شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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%

بعض الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد بالاصل

THE EFFECT OF NITROGEN CONCENTRATIONS AND SOURCES ON GROWTH AND PHYSIOLOGICAL PERFORMANCE OF CLOVER AND SOYBEAN

Thesis

SUBMITTED IN PARTIAL FULFIULMENT OF THE REQUIREMENT FOR

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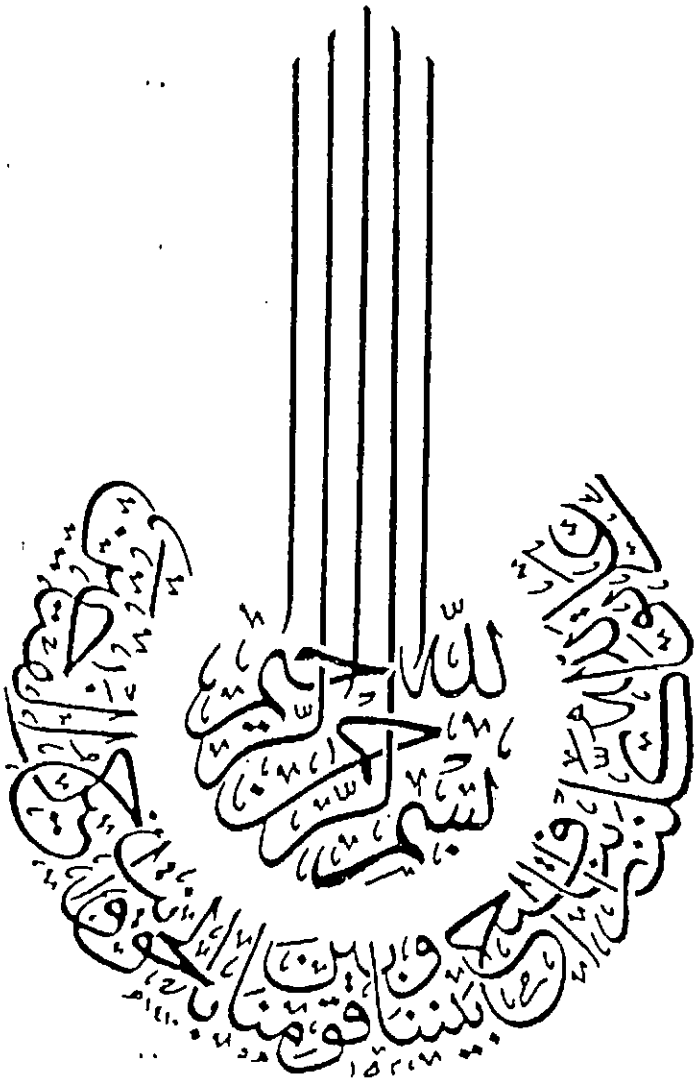

صدق الله العظيم

بسم الله الرحمن الرحيم

TO :

