شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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بعض الوثائق الأصلية تالفة

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بالرسالة صفحات
لم ترد بالأصل

PROTOPLAST FUSION AND GENE TRANSFER FOR *SACCHAROMYCES SEREVISIAE* IMPROVEMENT

THESIS

Submitted to the Faculty of Science Alexanderia University

In Partial Fulfillment of The Requirements For The Degree of

MASTER OF SCIENCE

In

MICROBIOLOGY

By

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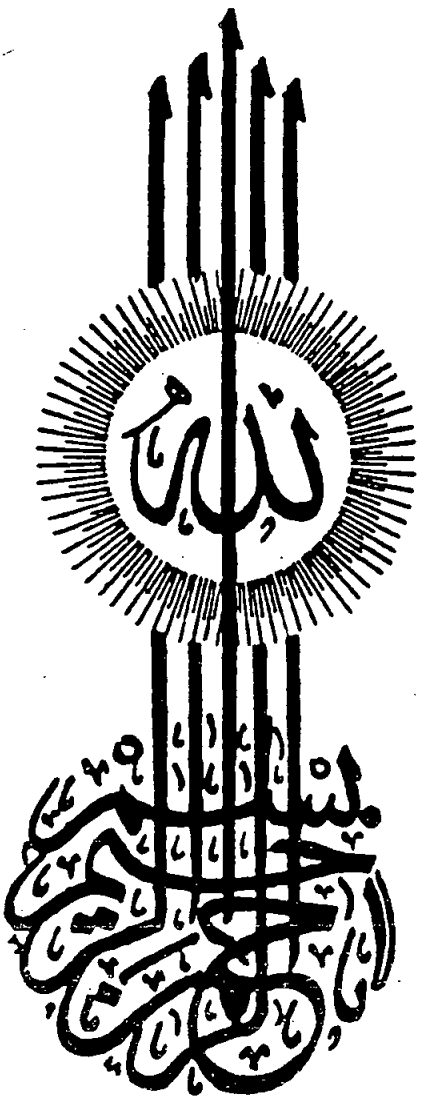
بسم الله الرحمن الرحيم

بسم الله الرحمن الرحيم

قالوا

سبحانك

لا علم لنا إلا ما علمتنا
إنك أنت العليم الحكيم

صدق الله العظيم

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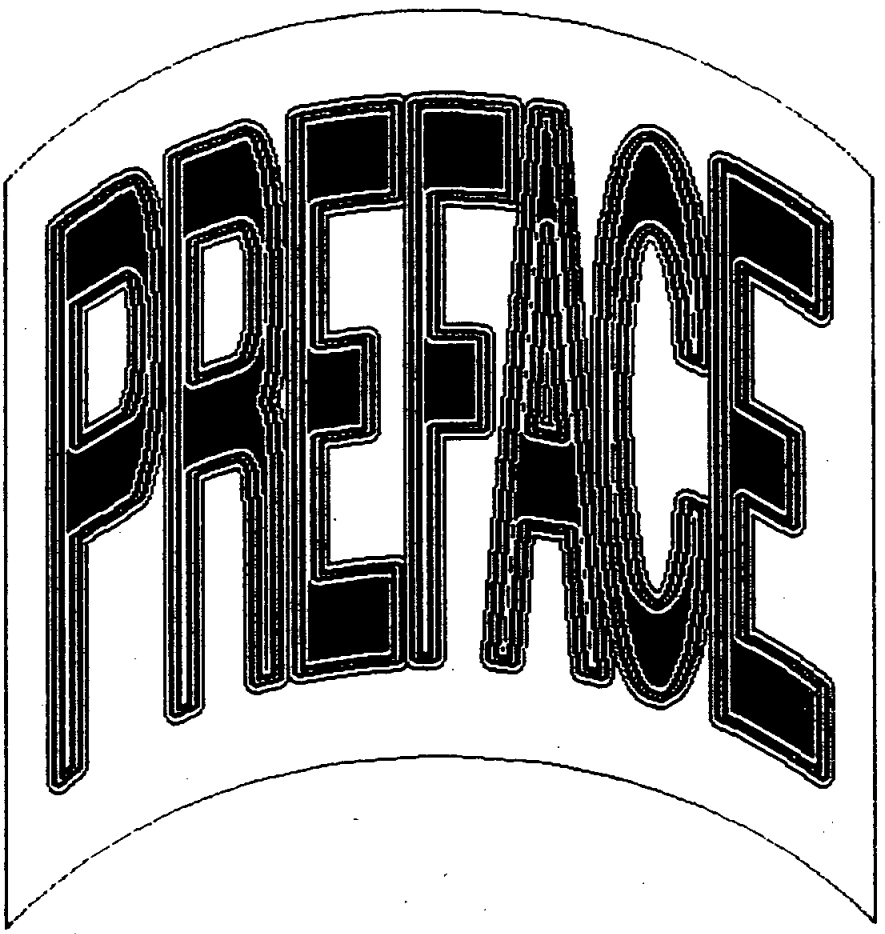
PREFACE

1. PREFACE

To keep pace with rapid Egyptian population growth that approach one million every ten month, annual production of food must be increased in addition, the continous rise in food price lead to serious urges the use of by-products, particularly those which may cause disposal problems.

The disaccharide lactose consists of two monosaccharides ; glucose and galactose. High concentrations of lactose, about 4.7% w/v, are found in milk and whey (the by-product of cheese manufacture). It considered as one of the least expensive carbon source for ethanol production and for growth of microorganisms (Sreekrish et al, 1985 ; Farahnak et al,1986). The disposal of whey is a containuing and growing problem in dairy industry. Over 40% of the whey produced in North America inducing pollution problem (Jelen,1975 ; Decleire et al,1985). Paluch (1987) had surveyed 49 cheese whey processing plant in Southern Wisconsin and Northern Illinois and calculated the potential dollar value of reclaimed whey as well as the cost of dumping the whey into municipal sewage systems. For medium size plant generating $3.0X10^7$ lb (about $1.36X10^7$ Kg) of whey per year. She determined that the maximum return on processed whey could be 13.9 million dollars and that the corresponding annual biological demand costs would be 2.07 million dollars.