

EFFECT OF SOME DRYING METHODS ON THE QUALITY OF BASIL PLANT (*Ocimum basilicum*, L.)

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ABSTRACT

The present study was carried out in the summer season (2005) to investigate the effect of some drying methods on the quality of basil plant (*Ocimum basilicum* L.). The sun drying (50°C), shade drying (35°C) and oven drying (40°C). The physico chemical properties of the plant were determined. The results showed that the higher value of volatile oil percentage, methyl chavicol compound and chlorophyll content were noticed by shade drying method, meaning that shade drying method was the best treatment to keep the quality of basil plant as high as possible. On the other hand, sun drying method was the lowest one since it caused a decrease in the plant quality i.e the essential oil content, chemical composition in linalool, methyl chavicol and other main components beside a decrease in its chlorophyll content. Oven drying was a moderate treatment to keep the plant quality. As for microbial load (ML), the three treatments showed insignificant effect and was within the range reported by Egyptian specification standard on dried basil.

INTRODUCTION

Ocimum basilicum, L. (sweet basil) is an annual herb of Labiateae family. The plant is widely used in food and oral care products (Sajjadi, S.E. 2006). The leaves and flowering tops of sweet basil are used as carminative, galactogogue, stomatic and antispasmodic medicinal plant in folk medicine (Duke, 1989). The essential oil of basil (*Ocimum basilicum*, L.) has been used extensively in food products, perfumery and dental products. Essential oil basil and their principal constituents were found to exhibit antimicrobial activity against a wide range of gram-negative and gram-positive bacteria, yeast and mold (Suppakul et al., 2003), also, (Chiang et al., 2005) reported that this plant has been used as antiviral.

The chemical composition of basil oil was investigated by Maroti et al., (1996). Chalchat et al., (1999) and Gange et al., (2001). However methyl chavicol, linalool, methyl cinamate, methyl eugenol, eugenol and geraniol are reported as major components of the oils of different chemotypes of *O. basilicum*.

Volatile aroma compounds are the most sensitive components in the process of food drying, the effect of drying process on the composition of volatile flavor constituents of various aromatic plants has been the subject of numerous studies, which show that the change in the concentrations of the volatile compounds during drying depend on several factors, such as the drying method and parameters that are characteristic of the product subjected to drying, the main preservation process for spices, can be carried out conventionally by air drying (with or without heat). It is obvious that the