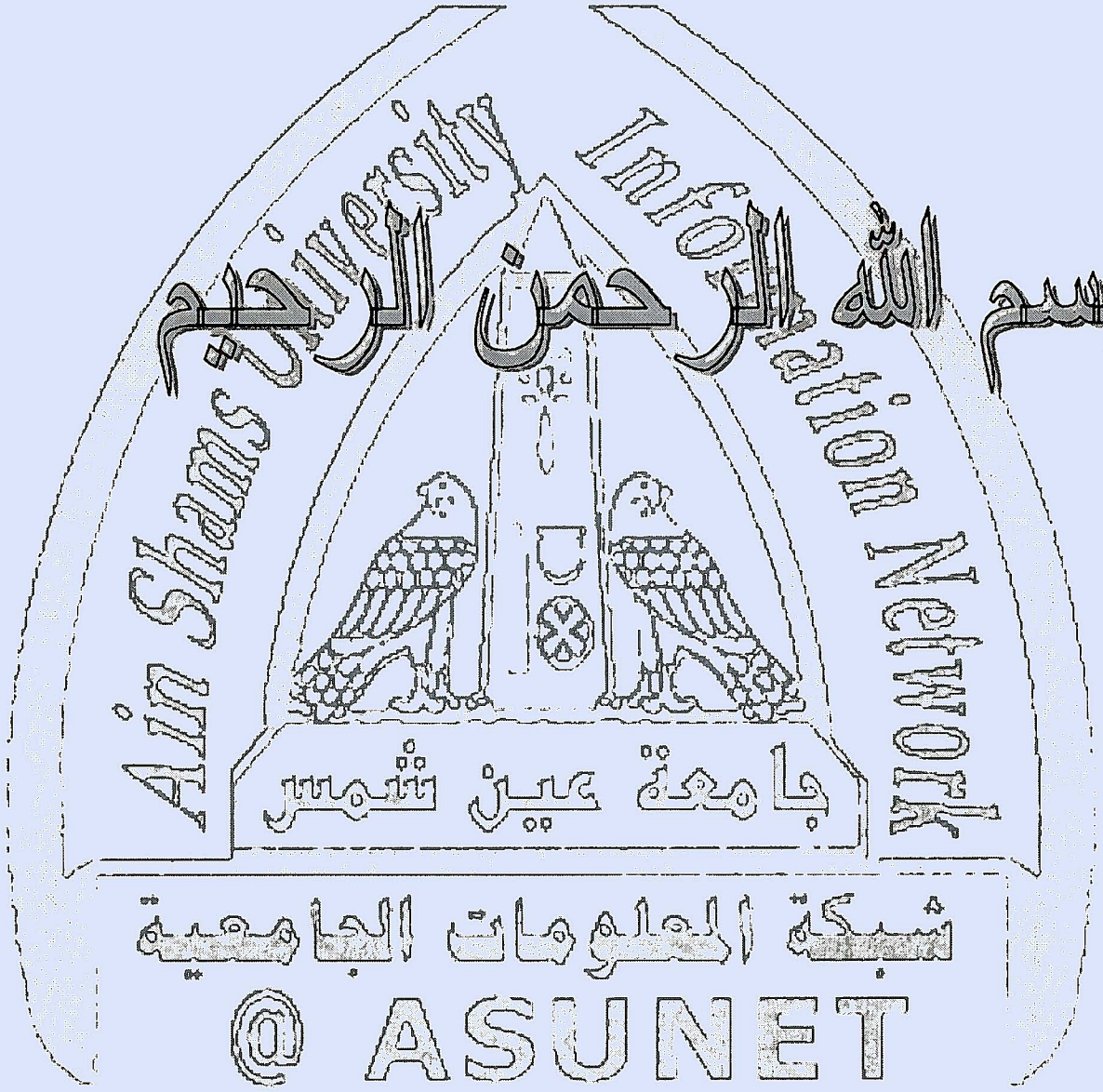
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار
في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

بعض الوثائق الاصلية تالفة

APPROVAL SHEET

Name: Henar Abdel –Fattah Salama Seleem

Title of thesis: Studies on addition of some corn and sorghum varieties to wheat flour and bread characteristics .

Thesis Approved by:

Prof.Dr. ....

Prof.Dr. ....

Prof.Dr. ....

(Committee in Charge)

Date: / /2000

Name of Candidate Henan Abdel Fattih Salma Selem Degree DOCTOR OF PHILOSOPHY

Title of Thesis Studies on addition of some corn and sorghum varieties to wheat flour and baladi bread characteristics

Supervisors Prof. Dr. Sobhy Mohamed Mohsen

Prof. Dr. Saad Ahmed Hallabo

Department Food Science

Branch Food Industry Approval 21-11-2000

ABSTRACT

According to the limited area of cultivated land and the rapid increase in population in Egypt, and consequently the increase in the consumption of wheat and bread, the government do a great effort to overcome this problem. It is known that wheat flour is considered the main raw material in breadmaking and hence other cereal such as corn, sorghum, barley and tritical are tried to substitute part of wheat flour.

Therefore, the present work was designed to study the substitution of part of wheat flour by using some varieties of corn (Giza$_{13}$ and H$_{10}$) and sorghum (Giza $_{113}$ and Dorado). Moreover the effect of such addition on dough blends and bread characteristics was studied .

The obtained results could be summarized as follow :

The used raw materials i.e wheat flour, corn and sorghum meals were chemically analyzed. Results show that wheat flour had the highest content of protein (14%) and the lowest values of fat (1.56%) crude fiber (1.80%) and ash (0.82%) compared to corn and sorghum meal .

Corn meal varieties i.e G$_{13}$ and H$_{10}$ were found to contain 9.50 and 9.10% for protein, 76.00 and 76.80% for carbohydrates, 4.50 and 4.20%for fats and 1.20 and 0.50% for tannin, respectively. Sorghum varieties i.e Dorado and G$_{113}$ Contain 12.50 and 12.88% protein , 60.21 and 59.51% carbohydrates, 3.40 and 3.50% fats and 2.20 and 0.80% tannin, respectively. In addition corn meal varieties were found to contain higher amount of carotene being 16.97 and 11.78p.p.m). For G$_{13}$ and H$_{10}$, respectively compared to wheat flour. Meanwhile sorghum meal variety (Dorado)contained the highest amount of

Concerning the protein fractions of flour blends, results showed that wheat flour protein contained water soluble protein, salt soluble protein, alcohol soluble protein and alkali soluble protein, by 15.55, 7.84, 31.84 and 44.78%, respectively.

When wheat flour was mixed with corn meal (G$_{13}$ or H$_{10}$) at different levels i.e 5, 10, 15 and 20% the studied protein fractions values were changed.

CONTENTS

List of Tables

List of Figures