

صفاء أبو السعود محمد



شبكة المعلومات الجامعية

# بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



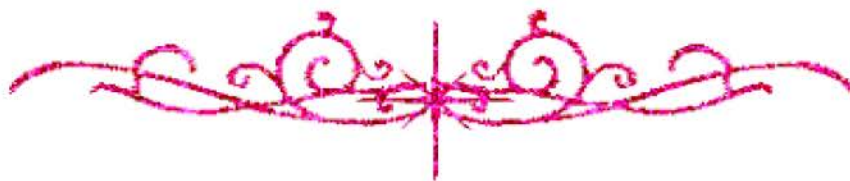
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شبكة المعلومات الجامعية



# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





صفاء أبو السعود محمد



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

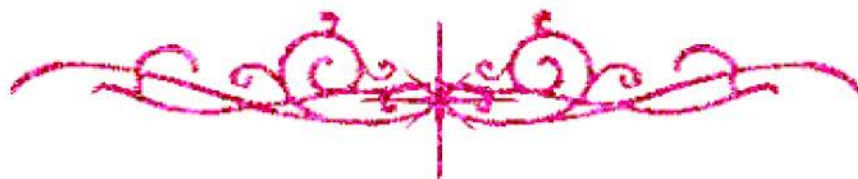
## قسم

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



## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



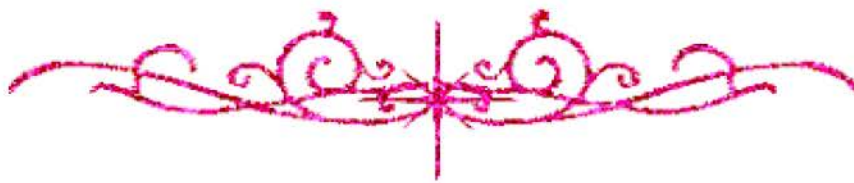
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# بعض الوثائق الأصلية تالفة





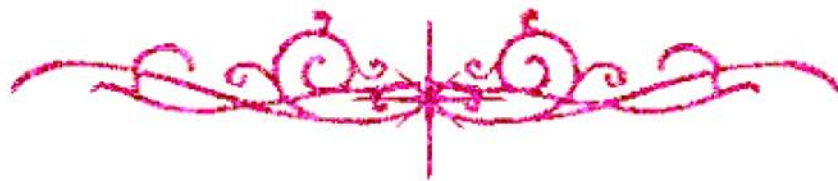
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شبكة المعلومات الجامعية



# بالرسالة صفحات لم ترد بالأصل



**SYSTEMATIC STUDIES ON SOME SPECIES OF *Brassica***

By

**ABDALLAH AMEN ABDALSALAM GHALEB**

B.Sc. (Agric.), University of Alexandria, 1992  
M.Sc. (Agric. Botany), University of Cairo, 2002

