

CHAPTER II

LITERATURE REVIEW

2.1 The History of Doughnuts

According to Wulandari(2013 p.1) In the history of the food Doughnut, Doughnuts turns origins are still being debated. Doughnuts was brought to North America by immigrants from the Netherlands in addition to serving as pastries, cream pies, and fruit pie or cobbler. Doughnuts also claimed ancestral discovered by the Wampanoag Indian tribe. However, the National Dunking Association of America (NDAA) states that the inventor doughnuts is Crocket Hanson Gregory. The history of doughnuts has many story before its make it complicated if they want to know about true history about doughnuts , but the National Dunking Association of America (NDAA) statement that inventor of doughnuts is Crocket Hanson Gregory.

2.2 . Conventional Doughnut

Conventional Doughnuts are a snack food that made of deep-fried sweet dough. They are usually circular with a hole in the middle, but are also made in the shape of balls, angers and stars. Yeast-raised doughnuts have a light open texture. Doughnuts have some variant for topping and taste like chocolate, Burberry, Strawberries and others.

According to Matz S (1987 p.1) Doughnuts are a snack food made with deep-fried sweet dough. They are usually circular with a hole in the middle, but are also made in the shape of balls, fingers and stars. Hot doughnuts may be dusted with sugar and spice; cold doughnuts may be glazed with icing or filled with jam, custard or similar. Yeast-raised doughnuts have a light open texture.

2.2.1 The making of Conventional Doughnut

Conventional doughnuts has some ingredients before, the first must be prepare the dough like flour, egg, butter, barmy, sugar, and milk. If the all of the ingredients all ready in dough let stand until the dough to rise. After that can be mould the dough like doughnuts circle and has hole in the middle.

2.3 Why Sweet Potato Doughnut Was Developed

According to Jupiter (2001) , The content of tubers can be able to bind water in the dough. So after the fried dough remains soft textured. The use of tubers in the dough of doughnuts could be in the form of pure or steamed then mashed, can also be in the form of flour or starch extracts. Sweet potatoes can be good potential if the developed with doughnuts, sweet potatoes has good content in making doughnuts.

2.3.1 Product Testing

Product testing, or should be, a sensory testing based on scientific discipline should be used to measure product attributes and acceptance. Sometimes, however, enthusiasm for the new product or lack of references leads to misinterpretation of results as being positive when there is no scientific evidence for this opinion. A small panel is often used in sensory techniques, however, it cannot represent majority of people (Meilgaard,et al.,1999). In the following sections, the five common sensory techniques for food testing are elaborated here as suggested by Heyhoe (2002) and their uses will be discussed.

- Ranking

Panel members of experts rank the differentiation of products according to identifiable characteristics of a product. Some samples, between three to five, are presented to panel members who are asked to rank them in order of strength of a

particular characteristic. For example, panelists may be asked to rank some durians in the level of sweetness.

The technique is simple to do that allows multiple samples to be assessed at one time. The difficulty is to ensure that the samples presented are identical except for the level of the characteristic to be evaluated and the need to ensure that all panel members have the same understanding of the term being used to describe the characteristic to be ranked.

- Rating

Rating is the technique of quantification to test discrepancies between different products based on identifiable characteristics. It is often used in the product development involving panel members to rate the degree of intensity of a particular characteristic using a scale. Panelists use checklist in which they can tick the box which corresponds to their assessment of the intensity of the characteristic for that sample product. A detailed descriptive scale consists of a sequence of descriptions of intensity based on their perception of the degree of intensity of the characteristic in that sample.

- Analytical Tests

These test are used to measure changes in an innovative product (Horwitz, 2000).. Product texture can be tested using a tetrameter, and color may be tested using a colorimeter or spectrophotometer. Moisture can be measured using a vacuum oven,

2.4 Sweet Potatoes

2.4.1 What is sweet a potato?

Purple sweet potato contains nutrients that are not much different from other types of sweet potato. Natural fiber polysaccharides are stored in the sweet potato is

now a valuable commodity in the enrichment of processed food products. According to (Anonymous b, 2006 p.2). Sweet potato is a of vines that contain lots of beta-carotene that is good for the body. Sweet potatoes are high in vitamin A, vitamin B5, B6, thiamin, niacin, riboflavin, and, due to their orange color, are high in aryteneoids

According to Yang and Gadi (2008,p.1). The resulting purple sweet potato caused by a purple pigment anthocyanin which spreads from the skin to the tuber flesh. Anthocyanin concentration that causes the color purple sweet potato. Purple on sweet potato resulting from anthocyanin pigments contained in the skin of to miss the tubers. The color purple is the one that produces beta-carotene which is good for maintaining a healthy body.

Sweet potato or yam or "sweet potato" allegedly comes from the Americas. Experts estimate the botanical and agricultural region of origin is the sweet potato crop, New Zealand, Polynesia, and America central part.

According to Rubatzky, (1998). Sweet is an annual plant with stems dikotiledon spread long and heart-shaped leaves up to round petiole erect and usually looks like a bush. Sweet potato plant has the ability to produce high, even on the ground that infertile.

2.4.2 How they are farmed and processed

According to Suprapti (2003), sweet potato crop has characteristics , The first structure of the main body composed of stems, leaves, flowers, fruits, seeds, and tubers. The second stem of plants are round, not woody, and jointed. The third type vertical growth and propagate or spread. The last length of the rod upright type: 1 m - 2 m, whereas the type of vines: 2 m 3m. To know about the sweet potatoes plants we can notice some traits of potatoes tubers such as creeping stems, leaves, flowers, and certainly we see from bulbs purple sweet potatoes.

According to Budiono (2000 p.5) Sweet potato plants can be reproduced by seed generative and vegetative form of stem cuttings or shoot cuttings. Generative plant propagation only done on the scale of research to produce new varieties.

Sweet potato plant propagation techniques are often practiced is by stem cuttings or shoot cuttings. Growth and optimal production of sweet potato farming achieved in the dry season, On dry land cropping a good time to plant sweet potato is during the rainy season. Almost every type of agricultural land suitable for the cultivation of sweet potatoes. The best ground is argillaceous sands, crumbly.

2.4.3 What is the nutrition of sweet potato?

Sweet potatoes are high in vitamin A, vitamin B5, B6, thiamin, niacin, riboflavin, and, due to their orange color, are high in carotenoids.

according to the U.S. Food and Drug Administration. Vitamin A is an antioxidant powerhouse, and is linked to anti-aging benefits, cancer prevention and the maintenance of good eyesight, according to the National Institutes of Health. Sweet potatoes are a great source of B6 vitamins, which are brilliant at breaking down homocysteine, a substance that contributes to the hardening of blood vessels and arteries. According to the Harvard University School of Public Health, Sweet potatoes' potassium content is also helpful for your heart, as it lowers blood pressure by maintaining fluid balance, as explained by the American Heart Association. Potassium is also an important electrolyte that helps regulate heartbeat.

2.5 Sweet Potatoes as a Basic Ingredient

According to Rahayu (2012 p.1) sweet potatoes it can be combined in making bread or doughnuts because of sweet potatoes has contain carbohydrates and beta-carotene. In making donuts we can variety ingredients that have good potential as sweet potato that can be combined with doughnuts. Carbohydrate in sweet potatoes can be change the flour as basic ingredients in doughnuts.