

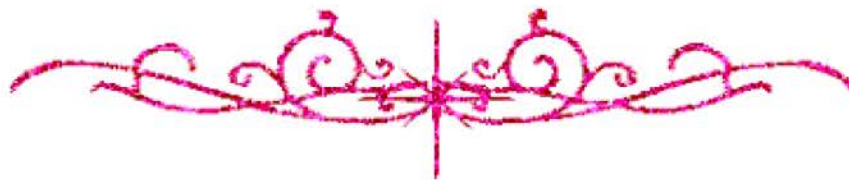
بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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بالرسالة صفحات

لم ترد بالأصل



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B1090Y

FACTORS AFFECTING QUALITY OF PRESERVED PICKLES

By

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**B.Sc. (Food Science and Technology), Faculty of Agriculture,
Ain Shams University, 1982**

**A thesis submitted in Partial Fulfillment
of
the requirements for the degree of**

MASTER OF SCIENCE

in

Agriculture

(Food Science and Technology)

***Department of Food Science
Faculty of Agriculture
Ain Shams University***

1997

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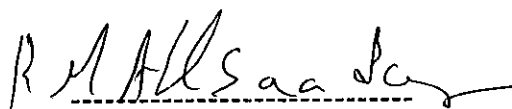
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Approval Sheet
FACTORS AFFECTING QUALITY OF
PRESERVED PICKLES

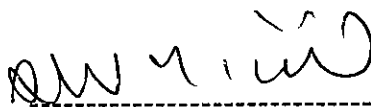
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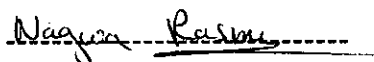
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FACTORS AFFECTING QUALITY OF PRESERVED PICKLES

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Under the supervision of:

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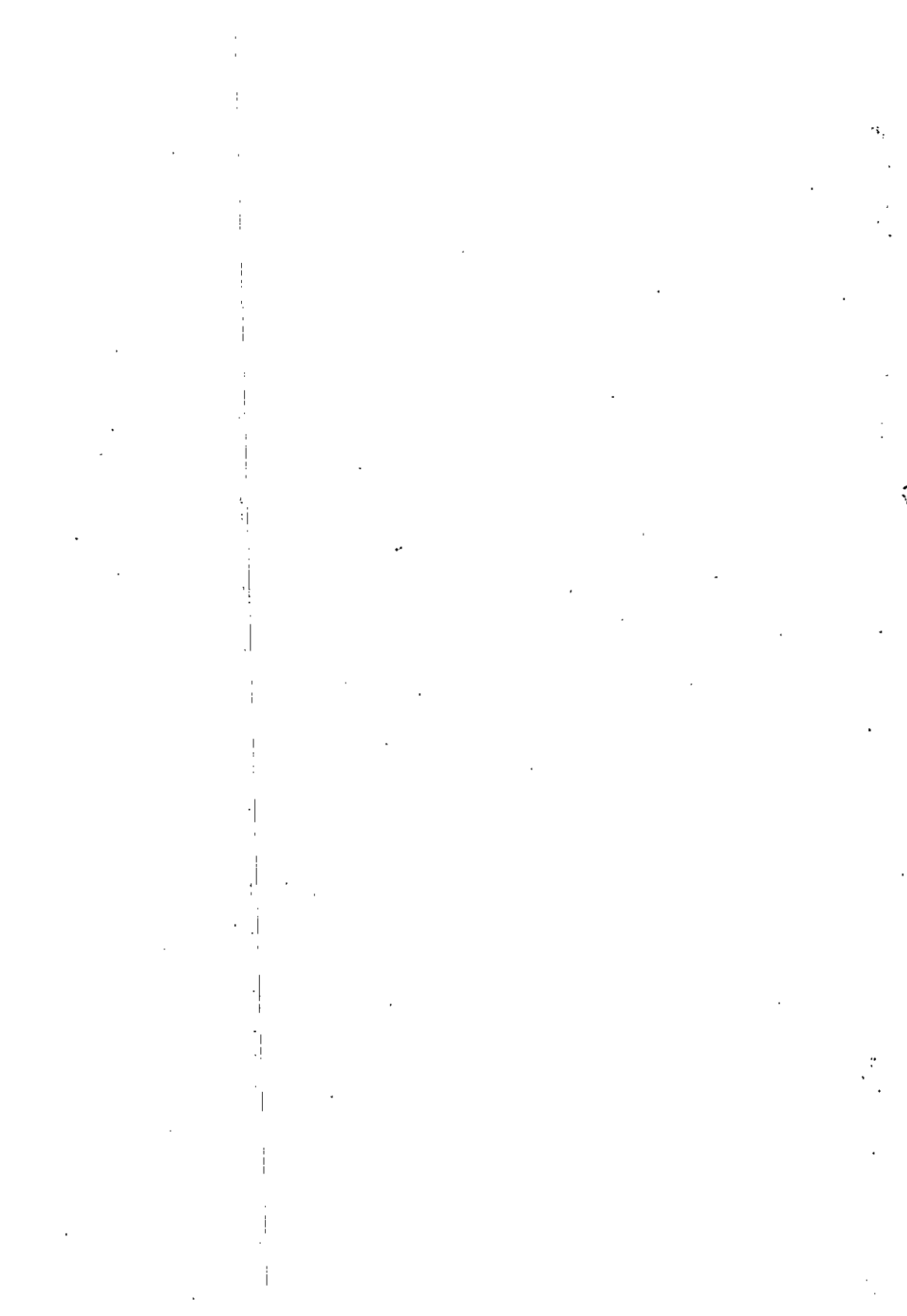
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ABSTRACT

