

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(وَهُوَ الَّذِي أَنْشَأَ جَنَّاتٍ مَعْرُوشَاتٍ وَغَيْرَ مَعْرُوشَاتٍ وَالنَّخْلَ وَالزَّرْعَ مُخْتَلِفًا أَكْلُهُ

وَالزَّيْتُونَ وَالرُّمَّانَ مُتَشَابِهًا وَغَيْرَ مُتَشَابِهٍ ۚ كُلُوا مِنْ ثَمَرِهِ إِذَا أَثْمَرَ وَآتُوا حَقَّهُ

يَوْمَ حَصَادِهِ ۗ وَلَا تُسْرِفُوا ۚ إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ)

(سورة الأنعام الآية (141))

Dedication

To my Father,

my mother,

my aunt Hannan,

my uncles,

my brothers and my sister.

Acknowledgment

After thanks of Allah the most Gracious the most Merciful

I am mostly indebted to my supervisor Dr.El fateh Ahmed Hassan for guidance
and advice.

Also I would thank my father, my two mothers who helped me emotionally.

Also I extend my thanks to everyone who helped me in completing this project.

Abstract

This study was conducted on seeds of *Acacia Seyal* (Fabaceae (Mimosoideae)) which were collected from *Alkawwa* in White Nile state Sudan during the season 2016.

Solvent extraction technique was utilized to extract the oil from *A.seyal* seeds. The oil content of these seed was found to reach 2.909 3% (W/ W). The extracted oil was subjected to physico chemical evaluation and the results showed that its free fatty acid content was 5.75mg/l, Its Saponification value was 171.93ml/g,

Iodine value was 95.67ml/g, Ester value was 165.66ml/g, Peroxide value was 15ml/g, Its moisture content was 6.58%, Density was 0.891g/cm³, Refractive index 1.47, Color was 33.2/6.8 (red/yellow).

The oil was subjected to IR and GC analysis.

اجريت هذه الدراسة علي بذور شجرة الطلحه (عائلة Fabaceae) التي جمعت من منطقة الكوه ولاية النيل الأبيض في السودان في عام 2016م . تم إستخلاص زيت بذور الطلحه عن طريق الأستخلاص بالمذيب وكانت نسبة الأستخلاص 2.909 ≈ 3% (وزن/وزن) .

تم إجراء الأختبارات الفيزيوكيميائية علي الزيت المستخلص وكانت النتائج كالتالي: كمية الأحماض الدهنية 5.75 ملجم/لتر، قيمة التصبن 93.171 ملجم/لتر، قيمة البيروكسيد 15 ملجم/لتر، وكانت قيمة معامل الأستره 66.165 ملجم/لتر و رقم اليود 95.67 ملجم/لتر وكانت الرطوبة 58.6% واللون (أحمر/أصفر) 33.2/8.6، وقيمة معامل الإنكسار 47.1 والكثافة 891.0 جرام لكل سنتيمتر مكعب. كذلك تم تحليل الزيت بجهاز الأشعه تحت الحمراء وكروماتوغرافيا الغاز.

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