



University of Zabol
Graduate Education
Faculty of Agriculture
Department of Food Science and Technology
The Thesis Submitted for the Degree of Master of Science
(In the field of Food Industry)

**Evaluation of the effect of xanthan gum and basil seed
gum on the quality characteristics of local Sistan date
cookie**

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October ۲۰۲۳

Abstract

Sistan date cookie is one of the traditional sweets of Sistan and Baluchistan province and a local sweet of Zabol city. This product is usually prepared traditionally and has a short shelf life and improper texture. The aim of this research was to investigate the effect of xanthan gum at 4 levels (0, 0.1, 0.3 and 0.5% based on flour) and basil seed gum at 4 levels (0, 0.1, 0.3 and 0.5% based on flour) on improving the quantitative and qualitative characteristics of traditional date cookie. Samples were evaluated for Dough water holding capacity, moisture, sensory properties (color, aroma and taste, texture, and overall acceptability), color measurement (lightness), porosity, specific volume, and textural properties (hardness, gumness, cohesiveness, resilience). In this study, the results were analyzed using factorial experiment in a completely randomized block design. Significant differences between the means and their rankings were determined using Duncan's test at a 5% probability level with three replications. Statistical analysis was performed using SAS software version 9.4. According to the results of the test, the moisture content of all samples was higher than the control. Also, the comparison of the means showed that the cookie dough samples in this experiment had a higher water holding capacity than the control. The lowest hardness was observed at the level of 0.1% xanthan. The highest value of resilience of cookies was related to the sample containing 0.5% basil seed gum. Regarding the results of sensory analysis, the highest score of cookies texture belonged to group 3 containing 0.3% of basil. Also, the results of analysis of variance showed that the use of different percentages of xanthan gum and basil seed gum was not significant on the appearance of cookies. Increasing the amount of gum increased the lightness of the crust and core of cookies. In general, it can be concluded that low levels of gum (0.1%) can improve cookie properties.

Keywords: Traditional sweets, Textural characteristics, Sensory evaluation, Brightness, Lightness