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Research on the Influence of Horseradish Addition on the Properties of Cream Cheese

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Abstract: Cream cheese is one of the most commonly used dairy products, characterized by a soft, smooth texture, a slightly tangy flavor, and a pleasant taste, enhanced by added spices. Horseradish is used as a food additive due to its pungent aroma and has antibacterial properties. The purpose was based on a comparative analysis of three varieties: simple cow's milk cream cheese (SCC), cream cheese with horseradish (SCH) made at home, and commercial cream cheese with horseradish (CCC). Sensory, physicochemical, and microbiological analyses were performed. The results showed that CCC was the most appreciated due to the added ingredients that balanced the taste and texture, distinguishing it from the other samples analyzed.

• Introduction

Dairy products are a good source of proteins, minerals, vitamins, and fatty acids for humans [Yu et al., 2022]. Horseradish can be used as a spice, a natural preservative, and a medicinal plant [Padulosi et al., 2013].

• Material and method

The analyzed samples were:



Simple cream cheese (SCC)



Cream cheese with added horseradish (SCH)



Commercial cream cheese with added horseradish (CCC)

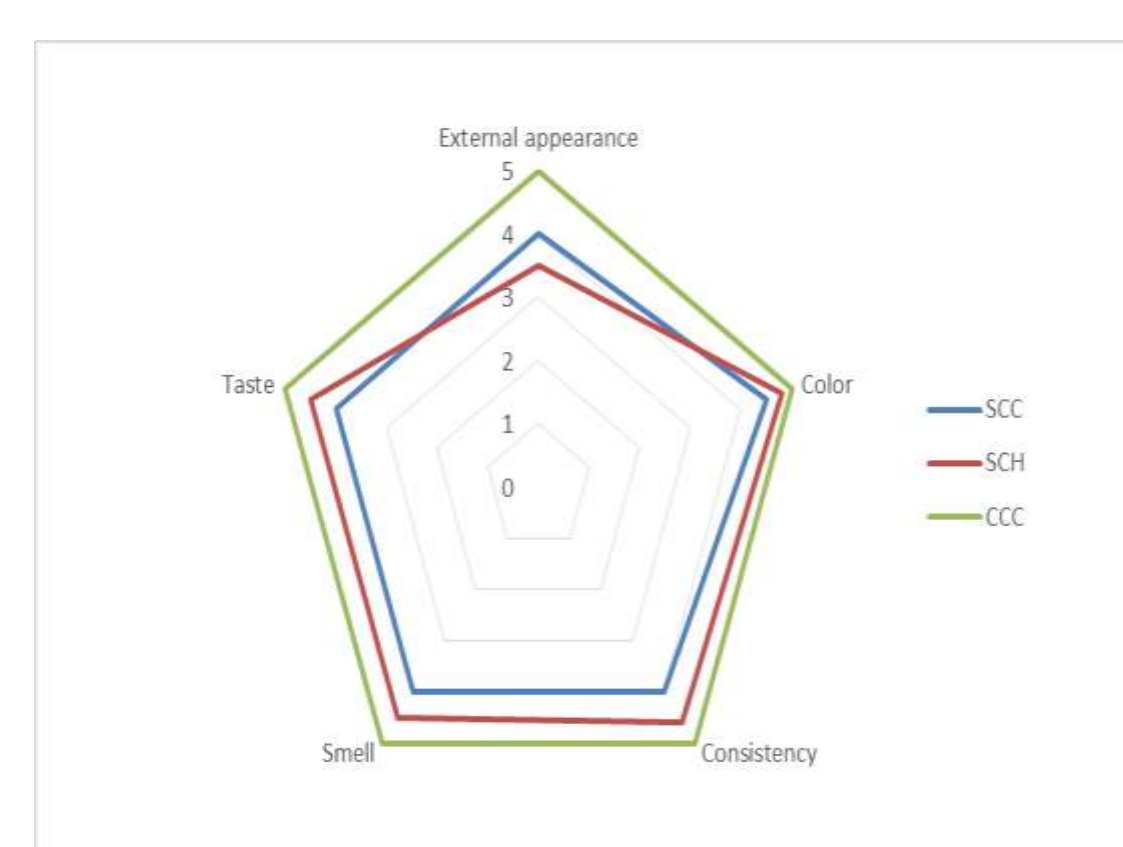
The working methods were based on sensory analysis, physicochemical analysis (dry matter content, acidity), and microbiological analysis (total germ count, yeasts, molds, coagulase-positive staphylococci count, and the number of β -glucuronidase-positive *Escherichia coli* colony-forming units).

