



University of Zabol
Graduate school
Faculty of Agriculture
Department of Plant Protection

The Thesis Submitted for M.Sc. Degree in Science and food industry

**Comparision of quantitative, qualitative and
antibacterial properties in various parts of Saffron
(*Sativus crocus*) flowers**

Supervisors

Dr. M.A. Najafi

Advisor

Dr. A. Ahmadian

By

F. Jahanzade

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Abstract

Saffron is a valuable and strategic product. At present, Iran accounts for more than 90% of global saffron production and is the largest producer and exporter of saffron in the world. In this study, quantitative and qualitative characteristics, as well as antibacterial properties of different parts of saffron flowers, including stigma, flag, petals and stem (four levels), obtained from different areas of Birjand, Ghaen, Gonabad, Zaveh, Torbat Heydariyeh and Farouj (Six levels) were evaluated. In the laboratory, flag, stigma, petal and stem parts are separated from each other and tests to measure total phenolic compounds, flavonoids, staining, total carotenoids and antioxidant properties by three methods DPPH, ABTS and FRAP as well as antimicrobial activity, were tested against four bacteria: *Salmonella enterica* (PTCC1709), *Escherichia coli* (PTCC10708), *Staphylococcus aureus* (PTCC1189) and *Bacillus cereus* (ATCC 1015). The result obtained by factorial experiments using completely randomized design (CRD) as well as analysis and comparison of the mean of physicochemical and microbial data by Duncan and Tukey multiple-range test with three replications by SAS software (version 1 / 9) was done at the level of five percent.