MY MOTHER
AND
MY BROTHERS

Soad Mohamed Ahmed Emara

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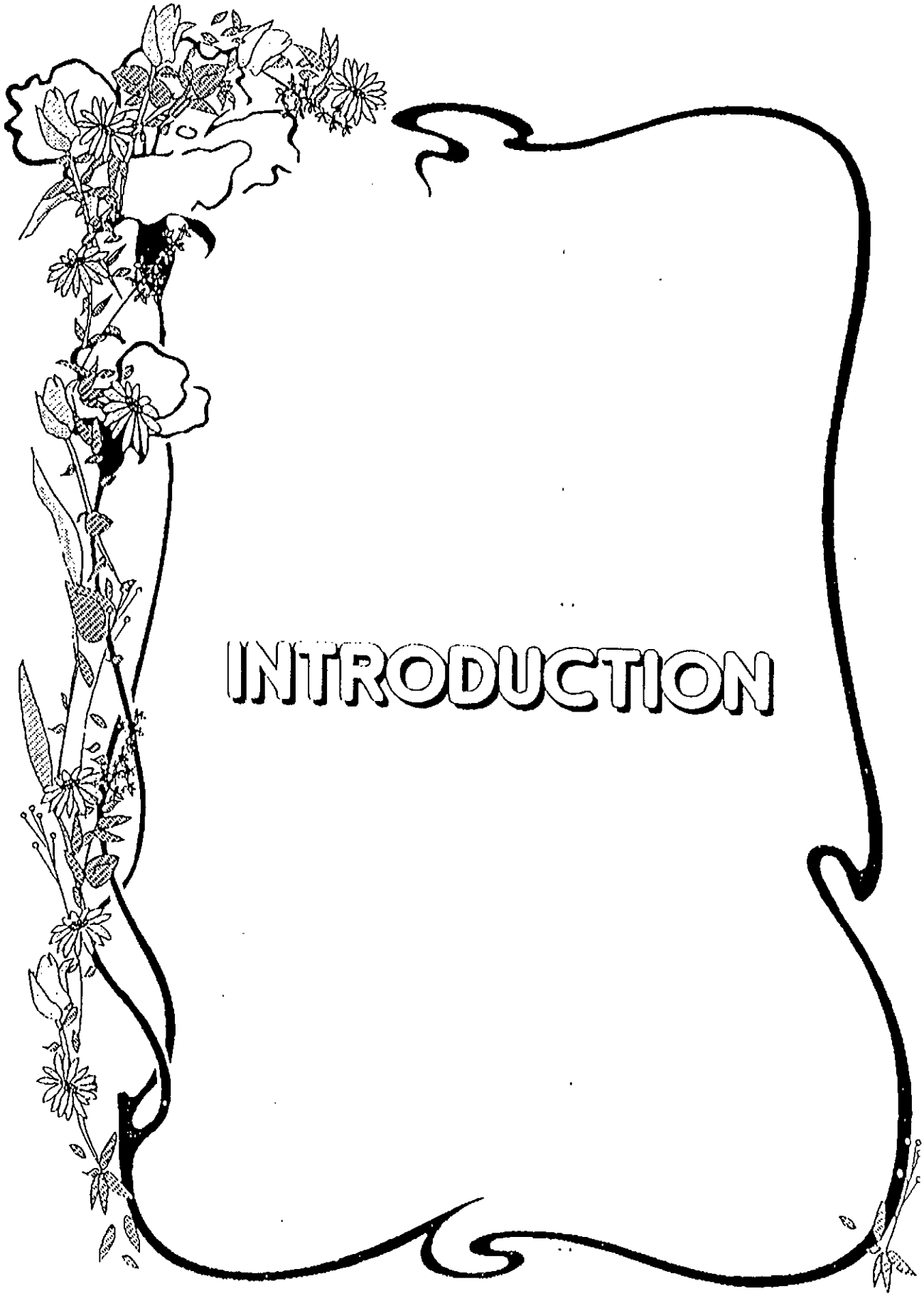

INTRODUCTION

Introduction

Nitrogen nutrition usually exert influential limits on growth and physiological performance of almost all plant species. Misuse of nitrogen fertilizers addresses a general problem in Egypt, where some, farmers avoid any nitrogen supply while others use excess nitrogen to a toxic level. Limited and excess nitrogen supply affect the rate of cell division, cell expansion, photosynthesis (Clarkson & Hanson 1980; Chapin *et al.* 1988), leaf production and elongation (Radin & Boyer 1982), nitrate and nitrite reductase activity, assimilation of nitrogen (Reddy & Menary 1990), and nitrogen fixation (Serraj *et al.* 1992). Limited and excess supply of nitrogen results in an overall decrease in crop yield but mechanisms of crop declination are not completely understood. Study of growth and physiological performance could help for better understanding of the nitrogen role .

The present study includes : **1) Growth,** including relative fresh weights (RFW), dry matter accumulation (RDW) in different plant parts, root to shoot ratio (R/S), and allocation of carbohydrates. The increase in R/S that observed response to nitrogen stress occurs in most plants (Brouwer 1966; Chapin 1980; Chapin *et al.* 1988) and reflects a declined shoot growth. The increase in nitrogen levels showed slight increase in RFW of leaves which is enough to avoid production of low nitrogen tissues pronounced in stressed nitrogen plants such as no nitrogen and excess nitrogen (Watts *et al.* 1981) . The overall low weight in stressed plants reflected the loss of organic