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Glycomacropeptide extraction

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Glycomacropeptide (GMP) preparation was used on defatted cow's milk to produce curds for developing new cheese products. In this study we started out with one gallon of skim milk as a test procedure. In each trial we initiated all the initial protocol. Initially we checked the pH to verify that it was between 6.2-6.8. We then added gradually N HCl and mixing well to bring the pH down to between 4.59-4.6. After obtaining the appropriate pH the milk was left standing, allowed to precipitate and cooked to about 50°C. The casein was separated from the whey by filtering the whey through several layers of cheese cloth. The casein was then washed three times with 1 N HCl to completely remove all of the whey from the casein. The casein was then dissolved into a solution of sodium citrate and a solution of calcium chloride. The pH was checked after this procedure. If it was not between 6.7-6.8 2 N NaOH was added gradually and mixed well until it reached this level. The casein was then homogenized. After homogenization the casein was allowed to equilibrate to approximately 37°C. Rennet was added to casein solution. The casein was stirred gently and incubated for three hours until it formed a gel. The casein was then filtered and the GMP was obtained and stored at 4°C. The curds were kept for a new product line. Each time we performed the procedure we refined the method in keeping with the guidelines of the protocol. We were able to obtain good quality curd for new products. In this study we were able to develop flavored cheese and a flavored cheese drink. Whey was also obtained which could be used for other products. Additionally, obtained was the GMP which has potential health benefits.

Biography

Annette C Bentley has obtained MS degree in medical education from the University of Medicine and Dentistry of New Jersey in 2003. She has also obtained a MS degree in food science from Louisiana State University in May of 2013. She founded and serves as the President of the American Celiac Society. She has been published in the Journal of General Psychology and the Who sprue (American Celiac Newsletter) the lifeline (CSAUSA newsletter) and the Eucharistic ministry. She has done many presentations at conference throughout the world.

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