

TAL 797 – Seminário

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ENZYMES EXTRACTED FROM PLANT MATERIAL APPLIED IN DAIRY PRODUCTS

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Enzymes are biological catalysts used to facilitate and accelerate metabolic reaction. The use of enzymes in the manufacture of dairy products is a practice that has been used for many years, and their use is considered promising as alternative coagulants. In particular, enzymes are employed to target the κ -casein fraction in milk, with the aim of increasing cheese yield and reducing protein losses during coagulation. With the evolution of technology, many types of cheeses obtained through coagulation using plant enzymes have been the subject of studies. This is driven by the desire to cater to specific dietary requirements, such as those of vegetarians and individuals with religious restrictions (such as Islam and Judaism), who prefer enzymes from plant sources. There are several types of vegetable coagulants that have been studied and utilized for dairy product manufacturing. Some examples include microbial enzymes, plant-derived enzymes and vegetable juices or extracts. However, the use of plant proteases has been associated with certain challenges, including their high proteolytic and non-specific activity on the casein network, which can adversely affect the final quality of the product. As a result, numerous studies have been conducted to develop extraction methodologies and identify new sources for obtaining proteolytic enzymes from plants. These studies encompass various aspects, such as optimizing enzyme yield, quantifying the coagulant reaction in milk, and conducting sensory analyses of the final product manufactured using vegetable enzymes. The main goal is to ensure that the quality and sensory attributes of the cheese produced using plant-derived enzymes are comparable to those made with traditional enzyme sources. In conclusion, vegetable enzymes offer a natural and plant-based alternative to animal-derived coagulants in the production of dairy products. Their coagulation properties can provide viable options for manufacturers and consumers seeking plant-based alternatives in the food production process.

Keywords: plant enzymes, proteolytic enzymes, coagulation of milk

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