ECONOMIC AND TECHNOLOGICAL EVALUATION OF THE PRODUCTION OF PROCESSED CHEESES WITHOUT ADDED FAT AND REDUCED SODIUM LEVEL

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Requeijão cremoso is a very popular Brazilian spreadable processed cheese. Considering the ever-increasing demand for healthier products, three formulations of requeijão were developed, one without addition of fat (SR) and two without addition of fat and with lowered levels of sodium (R1 and R2). The SR formulation was made with 1.8% NaCl and 1.8% traditional sodium phosphate-based emulsifying salt (JOHA-S9), and used as standard requeijão. The formulations R1 and R2 were developed and optimized to allow a reduction of at least 25% in the sodium content of the SR. This reduction was achieved by partially (40%) substituting sodium chloride with potassium chloride and by replacing part of the JOHA-S9 by other emulsifying salts containing less sodium. The blends of emulsifying salts were 1.2% JOHA-S9 and 0.8% JOHA-B9 (R1) and 1% JOHA-S9 and 1.2% JOHA-SK75 (R2). The economic indicators – Net Present Value (NPV) and Internal Rate of Return (IRR) – were applied to analyse the feasibility of three dairy plants projected to process 5,000 liters/day of milk and to produce around 850 kg of each formulation of requeijão. Considering the results obtained for IRR (33.28%) and for NPV (R$2,293,368.20), the formulation R1 was evaluated the most profitable formula when compared to R2 and SR. Furthermore, all cheeses contained 73-75% moisture and 3.3-3.4% fat in dry matter. They also may be considered microbiologically stable and safe, mainly due to the absence of psychrotrophic anaerobic sporeforming bacteria and low counts of yeasts and moulds.