

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Lactose intolerance and nut allergies affect a significant portion of the population, making dairy products like cheese challenging to consume for many individuals. With growing awareness of health and environmental benefits, there is a growing demand for plant-based alternatives to dairy products such as cheese. Increasing awareness of food allergies and dietary preferences has led to a growing demand for allergen-friendly foods. This product excludes nuts and nut-based ingredients, catering to individuals with nut allergies or those who prefer to avoid nuts for dietary reasons. It caters to people who follow a vegan diet, which excludes all animal products. These include vegetarians who avoid dairy products and people with lactose intolerance who cannot consume dairy products.

This product is a plant-based alternative to dairy cheese that is made primarily from rice milk with a variety of ingredients to mimic the taste and texture of the original cheese. Rice milk is typically enriched with vitamins and minerals such as vitamin D, vitamin B12, and calcium to provide nutrients often found in dairy milk (Ramsing et al,2023). It is generally lower in fat compared to cow's milk and contains no cholesterol, which can contribute to heart health. Due to its plant-based nature, rice milk is also cholesterol-free and contains no saturated fats, making it a heart-healthy option (Vanga et al,2018).

The aim of using rice milk is to offer a flexible, plant-based substitute for conventional dairy milk, serving those with lactose intolerance, dairy allergies, or following a vegan diet (Adamczyk et al, 2022). Created from milled rice and water, rice milk provides a mild, slightly sweet taste and a creamy consistency suitable for a range of culinary uses, including drinks, cereals, cooking, and baking. It is designed to meet the needs of individuals avoiding animal products or sensitive to dairy, while also offering a low-fat, neutral-flavored option that

complements various foods and recipes. By including rice milk in their diets, individuals can benefit from a nutritious and versatile alternative that aligns with their dietary preferences and restrictions.

Additionally, to meet the rising demand for vegan alternatives across various food categories, including cheese. This product uses quinoa and nutritional yeast to highlight its nutritional benefits. Quinoa is a complete source of protein and is rich in essential amino acids, vitamins, minerals, and fiber. When incorporated into vegan cheese, its nutritional profile is improved, making it a viable alternative for those looking to increase their plant-based protein intake and overall nutritional diversity (Angeli et al, 2020). These minerals play critical roles in various physiological processes, including energy metabolism, bone health, immune function, and enzyme activity.

Quinoa's gluten-free status further enhances its appeal, catering to individuals with celiac disease or gluten intolerance (Mcintosh et al, 2011). Nutritional yeast retains a wealth of nutrients, including complete proteins and a range of B vitamins. Beyond vitamins, nutritional yeast contains antioxidants like glutathione and selenium, which combat oxidative stress and inflammation, supporting overall health and longevity (Suaréz et al, 2023). Together, quinoa and nutritional yeast offer a synergistic blend of essential nutrients, protein, fiber, and antioxidants, making them invaluable components of a balanced and healthy diet.

The aspiration to create vegan, nut-free rice milk cheese is driven by the goal of providing a plant-based alternative that mimics the taste and texture of traditional cheese. By utilizing rice milk as the main ingredient, this innovation not only meets the growing demand for vegan and allergen-friendly foods but also supports sustainability efforts by reducing reliance on animal-based products.

1.2 Objective of the Studies

The objectives of this study are the following:

1. To evaluate the efficiency of rice milk as a medium in producing vegan cheese.
2. To determine the acceptability of vegetarian cheese made from rice milk.