Bibliography

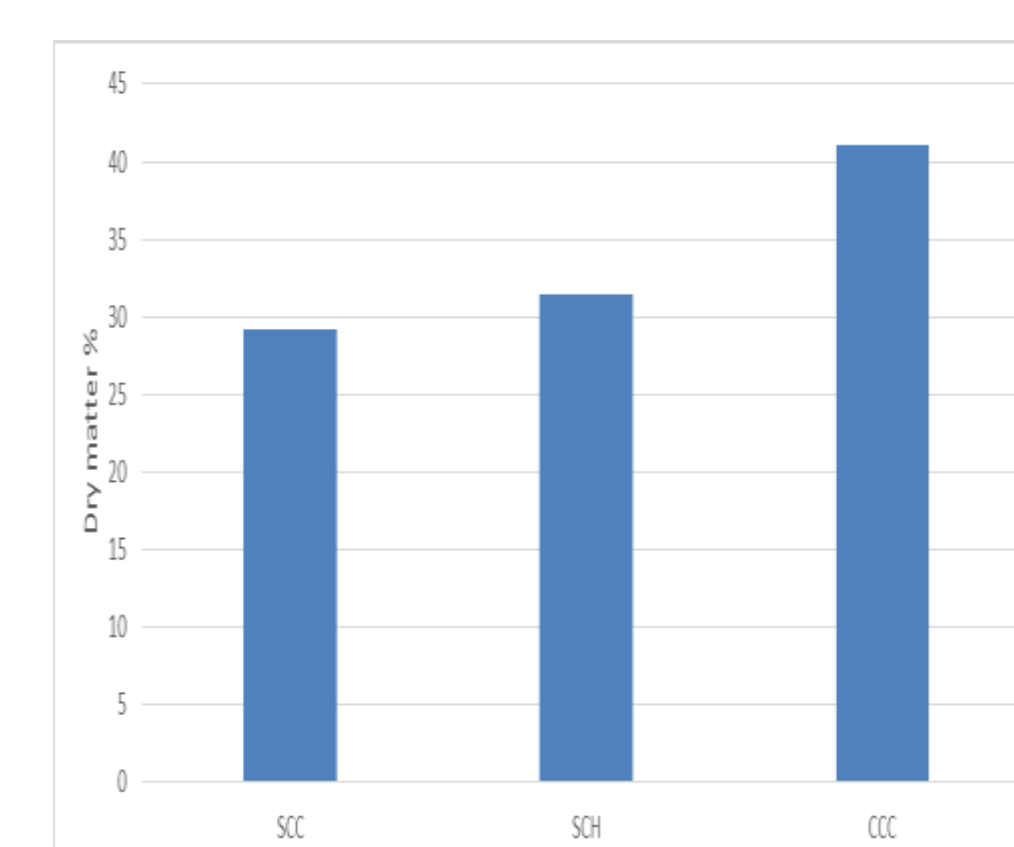
Padulosi, S.; Thompson, J.; Rudebjer, P., 2013, Combating poverty, hunger and malnutrition with neglected and underutilized species (NUS): Needs, challenges and the way forward.. *Bioversity Int*.

Yu, J. , Hu, W. , Wu, D. , Ding, Y. , Wang, X. , & Liu, P. 2022. Determination of aspartame and alitame in liquid dairy products and milk-containing beverages in the Chinese market. *Italian Journal of Food Science*, 34(3), 91–98.

