

ABSTRACT

The red palm weevil, *Rhynchophorus ferrugineus* (Olivier) (Order: Coleoptera, Family: Curculionidae) is the most serious insect pest of cultivated palm trees in several date palm producing-countries. The present investigation is carried out during two successive years 2005/2006 and 2006/2007 in Research Laboratory of Date Palm Pests in Plant Protection Department, Faculty of Agriculture, Zagazig University and Yousry El-Sebay Research Laboratory of Red Palm Weevil at Qassasin, Ismailia Governorate, Plant Protection Research Institute with the aim of throwing more light on the effect of some palm varieties (Hayani, Englany, Amry and Zaghlool date palms and Pritchardia ornamental palm) on certain biological aspects of the red palm weevil as well as correlation between some chemical constituents of the tested varieties and biological aspects under laboratory conditions in order to define the most tolerant variety whereon insect reproduction is the lowest and its developmental period is the longest. Also, toxicological study of certain chemical insecticides against eggs, larvae and adults of the red palm weevil under constant conditions of $28 \pm 1^{\circ}\text{C}$. for temperature and $85 \pm 5\%$ for relative humidity was conducted. On the other hand, attraction of red palm weevil to the different tested palm varieties under semi-field conditions of metallic greenhouse in order to determine host-preference of weevil. Efficiency of certain chemical insecticides to control this insect under field conditions was evaluated. From the obtained results, it can be concluded that the biological aspects of the tested insect differently influenced by palm variety and chemical constituents

of variety. Toxicity of used insecticides varied according to both tested compounds and treated stage. More differently individuals of *R. ferrugineus* adults were attracted to date palm varieties, where attraction value of Pritchardia ornamental palm was nil. Effect of the tested insecticides as a chemical control agent against red palm weevil was differently varied.

الموجز

تعتبر حشرة سوسة النخيل الحمراء من أكثر الآفات الحشرية إضراراً بأشجار النخيل في العديد من الأقطار المنتجة لنخيل البلح. أجريت دراسات خلال عامين متتاليين 2005 – 2006 و 2006 - 2007م بمعمل آفات النخيل بقسم وقاية النبات - كلية الزراعة - جامعة الزقازيق ومعمل د. يسرى السباعي لبحوث سوسة النخيل الحمراء بالقصاصين بمحافظة الإسماعيلية - معهد بحوث وقاية النباتات - مركز البحوث الزراعية لإلقاء الضوء على تأثير بعض أصناف النخيل (حياني، عجلاني، عامري وزغلول لنخيل البلح وبرتشارديا لنخيل الزينة) على بعض الصفات البيولوجية للحشرة محل الدراسة ومدى ارتباط تلك الصفات بالمحتوى الكيميائي للأصناف المختبرة وذلك تحت الظروف المعملية من أجل تحديد الصنف الأكثر تحملاً للإصابة بالحشرة وهو الذى عليه يكون تأثير الحشرة أقل وفترة نموها أطول، هذا بالإضافة إلى دراسة سمية بعض المبيدات على الأطوار المختلفة مثل البيض واليرقات والحشرات الكاملة تحت ظروف ثابتة من درجة حرارة $28 \pm 1^\circ\text{C}$ و $85 \pm 5\%$ رطوبة نسبية. ومن جهة أخرى تم دراسة إنجذاب الحشرات الكاملة لسوسة النخيل الحمراء إلى الأصناف المختلفة تحت ظروف شب ه حقلية وذلك باستخدام صوبة سلكية لتقدير درجة إنجذاب الحشرات لأصناف النخيل بهدف تحديد التفضيل العوائلى للهوسة. كذلك تم تقييم فعالية بعض المبيدات الكيماوية لمكافحة هذه الحشرة. ومن النتائج المتحصل عليها يمكن إستنتاج أن الصفات البيولوجية تأثرت بدرجة متفاوتة حسب الصنف المختبر وكذلك بالمحتوى الكيميائى له. كما أن سمية المبيدات المختبرة إختلفت تبعاً لنوع المبيد والطور المعامل. وقد إنجذبت معظم الحشرات الكاملة إلى أصناف نخيل البلح، بينما إنعدم تواجد الحشرة على نخيل الزينة برتشارديا. هذا وقد أوضحت النتائج أن إستخدام مبيد فوسفيد الألومنيوم بمعدل 9 أقراص للنخلة أعطى شفاءً كاملاً للنخيل المصاب خلال أسبوعين من المعاملة.

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