

DEDICATION

To my mother, the sea of love
and affection

To my father, the symbol of
grant and felicity

To my sisters and brothers

To my teachers and friends

To every one in the world
cultivated an off-shoot

Egbal

Acknowledgement

Above all I render my thanks to the Merciful ALLAH who availed to me the strength to accomplish this study.

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ABSTRACT

The objective of this study was to investigate the susceptibility of four date cultivars to the attack of the saw toothed grain beetle *Oryzaephilus surinamensis* (L) which is a very important store pest in Sudan. The four dates cultivars were, Barakawi, Gondeila, Bentamoda, and Gaw. The latter cultivar is locally propagated from seeds. The date fruits of these four cultivars were harvested and brought from Tangasi horticultural gardens in the Northern state in season 2003. The study was conducted during the period early December 2003, to mid January 2004. a total period of 6 weeks. The study was carried out in a date store at Omdurman date market. The larvae and adults of the pest inflict variable degrees of damage which may reach a heavy a stage when the pest feeds on fruit content and changes it to a powder made-up mostly of faeces. Even a minor damage reduces the quality and marketability of the dates due to the presence of adults, pupae, larvae and insect faeces mixed with dates . The degree of damage is evaluated weekly in a well designed experiment. The results showed that Barakawi was the most resistant cultivar against the beetle where the infestation reached only a mean of 18.4%, Gaw showed 27.9%, Bentamada 35.6% and the least resistant cultivar was Gondeila where the recorded infestation reached 40%.

The effect of the presence of the fruit cap (perianth) on the degree of the infestation of the fruits was studied. The result showed clearly that the higher the percentage of the fruit retaining their caps, the lower the percentage of the infestation and vice versa. The mean percentage of infestation among the fruits that lost their caps was 47.3% while the infestation percentage among the dates that retained their caps was 15.4%. This indicates that the damage of this pest could be significantly reduced by careful harvesting and handling of the dates.

بسم الله الرحمن الرحيم

خلاصة الأطروحة

الهدف من الدراسة معرفة مدى قابلية أربعة أصناف من التمور للإصابة بالخنفساء ذات الصدر المنشاري (*Oryzaephilus surinamensis* L) والتي تعتبر من الآفات المهمة التي تصيب التمور المخزونة وتتسبب في كثير من الاضرار حيث تتغذى اليرقات والبالغات على محتويات الثمرة الداخلية وفي حالة الإصابة الشديدة لا يتبقى منها الا مسحوق يحتوى على الكثير من الفضلات فضلا عن وجود اليرقات والعذارى والبالغات داخل الثمرة مما يؤدي الى انخفاض قيمتها التسويقية والاستهلاكية .

اولا: تم دراسة م مقارنة لاربعة اصناف من التمور (صنف بركاوى ، قنديلة ، بنتمودا والصنف البذرى جاو) والتي حصدت من بساتين تدقاسى فى الولاية الشمالية لموسم 2003 حيث اجريت الدراسة فى شهرى ديسمبر 2003 ويناير 2004 ولمدة 6 اسابيع فى مخزن البلح بسوق امدرمان .

اوضحت الدراسة أن اكثر الاصناف م مقاومة هو صنف البركاوى حيث كان متوسط نسبة الإصابة لهذا الصنف 18.4% ومتوسط نسبة الإصابة لصنف البذرى جاو 27.9% ومتوسط نسبة الإصابة لصنف بنتمودة 35.6% واقل الاصناف م مقاومة هو صنف ال قنديلة حيث سجل متوسط نسبة اصابة 40%.

ثانياً: تم دراسة العلاقة بين نسبة الإصابة ووجود وعدم وجود القمع ودوره فى حماية الثمرة من الإصابة الحشرية .فقد اتضح من الدراسة الدور العظيم لهذا الجزء حيث وجد أن الاصناف التى فقدت أقماعها بنسبة كبيرة كانت اكثر اصابة من التى فقدت اقماعها بنسبة اقل . كان متوسط نسبة الإصابة فى الثمار التى لا تحتوى على اقماعها 47.3% ومتوسط نسبة الإصابة فى الثمار التى تحتوى على اقماعها 15.4% . لذلك لابد من حماية الثمار والابقاء على اقماعها ما امكن خاصة فى الاصناف التى تفقد اقماعها اثناء عمليات الحصاد والمناولة وهذا يشير الى انه يمكن خفض الإصابة فى التمر بدرجة جوهرية اذا ماتم الحصاد و التعامل مع التمور خلال الحصاد وبعد الحصاد بطريفة تحفظ هذا الغطاء (القمع) ملتصقا بالثمرة .

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