**THESIS**

Submitted in Partial Fulfillment of the  
Requirements for the Degree of

**DOCTOR OF PHILOSOPHY**

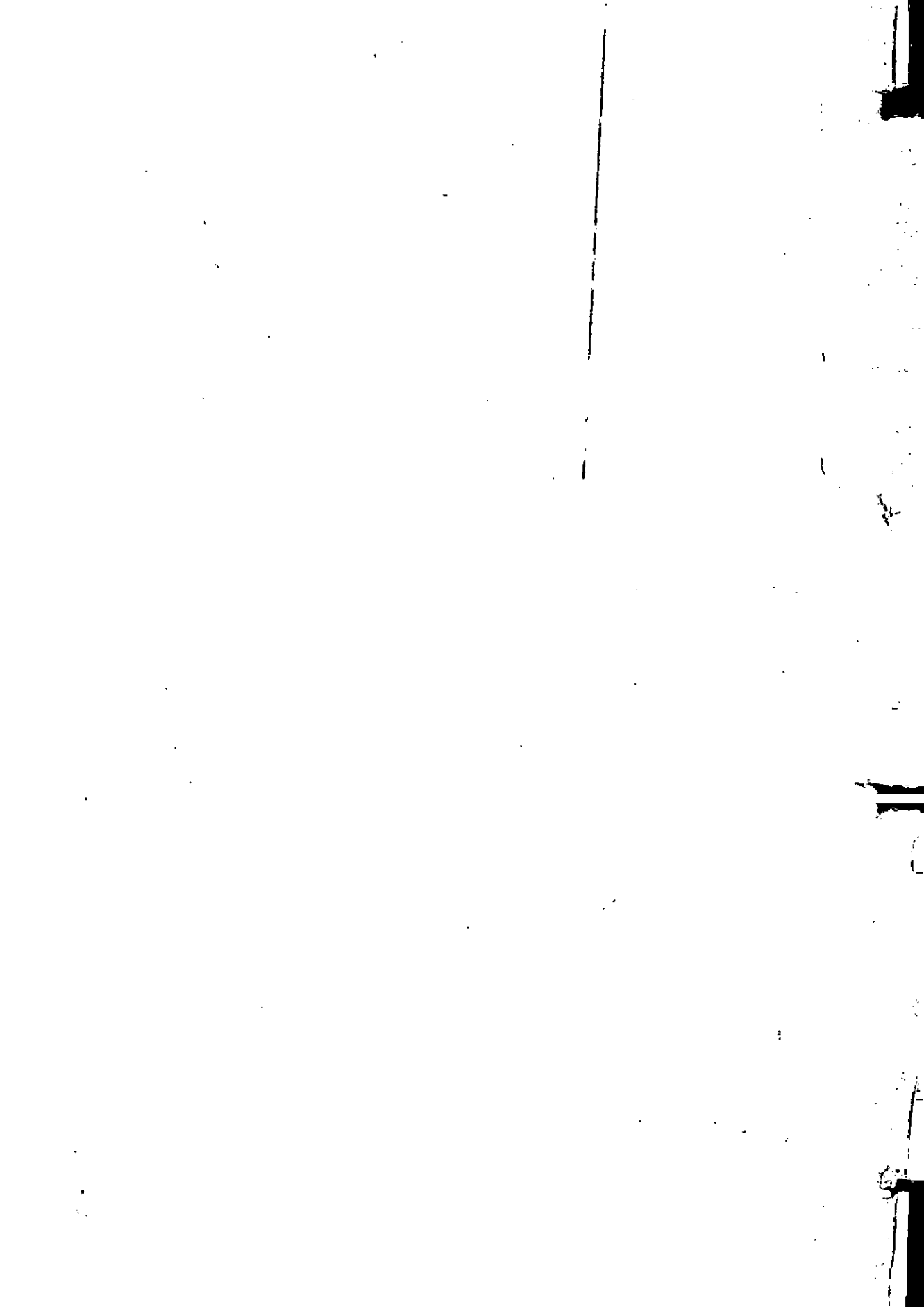
in

**Agricultural Botany**

**Department of Agricultural Botany  
Faculty of Agriculture,  
Cairo University**

2005

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**Supervised**

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**Department of Agricultural Botany  
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**2005**





## APPROVAL SHEET

### SYSTEMATIC STUDIES ON SOME SPECIES OF *Brassica*

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I am always indebted to God all the favour.

