



شبكة المعلومات الجامعية

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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



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بعض الوثائق الأصلية تالفة



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بالرسالة صفحات

لم ترد بالأصل

The Effect of Smoking Processing on the Quality Characteristics of the Herring and Bayad Fish

By

Fatma Abd El-Moneim Ibrahim Arafa

B.Sc. Agric. Sci., Food Technology, Ain Shams Univ., 1977

M.Sc. Agric. Sci., Food Technology, Cairo Univ., 1994

Thesis

**Submitted in Partial fulfillment of the
Requirements for the Degree of
Ph. D in Agricultural Science
(Food Technology)**

Cairo University

2005

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Thesis

Submitted for Degree of

Ph. D.

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Approval sheet

The effect of smoking processing on the quality characteristics of the herring and bayad fish

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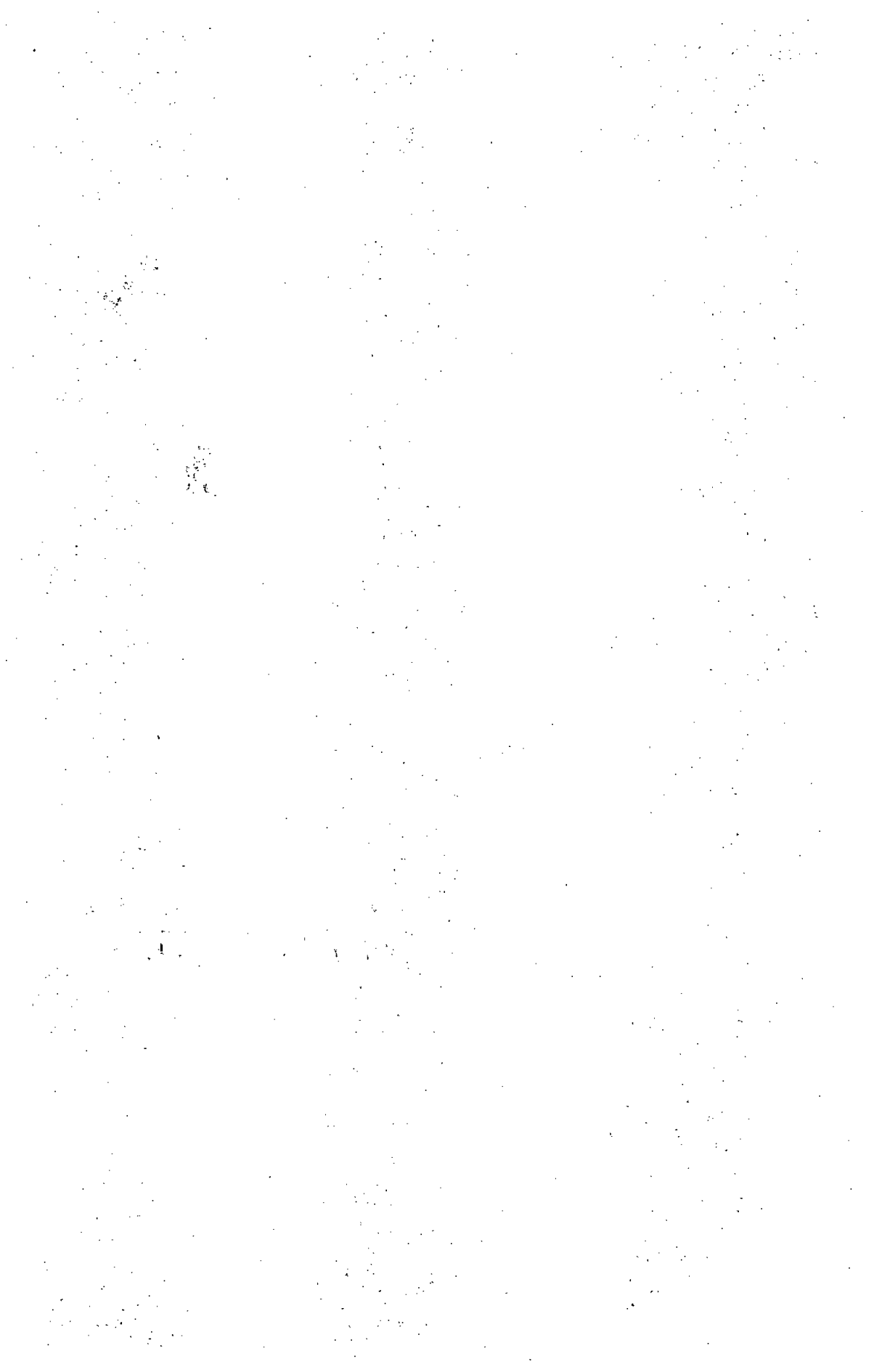
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1. Index

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ABSTRACT

This work performed on two fish species fresh fish bayad and frozen herring to study the effect of different smoking processes (cold and semi-hot smoking at 30°C for 12 hours and 60°C for 4 hours, respectively) on the quality attributes of these products and the effect of smoking and storage on nutritional value and amino acids composition of smoked bayad and herring, also frozen, salted, semi-drying smoking processes and storage at ambient temperature (28±2°C) and/or refrigeration (4±1°C) were evaluated chemically, physically microbiologically and organoleptically of either cold or semi-hot smoked bayad and herring. Also, the fractionation of protein for bayad and herring tissues during smoking processes and storage were investigated.

The obtained results indicated the moisture, protein and fat contents were gradually decreased during salting, semi-drying and smoking processes, while ash content increased of both fish species. An increment trend of pH value, total volatile bases nitrogen, trimethyl amine, free amino nitrogen and thiobarbituric acid values of bayad and herring were observed during steps of smoking processes and storage periods. In general, the increased of all samples was varied according to species of fish, the method of smoking, the temperature, and the time which used in storage. Also, most of amino acids contents (essential and non essential) decreased by smoking processes and storage of both fish species. Protein fractions also affected, the most of bands disappeared or decrease in stainability after smoking and storage. After salting and smoking there was a remarkable decrease in the total counts of bacteria, during storage there were continuous increase in the total microbial counts of smoked storage periods. While, *Staphylococcus aureus* and *E. coli* showed that all investigated samples were free of them at any time of storage, molds and yeast counts were appeared after 15 days at ambient temperature 28°C ±2 and 60 days of cold and semi-hot smoked bayad and herring at 4±1°C.

Organoleptic evaluation showed that the overall acceptability was very until 7 days at ambient temperature and good until 15 days. However, of cold storage the samples had very good until 60 days of smoked herring and became undesirable after 75 days while of smoked bayad after 90 days.

Ahmed Tawfic

