

**Use of artichoke waste as a source of coagulant enzymatic extracts as an alternative to animal rennet in the development of cheeses**

<sup>1</sup>Hamma.Faradji Samia, <sup>1</sup>Bendjeddou K. , <sup>1</sup>Ait Meddour A., <sup>1</sup>Zidi G., <sup>1</sup>MohallebietN. <sup>1</sup>Benfattoum S  
<sup>1</sup>Laboratory of Applied Microbiology, Department of Microbiology, Faculty of Natural and Life Sciences, University of Bejaia, Bejaia

**ABSTRACT:**

The gradual decline in availability of rennet excretion of calf rennet destined for the cheese industry, and the increase in protein requirements in the diet have led to a strong demand for cheese products (ROTONEL et, EQUI, 1972). . This situation has led many researchers to take an interest in new sources of coagulating enzymes, in particular plant enzymes (BARBOSA et al., 1976). In this study, the coagulant activity of the enzymatic extract of the artichoke, a rennet substitute, was highlighted by the development of a traditional cheese. Enzymatic extraction by maceration (NOUANI et al., 2009) from artichoke waste (hay and stems) was performed. In order to study the coagulating activity of artichoke stems and hays, several concentrations of Enzymatic extracts were tested taking into consideration the clotting time. The effect of temperature (0 ° C., 50 ° , 60 ° C. and 100 ° C.) as well as the drying mode on the coagulant power was studied for the active enzymatic fraction. The latter has been used for the development of a traditional cheese. The yield of the latter has been measured. A follow-up of the physicochemical and microbiological quality was carried out during storage at 6 ° C. for 20 days. At the end of the preservation, a sensory analysis was carried out. Analysis of milk for cheese production showed good hygienic quality with absence of staphylococci. During the transformation of raw milk into cheese by enzymatic coagulation under the action of the enzymatic extract of the artichoke, a homogeneous, firm, thick gel characterized by greater flexibility, elasticity, firmness and friability. accentuated than those of rennet gel was obtained. A higher yield (150g / liter of milk) was obtained using the enzyme extract of artichoke, a reduction of the coagulant power was observed after freezing and after a natural drying at room temperature. Indeed, a yield less important is obtained. However, a heat treatment of 15 min at 60 ° C. has no effect on the coagulating power of the enzymatic extract of the artichoke. Microbiologically, artisanal cheese has a high lactic flora load (108 CFU / ml) with no staphylococci, faecal coliforms and salmonella. Regarding the results of the physicochemical analysis, they testify to the good nutritional quality of the cheese. The hedonic analysis shows that the cheese produced is of the same quality as the industrial cheese with rennet technology.

**Biography:**

since my recruitment at the university of Bejaia, as a teacher I am active as a researcher in the field of probiotics ,bioactive substances, in the laboratory applied microbiology where I have been part of several research projects and scientific activities. functional foods,.. I am a lecturer since 2017. I currently supervise 3 doctoral students. I'm recently a research team leader called "bioconservation and functional foods".

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5. Erratum: Preparation of a silica-supported peroxycarboxylic acid and its use in the epoxidation of alkenes (Chemical Communications (1998),

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