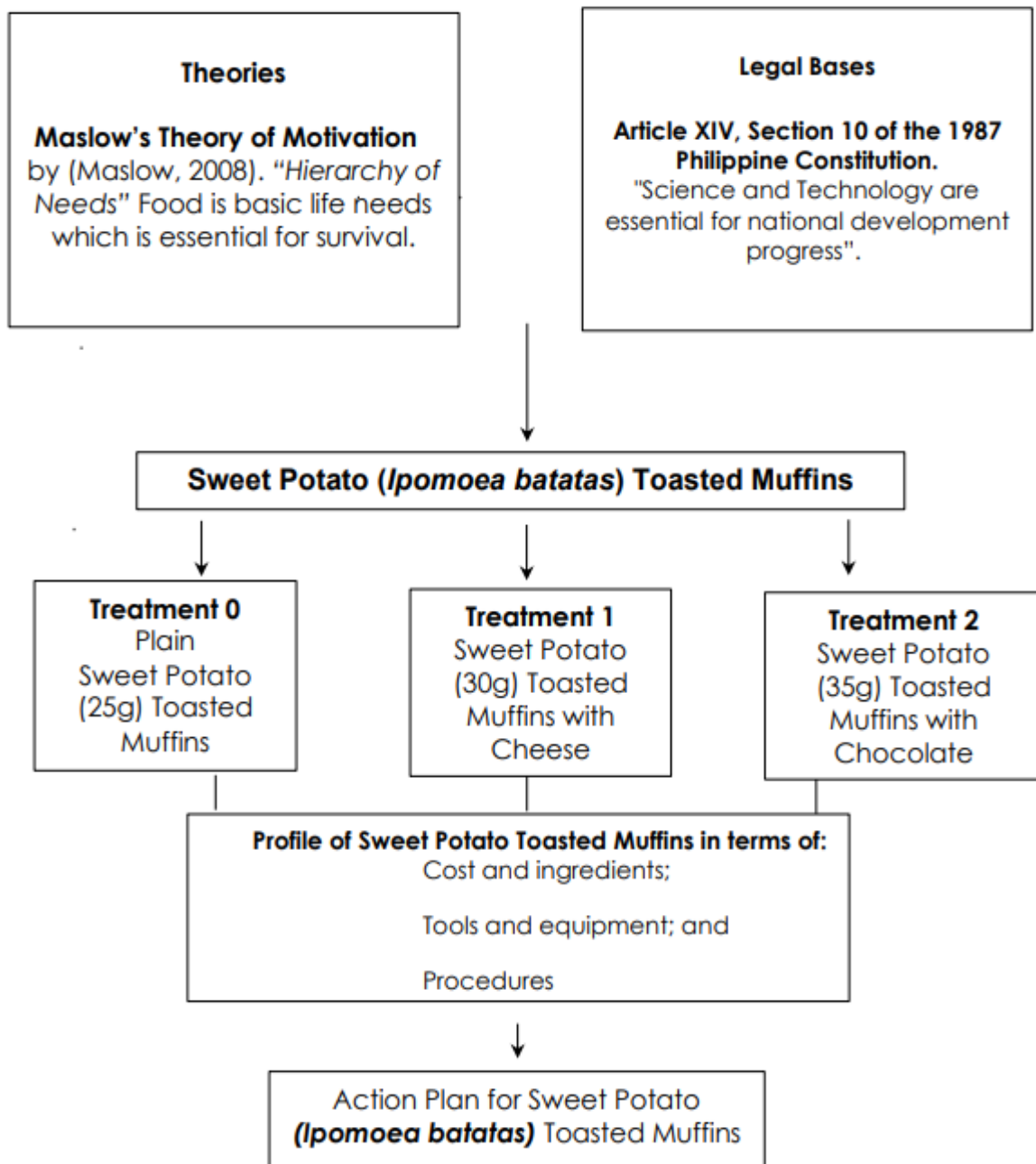
The incredible story of food begins with its power to help people stay alive and healthy. Food affects the quality of life which makes it essential. It can bring enjoyment and closeness with family and friends. Good food choices help the body to stay physically, mentally, and emotionally healthy (McGraw-Hill, 2010).

Ipomoea batatas also known as Sweet Potato is a common root crop in the Philippines (Zimmer, 2018 [11]). It can easily be found on any local market or even on backyards. Aside from its availability in the country, sweet potatoes are rich source of fiber as well as containing an array of vitamins and minerals including iron, calcium, selenium, and they are good source of most of our B vitamins and Vitamin C. One of the key nutritional benefits of sweet potato is that they are high in an antioxidant known as beta-carotene, which converts to vitamin A once consumed (Shubrook, 2009 [9]).

