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بسم الله الرحمن الرحيم

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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بعض الوثائق الأصلية تالفة

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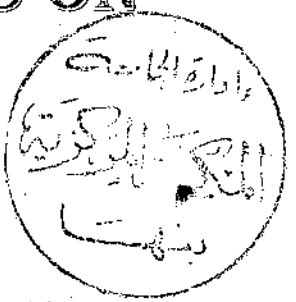
بالرسالة صفحات

لم ترد بالأصل

HOSSAM MAGHRABY

TECHNOLOGICAL STUDIES ON SMOKED CHEESE



By

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B. Sc. Agric. (Food Sci.) 1983

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THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR

THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN

DAIRYING

Food Science Department

Faculty of Agriculture, Moshtohor,

Zagazig University

1994

THIS WORK IS DEDICATED

TO

MY PARENTS, MY WIFE

AND

MY SON "MOHAMED"

Zagazig University, Banha Branch
Faculty of Agriculture at Moshtohor

Approval Sheet

Name of Student : Abd El-Aty Mohamed Abd El-Aty
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Title of Thesis : Technological Studies on Smoked Cheese.

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INTRODUCTION

INTRODUCTION

The consumption of smoke-flavored foods has been increasing in the recent years, especially meat, fish and cheese. Preliminary investigation indicated needs for improving the smoke flavor of the cheese. Consequently, this research was undertaken for that purpose and also to study related factors, such as keeping quality, appearance and acceptance. In the past, smoke flavor of cheese was achieved by contacting the cheese directly with generated smoke. However, direct smoking of cheese had many shortcomings. Chief among those were the lack of flavor and color control due to the great variability in smoke itself and the environmental concern about the vaporous effluent from the smoke house. Smoke houses and smoke generators also require considerable space, attention and maintenance.

Today, natural smoke flavoring is the most widely used in the smoke cheese industry. Natural smoke flavorings have eliminated many of the shortcomings of the traditional method of directly smoking cheese. Natural smoke flavorings provide greater uniformity of flavor and color without the inconvenience of sawdust handling or smoke house cleanup. The emission problems of traditional smoking have also been eliminated since tars, resins and benzo(a)pyrene have been removed or reduced considerably from natural smoke flavorings by aging and filtration. In general, the major chemical components of natural wood smoke can be grouped into four major groups:

1- The acidic compounds which contribute more to the physical characteristics in smoke processing, than to smoke flavor.
2- The phenolic compounds which are the main contributors to the typical "smoke flavor".
3- The carbonyl compounds which contribute some of the "smoothness" to the smoke flavor, but probably their main contribution is to the formation of the "smoky" gold-brown color and shiny appearance.

4- Polycyclic aromatic hydrocarbons (P.A.H.), some of these hydrocarbons may be suspected carcinogens, e.g., benzo(a)pyrene.

The present study was planed to investigate the development and the advances in the technology of smoked-flavored cheese using different methods and materials of smoking. The research has been carried out in three parts:-

Part I: **Survey study on market smoked cheese.**

Part II: **Preparation of smoke solutions from different wood species to be used in cheese smoking.**

This part divided in two sections:

Section "A": The smoke composition prepared from different wood species.

Section "B": Effect of clarification methods and aging time on the properties of smoke solution prepared from Mousky wood.

Part III: **Effect of using different smoking methods on the chemical, microbiological and sensory evaluation of Domiati like cheese.**

This part divided in four sections:

Section "A": Effect of used smoking methods on the chemical composition of cheese during storage at room temperature and refrigerator.

Section "B": Effect of the used smoking methods on the ripening indices of smoked cheese during storage at room temperature and refrigerator.

Section "C": Effect of the used smoking methods on the bacteriological properties of smoked cheese during storage at room temperature and refrigerator.

Section "D": Effect of the used smoking methods on the sensory evaluation and curd-tension of smoked cheese during storage at room temperature and refrigerator.