بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

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

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

GENETICAL STUDIES OF SOME CULTIVATED ARAB DATE PALM VARIETIES USING DIFFERENT POLLINATORS

By

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B.Sc. Agric. Sci. (Genetics), Fac. Agric., Zagazig Univ., 2003.
M.Sc. Agric. Sci. (Genetics), Fac. Agric., Cairo Univ., 2013.

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SUPERVISION SHEET

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Title of Thesis: Genetical studies of some cultivated Arab date palm varieties using different pollinators
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ABSTRACT

Date palm (*Phoenix dactylifera* L.) is an important and oldest fruit tree. Determination of genetic relationships between date palm cultivars is very useful for characterization of date palm germplasm, breeding programs, conservation purposes and genetic improvement. In this work the PCR-based markers (ISSR and SRAP) have been used as tools to determine the relationships between date palm cultivars that are difficult to distinguish morphologically. Results revealed that the total polymorphism detected by the ISSR assay (59.02%) with a total polymorphic bands of (36) was higher than that observed for SRAP (51.85%) with a total polymorphic bands of (56). On the other hand, we have attempted to determine the sex-specific DNA markers for some date palm cultivars and selected progeny using molecular techniques (RAPD and ISSR) to detect the sex in date palm seedlings at early stage. Using both RAPD and ISSR analyses gave one positive specific marker for female and eight for male in RAPD analysis in addition to five positive specific markers for female and three for male in ISSR analysis and the level of polymorphism between cultivars was 77.01% and 80.45% as revealed by RAPD or ISSR, respectively. Moreover, the gene expression investigations aimed to evaluate the gene expression for the three genes, Phosphofructokinase, pectin (pectate) lyase and Xyloglucan (Xyloglucosyl transferase) for fruit quality of date palms (Barhee and Majdool) in Khalal stage. The expression levels of these genes in treatments T1, T2 and T3 in Majdool cv. were higher than the expression level of these genes in the same treatments of Barhee cv. The treatment T2 gave high expression (1.70 fold) in Majdool cv. compared with control for Phosphofructokinase gene but the expression of Xyloglucan gene has been observed with higher expression (1.69 and 1.73 fold, respectively) in treatments (T1 and T2), in Majdool cv. compared with the reference gene.

Keywords: Date Palm, RAPD, ISSR, and SRAP DNA markers, Gender identification.

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