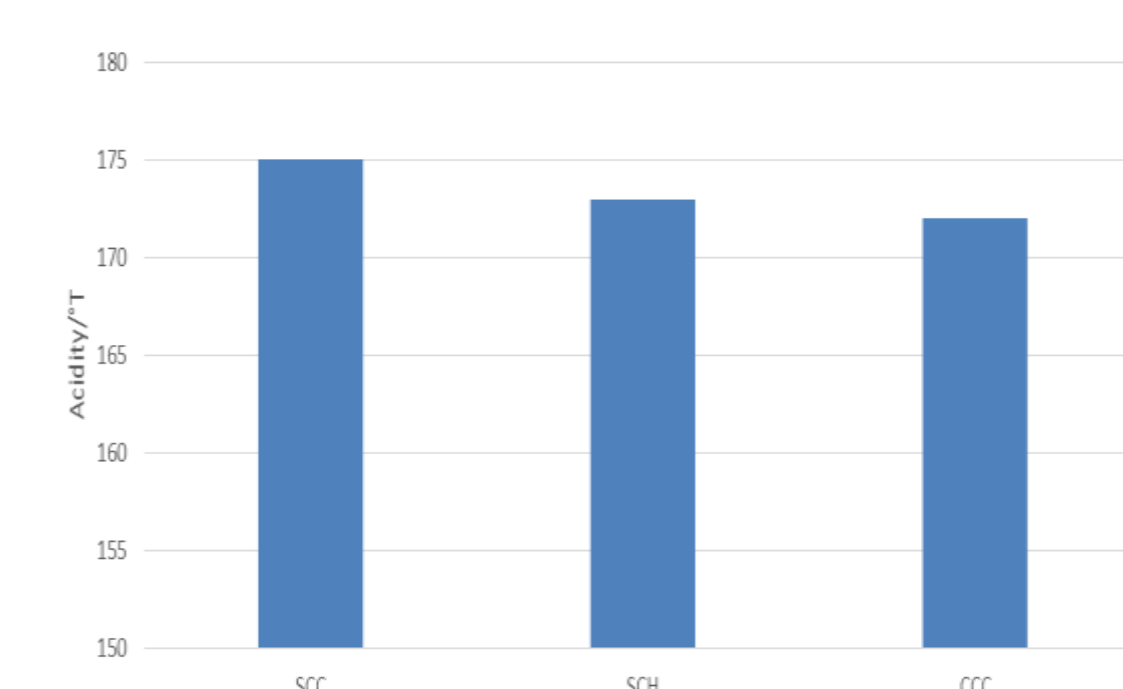
• Results and discussions



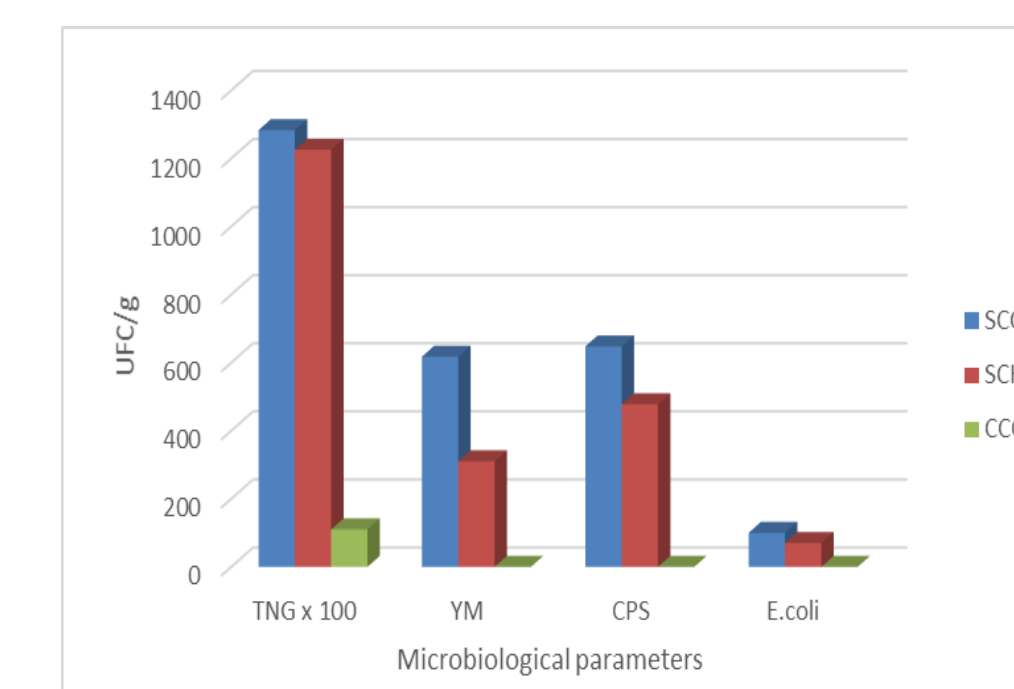
Organoleptic analysis



Dry matter



The acidity



Microbiological analysis

• Conclusions

Organoleptic testing showed that CCC was the most appreciated in terms of color, consistency, smell, and taste. SCC had dry matter values of 29.17%, while CCC reached 41.05% due to processing. Acidity was reduced by 2-3 °T in the samples with added horseradish compared to SCC. Microbiological contamination was more evident in the samples prepared at home compared to the sample purchased commercially.