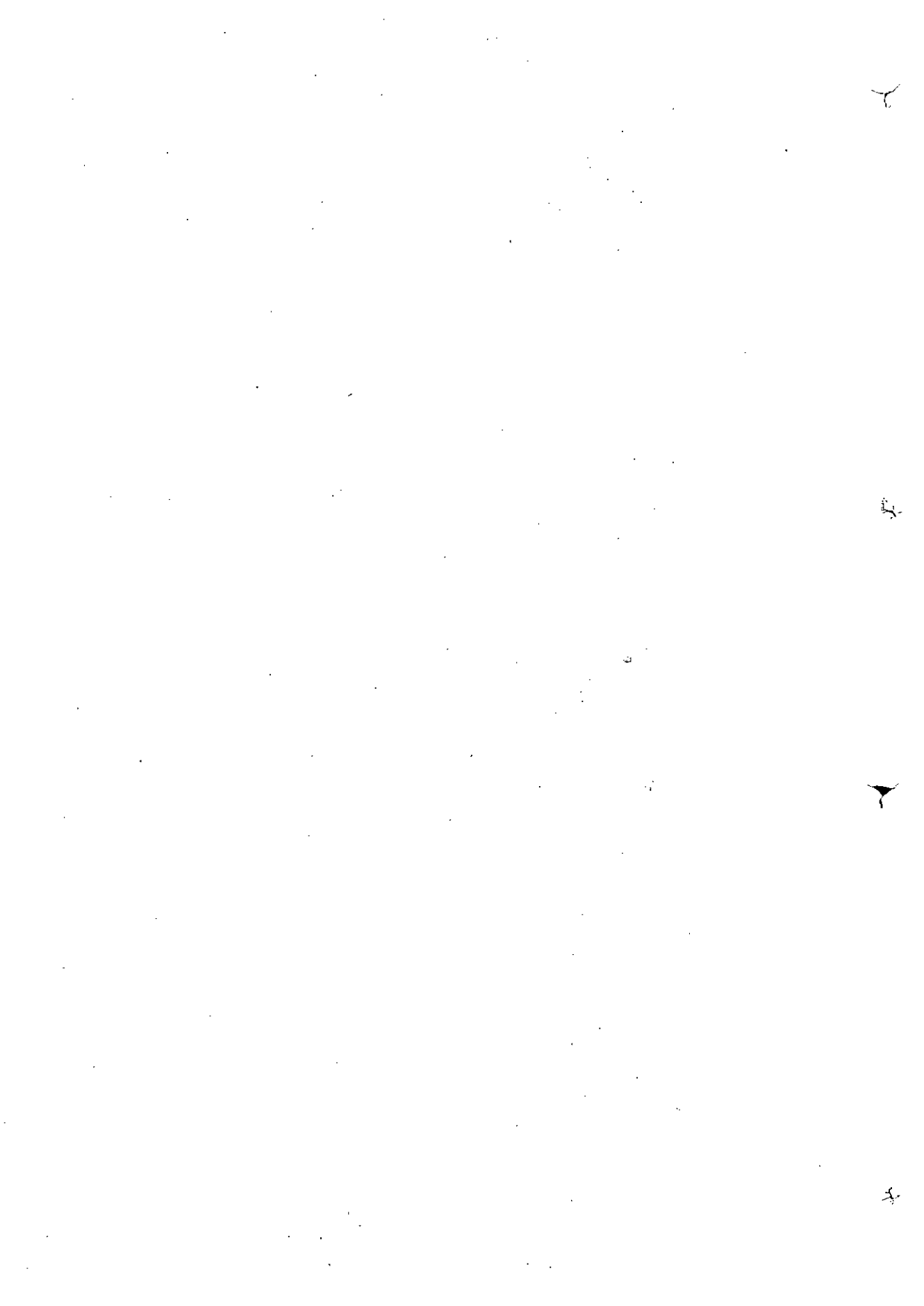
Next, I owes a deep debt of gratitude to Dr. Kassem Fouad El-Sahhar, Emeritus Professor and Dr. Hassan Ramadan Hassan, Assistant Professor, Department of Agricultural Botany, Faculty of Agriculture, Cairo University for suggesting the problem, supervising this work, critical advice and constant guidance.

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Name of Candidate: ABDALLAH AMEN ABDALSALAM GHALEB  
Degree: Ph. D.  
Title of Thesis : SYSTEMATIC STUDIES ON SOME SPECIES OF *Brassica*  
Supervisors: Prof. Dr. Kassem F. El-Sahhar and . Dr. Hassan Ramadan Hassan  
Department: Agricultural Botany  
Branch : Agricultural Botany Approval: / 6 /2005

#### ABSTRACT

The Brassicaceae are one of the more sharply defined and readily recognizable large families of plants. In counterpoint, the genera are ill-defined and frequently confluent. Thus, any new botanical information about Brassicaceous genera are urgently to be welcomed.

The present study is confined mainly to the three oilseed crops belong to *Brassica*; namely, *B. napus*, *B. campestris* and *B. juncea*. A taxonomic study was carried out for the sake of proper delimitation and identification of *Brassica* through the three mentioned species, this was achieved through a detailed phytography study for morphological, histological, chemical and molecular characters. Investigations included the following:

Germination of seed and seedling growth- Plant height- Length of the main stem- Number of internodes of the main stem- Diameter of the main stem (basal, median and terminal internodes)- Number of the lateral branches with their different degrees- The leaf- The leaf area per plant- Fresh and dry weights of leafless shoot- Fresh and dry weights of leaves- The inflorescence- Cumulative number of inflorescences and fruits- Yield components including Number of fruits per main inflorescence- Number of fruits per plant- Number of seeds per fruit- Number of seeds per plant- Yield of seeds per plant, g.- Specific weight of seed, g.

Structure of the main root- Structure of the main stem (shoot apex, internode directly below the shoot apex, median internode and basal internode)- Structure of the leaf (petiole and lamina)- Structure of the flower, the fruit and the seed.

Chemical components throughout total lipids concentration- Fatty acids analysis- Proteins of seed concentration- Molecular studies including electrophoresis of seed storage proteins and RAPD-PCR.

Results dealing with morphological, histological, chemical and molecular characters proved that the three studied species shared many common characters; *i.e.*, diagnostic at the genus level ensuring their belonging to the same genus. Other characters, however, were unique for each species. Such characters indicated that the relationship between *B. campestris* and *B. juncea* was closer compared with their relationship to *B. napus*.

K. El-Sahhar  
H.R. Hassan



