سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

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شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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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 تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

سامية محمد مصطفى

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

سامية محمد مصطفى

بالرسالة صفحات لم ترد بالأصل

BIOCHEMICAL STUDIES ON LETTUCE SEED OIL

By

Eman Amer Abd El-Maksood Ahmed
B.Sc.in Agricultural Science (Biochemistry)
Cairo University, 1998

Thesis
Submitted in Partial Fulfillment
of the Requirements for
The Degree of Master of Science

In
Agricultural Science
(Biochemistry)
Department of Biochemistry
Faculty of Agriculture
Cairo University
2004

SUPERVISION SHEET

BIOCHEMICAL STUDIES ON LETTUCE SEED OIL

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2004

APPROVAL SHEET

BIOCHEMICAL STUDIES ON LETTUCE SEED OIL

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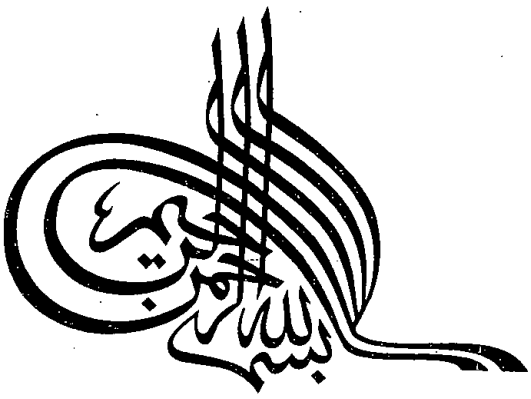

يَرْفَعِ ٱللَّهُ ٱلَّذِينَ ءَامَنُوا۟ مِنكُمْ وَٱلَّذِينَ
أُوتُوا۟ ٱلْعِلْمَ دَرَجَٰتٍ ۚ وَٱللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ

صَدَقَ ٱللَّهُ ٱلْعَظِيمُ

(سورة المجادلة الآية رقم ١١)

Name of Candidate : Eman Amer Abd El–Maksood Ahmed
Degree : M. Sc .
Title of Thesis : Biochemical studies on lettuce seed oil.
Supervisors : Assist. Prof. /
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Department : Agricultural Biochemistry .

ABSTRACT

The aim of the present work was to evaluate the hypocholesterolemic effect of *Lactuca sativa* and *Lactuca scariola* seed oils in hypercholesterolemic rats. The aim also includes investigation of fatty acids and unsaponifiable matter of the oils under study. Hypercholesterolemic rats were divided to four group and fed high-fat diets rich in cholesterol, balanced diet, balanced contain *Lactuca sativa* or *Lactuca scariola* seed oils for 4 week *ad - libitum*. Blood samples were collectted from all animals for studying plasma lipid profile. The results of this experiment revealed that food intake of hypercholesterolemic rats was significantly lower than control group, while body weight gain increased non significantly in all groups compared with control group.

The rats fed the high fat diet enriched with saturated fat and cholesterol showed a significant increase in total

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cholesterol levels, which were accompanied by a decrease in HDL-cholesterol. These alteration were improved in the rats receiving balanced diet or balanced diet contain *Lactuca sativa* or *Lactuca scariola* seed oils. Hypercholesterolemic rats fed balanced diet contain *Lactuca sativa* or *Lactuca scariola* seed oils produced significant reduction in plasma total lipid, total cholesterol, LDL-cholesterol and total cholesterol: HDL-cholesterol ratio, while HDL-cholesterol increased significantly in comparison to hypercholesterolemic rats fed balanced diet.

GLC investigation of the unsaponifiable matter revealed the presence of beta-sitosterol and stigmasterol in both oils. Stigmasterol was the major phytosterol in *Lactuca sativa* seed oil, while beta-sitosterol was the major phytosterol in *Lactuca scariola* seed oil .The total fatty acids was methylated and analyzed by GC-Mass. The results revealed the presence of palmatic , stearic , oleic, linoleic and epoxy acids in the both oils under investigation.

Also epoxy acids were isolated in crystalline form in small amounts and estimated by titration.

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