

## عنوان مقاله:

Antimicrobial effects and determination of minimum inhibitory concentration(MIC) and minimum bactericidal concentration (MBC) methods of essential oil of *Allium hoshidari* against Food-borne pathogenic bacteria

## محل انتشار:

دومین کنگره بین المللی و بیست و پنجمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

Looshe is a vegetable with bulb and green leaf and growth in mountain area of Kurdistan. For the first time this vegetable, patented by Mrs Hushidari. Also the scientific name of this vegetable by honor Mrs. Hushidari recognized as *Allium Hushidari*. In this study effect *Allium Hushidari* s essence on the Foodborne pathogenic bacteria in invitro evaluated. This is an experimental study. The aerial parts and gland of the *Allium hoshidari* were harvested when it was in the full blooming stage of the plant. The essence oil of the aerial parts was extracted by hydro-distillation technique using Clevenger apparatus. Five bacterial ATCC strains including *Escherichia coli* ATCC25922, *Shigella sonnei* ATCC25931, *Salmonella Enteritidis* ATTC13076, *Staphylococcus aureus* ATCC29213, *Bacillus cereus* ATCC14759 , and Four Foodborne pathogenic bacteria including *Escherichia coli* , *Salmonella spp* , *Bacillus cereus*, *Staphylococcus aureus* (isolated from traditional dairy product and Poultry farm in our division previously) used in this study . Antibacterial properties were determined by using Agar well diffusion method , Disc diffusion method , MIC and MBC methods. The collected data were analyzed by the SPSS version 11.5 software, using the independent t-test . Results showed significant activity against all pathogens (*Salmonella* , *Shigella* , *Escherichia coli* , *Staphylococcus aureus*, *Bacillus cereus* respectively). Antimicrobial effects of the aerial parts are better than of gland . The essence oil of *Allium hoshidari* showed the maximum antibacterial effect on *Salmonella spp* and the minimum effect on *Bacillus cereus*. The essence oil content of aerial parts and glands was 0.3% - 0.05 % (w/w) based on dry weight respectively. This study is the First experimental study about Antimicrobial activity of *Allium hoshidari* against Foodborne pathogenic bacteria. Results of this study revealed that the essential oil of *Allium hoshidari* can be considered as an antibacterial agent in drug and food industries but more studies (Chemical Composition) are necessary.

## کلمات کلیدی:

Antimicrobial activity , Foodborne pathogenic bacteria, *Allium hoshidari* , MIC, MBC

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