



Fingerprint and Molecular Identification of Some Iraqi Date Palm Cultivars Using Inter-Simple Sequence Repeat (ISSR) Markers.

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Abstract

many of molecular markers used to determination the fingerprint and diversity in date palm. the ISSR markers are more suitable and efficiency to use for this aim, in this paper we are used a seven ISSR markers to find the fingerprinting and diversity for seven Iraqi date palm, which are not mentioned in author papers by this technique, after the DNA extraction from young leaves with reliable quality and quantity, the genomic DNA and ISSR markers were amplification by PCR Special program, then a DNA fragment amplification cultivars were electrophoresis, then calculating the number of mono- and polymorphic bands, which used to calculate a similarity and genetic distance between cultivar, then it are used to build a phylogenetic tree and cluster analysis.

Introduction

Dates palm is one of the most important fruit in Iraq, the Arabian Gulf and a large part of the Arab world, because it is tolerance of the dry and semi-dry environment, as well as it is represent a big think in Iraqis and Arabs live because it is mention in the Qoran and the Prophet Muhammad peace be upon him, It has great nutritional and economic benefits, fruit may be represent a Integrated food, the other part of the tree can inter in Manufacturing industry useful to humans (Abdulwahid,2011; ,2011) Jaradat).

Date palm tree is delicious plant, Thus, the process of cross-pollination was necessary to give an economic crop, but the resulting plants from the seed which come from cross-pollination process are non-similar to the parents, therefore there are many cultivars were predusing from it. The Al Baker,1972, mention there are more the 600 cultivar can found in Iraq land.(Abdulwahid,2011).

The diversity of dates palm varieties and their spread over large areas was the reason that a large number of these varieties did not have the right to study and diagnosis, some of them are similar in appearance and fruit traits, but there cultivar take a deference name. The Outher cultivar were similar in names but differ in genetics and appearance. Because the phenotyping trate was effected by invernmental, theres phenotypic trait have made it a weak tool for diagnosis and identification of varieties. Therefore the researcher have discover a new good tool to identification the veraatise depend on the molecular markers which have not effected by everomental or age tessue and give a highet polymorphesim (Hammadi et al.,2009) ..

DNA-based molecular markers have differed in power, speed, and cost. These techniques include RAPD, AFLP, ISSR, STR and SNP others. In the current study, ISSR is one of the most powerful techniques adopted by many researchers in distinguishing date palm varieties for strength, ease and cost (Zehdi et al.2004 ; Al-Khateeb and Jubrael,2006 Munshi and Osman,2010)