However, only few food innovators venture the use of sweet potato as main ingredient in making food products. According to Prieto (2016) [8], the contribution of root crops especially sweet potato consists only of 50% global production of root and tuber crops. Because of this, the researchers intended to use sweet potato as the main ingredient in making a muffin. Muffins are known for its gently rounded top and golden crust, moist finely grained crumb, an appealing aroma, and a satisfying balance of flavor (Phillips, 2000 [7]). The use of sweet potato could enhance the flavor and nutrients that can be taken from muffins.

In this light, the researchers conduct this study to attain the acceptability level of sweet potato to measure it if it would be acceptable to be made into toasted muffins in terms of appearance, taste, texture, packaging, and shelf life. Furthermore, the result of this study could be possibly used by food innovators to create new food products to help root crop farmers consumes the fruit of their labor.

Theoretical And Conceptual Framework



Statement of the Problem

This study aimed to formulate Sweet Potato Toasted Muffins in three treatments. Specifically, the study aimed to answer the following questions:

1. What is the profile of sweet potato toasted muffins in terms of:
 - 1.1 cost and ingredients;
 - 1.2 tools and equipment; and
 - 1.3 procedures?
2. What is the description of the finished product in terms of:
 - 2.1 shelf life;

- 2.2 organoleptic characteristics; and
- 2.3 product and packaging specifications?

3. What action plan could be done for the utilization of the product?

Scope and Delimitation

The study limits on the formulation of Sweet Potato Toasted Muffins in three treatments. It also showed the profile and description of the product. This study was conducted at Bohol Island State University Balilihan Campus, Magsija, Balilihan, Bohol during the School Year 2020-2021.

Methodology

In the process of making the product Sweet Potato Toasted Muffins the researchers prepared the ingredients, materials, tools and equipment to attain the desired outcome of the said product.

The researchers conducted trial and error to get the desired outcome of Sweet Potato Toasted Muffins. The researchers also utilized the three treatment formulation. The researchers tend to toast the sweet potato made into muffins to lengthen its shelf life. Furthermore, the researchers evaluate its organoleptic characteristics.

And lastly, in making the desirable packaging, the researchers decided to create a box container out of eco-friendly materials that will suit to the said product.

Result and Discussion

The profile and description of Sweet Potato Toasted Muffins includes the cost and ingredients, tools and equipment, procedures in making the product, shelf life, and organoleptic characteristics.

Cost and Ingredients Used

It was seen in the study that the ingredients were very easy to find especially the sweet potato. It is easy to purchase sweet potato because researchers can find it in the market and accessible in the community since many people are planting sweet potato due to its usefulness. In three treatments, treatment 3 got the highest total cost of materials which is ₱658.90 with a price per box which is ₱159.15 at 16 pieces, followed by treatment 2 with ₱658.15 with a price per box of ₱158.95 at 16 pieces and lastly treatment 1 which is ₱607.40 with a price per box of ₱146.69 at 16 pieces also.

Tools and Equipment Used

The researchers used appropriate tools and equipment in order to achieve the good outcome of the said product in terms of appearance, taste and texture.

Procedure Used

Researchers followed the proper procedures in making Sweet Potato Toasted Muffins to attain the desirable appearance, taste and texture of the product. Procedures in making the product is simple and easy to follow though it needs proper measurements to attain the desired output. For the improvement of the product, 9 (nine) trials were conducted in order to achieve the best quality of the product.

Shelf Life

The shelf life of this product depends on how it is packed. The Sweet Potato (*Ipomoea batatas*)

Toasted Muffins lasts for 3 months when it is packed using zip bag and paper box.

Organoleptic Characteristics

The researchers evaluated its organoleptic characteristics in three treatments in terms of its color which is golden brown, odor which smells sweet potato, taste which is slightly sweet, texture which is tender and rough, touch which is smooth and shape which is circle or round to attained the desirable outcome of Sweet Potato Toasted Muffins.

Conclusion

The researchers concluded that sweet potato is applicable as a main ingredient in making toasted muffins. Aside from packaging and room temperature as a factor in the shelf life of the product, the process of how it was cooked can also affect the numbers of days the product can be consumed. Toasting muffins has extended the shelf life of the product.

Recommendations

1. The researchers may endorse the product to the public especially in the community for livelihood programs.
2. Entrepreneurs may produce and sell Sweet Potato Toasted Muffins as an innovation of the common muffins in the market to increase their income.
3. Teachers in food technology or any food-related courses may influence the students to innovate healthy and cost-effective baked products.
4. The school may include Sweet Potato Toasted Muffins in the production for entrepreneurial activities.
5. Future researchers may invent and develop studies related to sweet potato.

Conflict of Interest

There is no conflict of interest between the authors in this manuscript.

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