





ثبكة المعلومات الجامعية





جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأفلام قد اعدت دون آية 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 %



ثبكة المعلومات الجامعية









PRODUCTION OF PROTEASE ENZYMES BY SOME THERMOPHILIC AND THERMOTOLERANT FUNGI AND THERMOTOLERANT FUNGI AND THEIR COMPATIBILITY WITH COMMERCIAL DETERGENTS

THESIS

SUBMITTED BY

ZEINAB MOHAMED IBRAHIM SAYED EL-AHLL

B.Sc. (Botany) "1982" & M.Sc. (Botany - Microbiology) "1992"

For

The Requirements of Ph.D. Degree

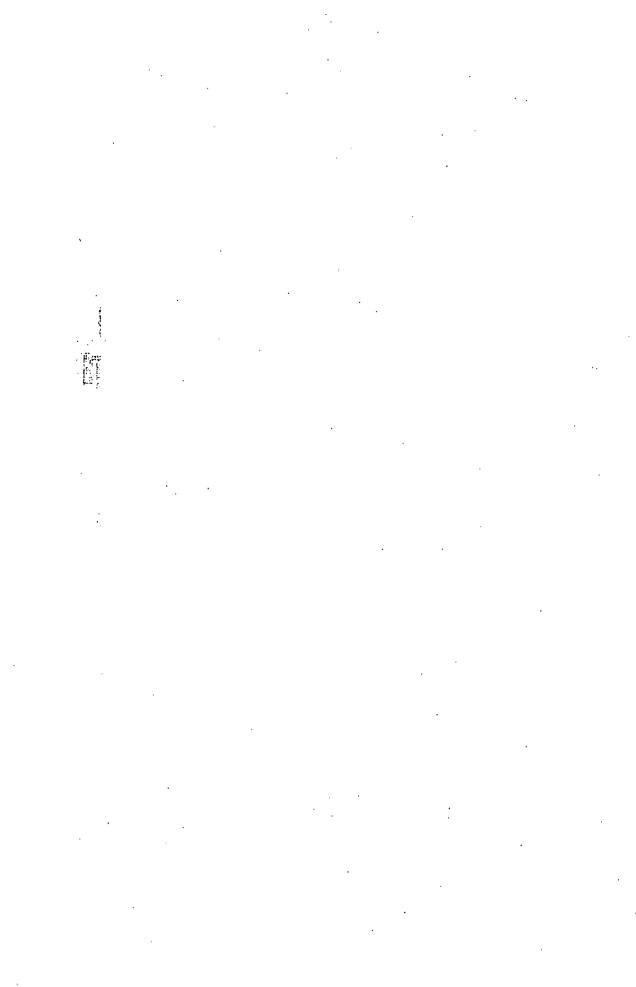
In

(Microbiology)

To

Bazci

Microbiology Department
Faculty of Science
Ain Shams University
Cairo, Egypt
1998





PRODUCTION OF PROTEASE ENZYMES BY SOME THERMOPHILIC AND THERMOTOLERANT FUNGI AND THEIR COMPATIBILITY WITH COMMERCIAL DETERGENTS

THESIS

SUBMITTED BY

ZEINAB MOHAMED IBRAHIM SAYED EL-AHLL

B.Sc. (Botany) "1982" & M.Sc. (Botany - Microbiology) "1992"

