

The investigation of antimicrobial effect of *Thymus vulgaris* on ice-cream

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Background and Aims: *Thymus vulgaris* is a species of Lamiaceae family and it is found as a domestic plant. It contains some antimicrobial material. The most important materials in it are Thymol and carvacrol. According to its destructive effect of chemical materials, it is replaced by natural components like herbaceous extraction. Ice-cream is a milk based product. Polluting this product by pathogen microorganisms causes food poisoning and also it causes social – economical damages to the people's health. In this project, we studied about the antimicrobial effect of *thymus vulgaris* on ice-cream.

Methods: the sample after drying the plant in shade extracted by distillation with water and using Clevenger system. The analysis of antimicrobial effect of extraction by adding 5%, 10%, 20 % of it to the ice-cream before freezing was done and then compared the microbe growth with the sample. Test & analyses for coliforms count & detection of presence of *Escherichia coli*, *Salmonella* and *Staphylococcus aureus* were done in order to determine if the samples conformed to the national Iranian standard no: 2406 : milk & dairy product -microbiological specifications all microbiological tests was carried out base of national Iranian standards.

Results: the extraction of *thymus vulgaris* has antimicrobial effect on bacterial growth in ice-cream. It has different effect according to the kind of Bacteria and amount of extraction. 20% density in contrast to other densities has the most effect on bacterial species.

Conclusions: As regards Antimicrobial effect this extraction of *Thymus vulgaris*, it can be used as a flavoring and antibacterial substance in ice-cream and it also needs more researches.

Keywords: *Thymus vulgaris*; Extraction; Antimicrobial; Ice-cream