Mohamad El-Amin Mohamed Moussa. Factors affecting quality of Preserved Pickles. Unpublished Master of Science, University of Ain Shams, Faculty of Agriculture, Department of Food Science, 1997.

The problem at hand is dealing with the changes that occur in cucumber pickles during fermentation and storage, where the softening caused many problems for cucumber pickles during long storage period.

From such point of view this study was undertaken to evaluate the effects of calcium chloride concentrations (from 0.1 to 0.3%) on retarding softening of Giza 6 and Giza 9 cucumbers during fermentation and storage in two levels of sodium chloride (5.0% and 10.0%). The effect of blanching for 3 min at 80°C of cucumbers prior to fermentation on improving the quality of the products was also studied. The evaluation parameters during fermentation and storage period were moisture content, pH, titratable acidity, total and reducing sugars, NaCl concentrations, firmness as well as Pectin methyl esterase (PME) and Polygalacturonase (PG) activities.

The obtained data showed that, moisture contents of different treated cucumber pickles were reduced gradually during 72 hr. of fermentation and 6 mon. of storage. Unblanched cucumbers pickles recorded higher titratable acidity than that of

blanched ones at the end of fermentation period. Addition of different levels of CaCl_2 generally reduced the titratable acidity of the fermented products. Total and reducing sugars were decreased gradually during fermentation and completely consumption after 6 mon. of pickles storage. Elevating the levels of NaCl and CaCl_2 in brines undoubtedly raised the NaCl content of different pickles during fermentation and storage. A continuous reduction in cucumber firmness was observed during fermentation and storage of the two varieties. Presence of CaCl_2 in brines generally improved firmness retention and minimized the rate of softening of cucumber pickles.

Blanching of cucumbers for 3 min at 80°C caused a complete inactivation of pectin methyl esterase and polygalacturonase but reactivation occurred during storage. Also, the higher levels of CaCl_2 in brines recorded the lower enzyme activity for either unblanched or blanched pickles.

A sensory testing of cucumber pickles proved that, blanching of cucumber pickled in 5.0% NaCl in the presence of 0.3% CaCl_2 was the best treatments than other treatments under investigation, since it recorded the heighest scores.

Key words: Pickles, cucumber pickles, brining, fermented cucumbers, softening, firmness, calcium chloride, sodium chloride, cucumber quality, pectin methyl esterase, polygalacturonase.

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