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بسم الله الرحمن الرحيم



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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
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**SOME METHODS OF MODIFIED  
STARCH PRODUCTION AND  
APPLICATION IN SOME INDUSTRIES**

By  
**WAFAA HAMDY MOHAMED YESIEN**  
**B.SC AGRICULTURE SCIENCE**

**THESIS**

Submitted in Partial Fulfillment Of The  
Requirements For The Degree Of Master Of  
Science

IN  
Food Science

TO

Food Science Department  
Faculty Of Agriculture, Moshtohor,  
Zagazig University, Benha Branch

2001



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**SOME METHODS OF MODIFIED STARCH PRODUCTION AND  
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**BY**

**WAFAA HAMDY MOHAMED YESIEN**

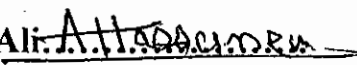
**THESIS**

**SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF  
SCIENCE**

**IN**

**FOOD SCIENCE AND TECHNOLOGY**

**Under the supervision of :-**

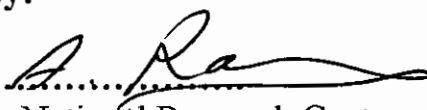
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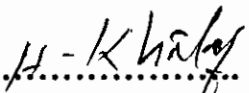
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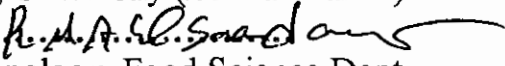
**Title of the thesis: Some methods of modified starch production and application in some industries**

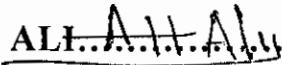
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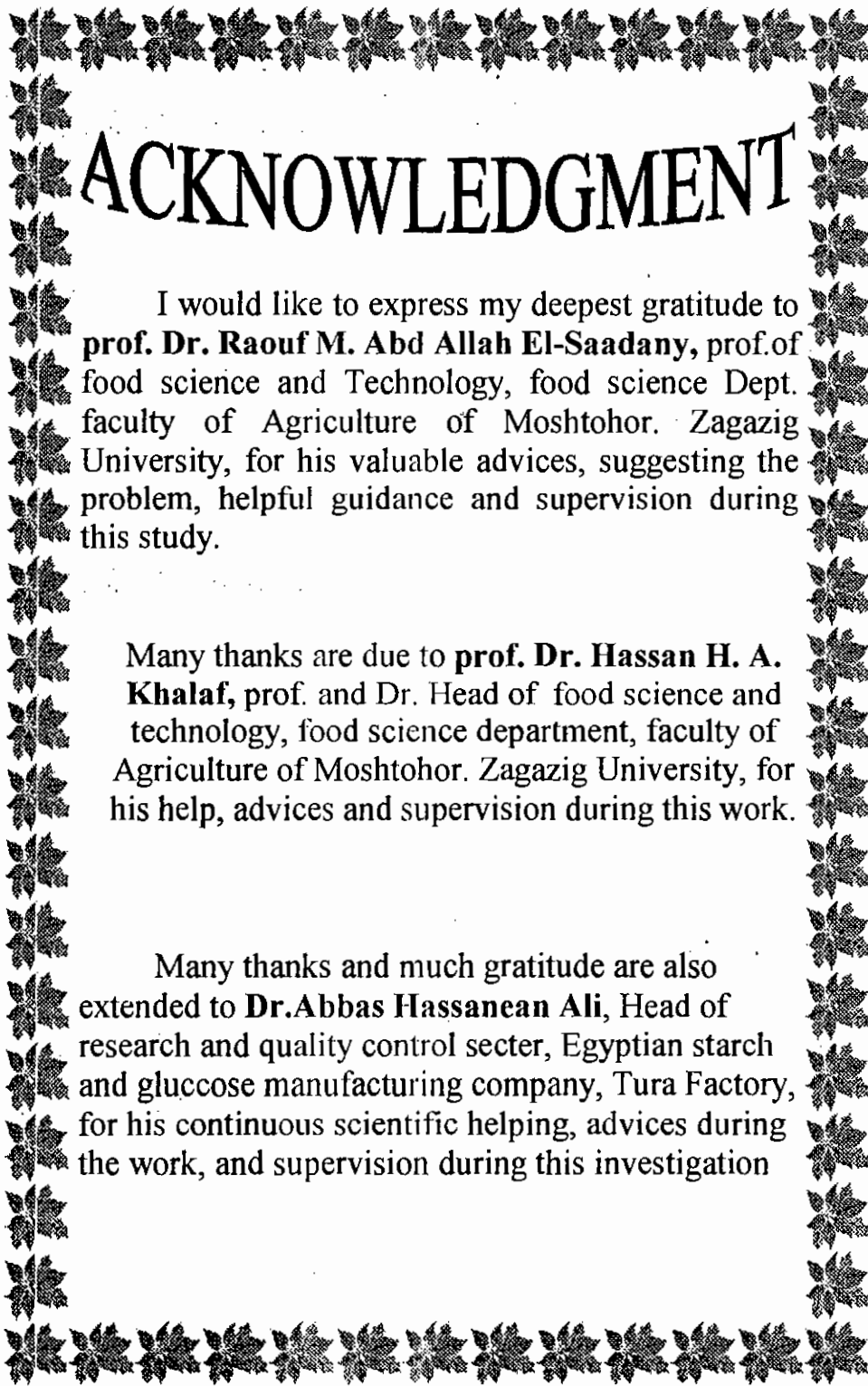
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# ACKNOWLEDGMENT

I would like to express my deepest gratitude to **prof. Dr. Raouf M. Abd Allah El-Saadany**, prof. of food science and Technology, food science Dept. faculty of Agriculture of Moshtohor. Zagazig University, for his valuable advices, suggesting the problem, helpful guidance and supervision during this study.

Many thanks are due to **prof. Dr. Hassan H. A. Khalaf**, prof. and Dr. Head of food science and technology, food science department, faculty of Agriculture of Moshtohor. Zagazig University, for his help, advices and supervision during this work.

Many thanks and much gratitude are also extended to **Dr. Abbas Hassanean Ali**, Head of research and quality control sector, Egyptian starch and glucose manufacturing company, Tura Factory, for his continuous scientific helping, advices during the work, and supervision during this investigation

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## ABSTRACT

Three types of modified starch thin boiling starch, oxidized starch and starch phosphate were prepared. The solubility, swelling power and viscosity of native and modified starch were determined at different temperatures the carboxyl and carbonyl content of oxidized starch were determined. The solubility and swelling power of thin boiling starch and oxidized starch was not increased markedly at 20°C and 50°C. But at 90°C the solubility and swelling power was increased to (78-94%) and (55-91) respectively and these values were higher than the solubility and swelling power of native corn starch. The viscosity of thin boiling starch and oxidized starch was (28 and 144 c.p.s) at 50°C these values were lower than the viscosity of native corn starch (9220 c.p.s). the solubility of starch phosphate at 90°C was very high (97.8%). The swelling power was (42.59, 82.68 and 433) at 20°C, 50°C and 90°C. These values was very high by comparison with the swelling power of native starch, thin boiling starch and oxidized starch. The apparent viscosity of starch phosphate was 322 c.p.s at 90°C the viscosity increased by