For

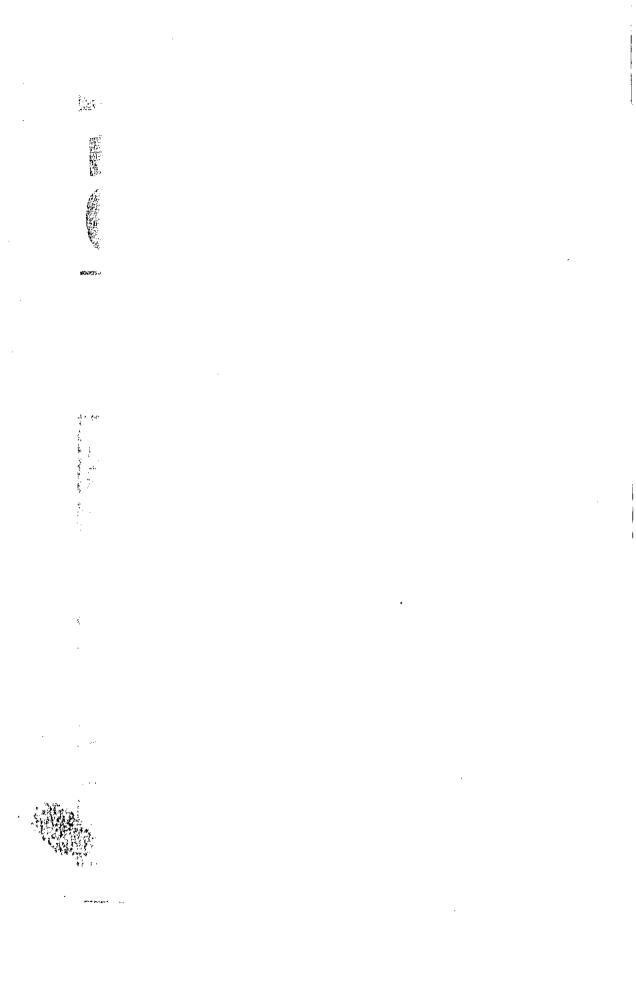
The Requirements of Ph.D. Degree

Tn

(Microbiology)

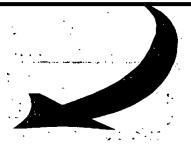
To

Microbiology Department
Faculty of Science
Ain Shams University
Cairo, Egypt
1998



CONT. & LISTS (TAB., FIGS.)





PREFACE	1
INTRODUCTION	4
Historical review Materials and Methods	18
EXPERIMENTAL RESULTS	37
DISCUSSION	244
SUMMARY	253
REFERENCES	259
ARABIC SUMMARY	1



No.	Table Title	Page
1	Protease activity of some isolated proteolytic	38
<u> </u>	fungi at different pH values.	
- 2	Effect of temperature of incubation on	40
	mycelial growth of Myceliophthora	·
	thermophila, Malbranchea sulfurea and	
	Aspergillus terreus.	
3	Effect of period of incubation on production of	43
	protease by Myceliophthora thermophila.	
4	Effect of period of incubation on production of	45
	protease by Malbranchea sulfurea.	
5	Effect of period of incubation on production of	48
	protease by Aspergillus terreus.	
6	Effect of pH value on production of protease	50
	by Myceliophthora thermophila.	
7 .	Effect of pH value on production of protease	52
	by Malbranchea sulfurea.	
8	Effect of pH value on production of protease	54
	by Aspergillus terreus.	

Ţ,	No.	Table Title	Page
	9	Effect of temperature of incubation on	57
		production of protease by Myceliophthora	
w		thermophila.	
	10.	Effect of temperature of incubation on	59
		production of protease by Malbranchea	
		sulfurea.	
	11	Effect of temperature of incubation on	61
		production of protease by Aspergillus terreus.	
	12	Effect of different proteinaceous substrates on	64
		production of protease by Myceliophthora	
		thermophila.	
	13	Effect of different proteinaceous substrates on	66
		production of protease by Malbranchea	
		sulfurea.	
	14	Effect of different proteinaceous substrates on	68
		production of protease by Aspergillus terreus.	
	15	Effect of different concentrations of bovine	71
		serum albumin on production of protease by	,
		Myceliophthora thermophila.	
	16	Effect of different concentrations of peptone	73
		on production of protease by Malbranchea	
		sulfurea.	
	17	Effect of different concentrations of casein on	75
		production of protease by Aspergillus terreus.	