

**FIELD CONTROL OF THE WHITE SCALE INSECT  
"PARLATORIA BLANCHARDII" TARG.  
(HOMOPTERA: DIASPIDIDAE)  
WITH AQUEOUS SHOOT EXTRACT OF ARGEL  
(SOLENOSTEMMA ARGEL)(Del) Hayne**

By

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وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبَارِكًا فَأَنْشَأْنَا  
بِهِ جَنَّاتٍ وَحَبَّ الْحَصِيدِ {9}  
وَالنُّخْلَ بَاسِقَاتٍ لَهَا طَلْعٌ نَّصِيدُ {10}

سورة ق الآية (10-9)

[We send down from the sky  
water which is full of  
blessings, and we produce  
there with gardens and grain  
harvests, and tall palm trees  
with spathes piled one above  
the other ].

True is the word of God, the Great.

*(Qaf chapter,  
verses 10-11)*

## **DEDICATION**

To my Father,

Mother,

Sister,

Brothers

And Frinds.

**w  
i**

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**v**

**e**

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## **ABSTRACT**

This study was carried out under field conditions at Al-Gurair Agricultural Scheme in Marawi Governorate at Northern State, in two villages (Elssafa and Goss Hindi), during the period from November 2004 to September 2005 , to evaluate the efficacy of Argel (Hargal) *Solenostemma argel* (Del.) shoot aqueous extract against the White scale insect *Parlatoria*

*blanchardii* (Targ.) and their effect on the yield of date palm trees.

Argel (Hargal) shoot aqueous extract was tested at Three rates (which were: 1ounce / 6L. of water./ tree, 2 ounces / 6L of water./ tree and 3 ounces / 6 L. of water./ tree) as spray, using a knapsack sprayer, in addition to soil treatment.

The results showed that Argel (Hargal) shoot aqueous extract when used as spray at all tested rates increased mortality rate of adult females of *Parlatoria blanchardii* (Targ.) compared with untreated control after 7 days of application, when argel (Hargal) shoot powder was dissolved for (48hr.) in water .

Effect of Argel (Hargal) shoot powder and that of the aqueous extract on date palm yields were also studied. All tested rates when applied, increased the yields of date palm trees compared to untreated control. In farm (4) the increase of yield was significant ( $P>0.05$ ).

Argel (Hargal) shoot powder or aqueous extract at (1ounce/ 6L. of water /tree) is recommended for control of white scale insect *Parlatoria blanchardii* on date

palm trees, to be applied once as a spray, at early April to late May of the year.

## ملخص الاطروحة

اجريت هذه الدراسة تحت ظروف الحقل بمشروع القرير الزراعي بمحلية مروي بالولاية الشمالية في قريتي (الصفاء و قوز هندي) في الفترة من شهر نوفمبر 2004م حتى سبتمبر 2005م. لتقدير فعالية المستخلص المائي لنبات الرجل *Solenostemma Parlatoria argel blanchardii* ضد الحشرة القشرية البيضاء وكذلك تأثيره على انتاجية نخيل التمر وتم استخدام ثلاثة معدلات من المستخلص المائي لنبات الرجل كالاتي : ( 1 اوقيه / 6 لترماء / شجرة ، 2 اوقيه / 6 لترماء / شجرة و 3 اوقيات / 6 لترماء / شجرة ). استخدمت هذه التراكيز بطرفيتين رش اشجار النخيل باستخدام الرشاشة الظهرية بالإضافة الى معاملة التربة . اوضحت النتائج ان استخدام المستخلص المائي للرجل في كل التراكيز زادت فيه نسبة الموت للاناث البالغة من الافة مقارنة مع الاشجار غير المعاملة ( شاهد التجربة ) وذلك خلال 7 ايام من المعاملة عندما تمت اذابة مسحوق الرجل في الماء لمدة 48 ساعة .

وتمت في هذه الدراسة المقارنة بين تأثير مسحوق الرجل والمستخلص المائي على انتاجية اشجار النخيل . واوضحت الدراسة ان كلا المعاملتين ادت إلى زيادة معنوية في الانتاجية مقارنة بشاهد التجربة وذلك في التجربة التي نفذت في المزرعة رقم (4) .

ومن خلال نتائج هذه التجربة يوصى باستخدام الجرعة (1اوقية / 6 لترماء / شجرة) لمكافحة حشرة *Parlatoria blanchardii* بمعدل رشة مرة واحدة خاصة في الفترة من اول شهر ابريل وحتى اواخر مايو.

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