كلية الزراعة
قسم الميكروبيولوجيا الزراعية

جامعة الفيوم

Abbas, H. M., Mohamed, A.G., **Seoudi, O. A.** and Zaky, W. M., **(2017)**. Assessment of Antimicrobial Activity of Myrrh Gum Extract to Merge in Soft Cheese. Int. J. Dairy Sci., 12 (5): 325-330.	البحث اللخامس
فردى مشترك مع آخرين من خارج التخصص– منشور	5

Title	**Assessment of Antimicrobial Activity of Myrrh Gum Extract to Merge in Soft Cheese.**
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ABSTRACT

Urgent need for effective and natural preservative materials is still recommended. The target of the present study was to evaluate the myrrh gum extract (MGE) as a natural antimicrobial agent, and then used it in preserving the soft cheese samples.

Materials and Methods: Myrrh (*Commiphora myrrha*) gum crystals were water-extracted (1:10 w/v) and exposed to ultra sonic-ray. Seven strains of bacteria and three strains of mold as well as two strains of yeast were used in this study to evaluate the antimicrobial effect of MGE. In another section, traditional soft cheese samples were prepared using different concentrations of MGE. Three treatments were prepared compared to control one. The first treatment (T1) was prepared using 5mL MGE/1 L cheese milk. The second and third treatments (T2 & T3) were conducted using 10 and 15 mL/1L cheese milk, respectively. All cheese samples were stored at refrigerator (7^0C) for three months and were analyzed for their chemical composition. Sensorial evaluation and textural assay were also conducted.

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ABSTRACT

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تابع البحث الخامس...

Assessment of Antimicrobial Activity of Myrrh Gum Extract to Merge in Soft Cheese.

Results: Data revealed that MGE considered an effective and natural antimicrobial agent. Majority of tested microorganisms were susceptible to the action of MGE. *Sallmonella typhimurium* strain was the most resistant bacteria while *Escherichia coli* was the most sensitive and the most sensitive yeast was *Saccharomyces cerevisiae*. No clear differences between control and treated cheese samples were noticed in the chemical composition or texture properties. However, sensorial evaluation indicated that using of MGE gave a clean and slight acid taste and acceptable properties. It did not cause any gumminess in the body or any bitterness in the taste. **Conclusion:** Myrrh extract could be used in preparing soft cheese samples and preserve them to 90 days without any critical changes in chemical or textural and sensorial properties. It could protect cheese samples from hazardous contaminant pathogenic strains. So it considered as effective, natural, safe and cheap antimicrobial agent. It is recommended to use it in food sector and other dairy products.