

# Plant-based Beverages: Eco-friendly Manufacturing Techniques

Carolina Vieira\*

Department of Wine, Food and Molecular Biosciences, Faculty of Agriculture and Life Sciences, Lincoln University, New Zealand

## INTRODUCTION

Plant-based beverages are the most common substitutes for cow's milk and for people who have dietary restrictions, either for health reasons or because they prefer plant foods. Soymilk has been the most popular milk substitute; however, production of milk substitutes from other plant sources such as rice, almonds, nuts, grains, and seeds is expected to increase in the coming years. Because of the increasing popularity of these products, their global market share has increased and developed [1]. However, using these plant sources to make milk substitutes has several drawbacks.

Some ecofriendly technologies like ultrasound, ultra-high-pressure homogenization, enzymatic processes, and fermentation; and they applied to the traditional processing of plant-based beverages. Such technologies are being evaluated for their potential to increase efficiency while also improving the nutritional, sensory, and functional properties of beverages.

Dairy milk has long been regarded as a foundation for a healthy diet, from supplementing cold cereal and coffee to school lunch programs [2-4]. Milk has long been recognized as a high-quality source of protein and calcium, and more recently as a source of high-quality fat, according to federal nutrition policy and dairy industry promotions.

The substitution of plant-based alternative beverages made from soybeans, almonds, and other nut and grain crops has contributed to some of the decline in beverage milk consumption.

There was a recent high consumption of cow's milk substitutes, specifically plant-based beverages dubbed "plant milks." Because plant-based beverages lack a standardized identity, their nutritional composition can differ from one brand to the next, even within the same category [5].

Plant-based beverages, including soy-based beverages, are not an alternative for or substitute for breast milk. Soy beverages are considered safe and can supplement consumers' varied diets as long as they are considered an additional liquid portion of the diet. They can be consumed by adults and children over the age of two who have a cow's milk protein allergy or lactose intolerance [6].

Plant-based beverages and products have been consumed all over the world since the beginning of civilization, beginning as small-scale productions for the individual, immediate family, or small local community. Plant-based beverage consumption has increased globally over the last 20 years, with soy drinks being the most popular in North America, followed by Latin America, Europe, and Asia.

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\*Correspondence to: Carolina Vieira, Department of Wine, Food and Molecular Biosciences, Faculty of Agriculture and Life Sciences, Lincoln University, New Zealand, E-mail: bender.jocher@lincoln.ac.nz

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