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البصمة الوراثية لبعض أصناف النخيل السعودي باستخدام التقنيات الحيوية الجزيئية الحديثة
- Document Language** : Arabic
- Abstract** : Six cultivars of Saudi date palms were studied in this research (Al-Sukkari, Al-Sefri, Al-Sullaj, Al-Khalas, Al-Makfizi and Al-Maktoumi) to determine the genetic fingerprint of each cultivar on the level of the protein and the DNA , and to point out the genetic differences and similarities among those cultivars by using the most updated , molecular biotechnologies that depend on the DNA in exploring the differences. The amino acids in each cultivar leaves were separately analysed. While Al-Sukkari had the maximum content of amino acids, i.e. 3.26%, Al-Makfizi the minimum, i.e. 2.36%. In the same way, the total content of the soluble protein in this leaves was estimated; Al-Sullaj had the most protein, i.e. 5.5% while Al-Sefri the least, i.e. 4.1%. Protein profile using polyacrylamide gel electrophoreses (PAGE) was applied to determine the genetic fingerprint of each of the six date palms on the level of the protein. Whereas Al-Sefri produced as many as 13 protein bands, Al-Sukkari a smaller number, i.e. 5 bands. Being a highly-efficient, updated, molecular, biotechnological means, the random amplified polymorphic DNA (RAPD) markers was employed to determine the genetic fingerprint of each of the six date palms on the level of the DNA. Ten random primers were applied; each primer made up of 10 nucleotides. The number of DNA bands representing the polymorphic DNA fragments among the 6 date palms was 81, i.e. 26.7%, at a rate of 8.1 band for each primer. The degree of genetic closeness among the 6 date palms was estimated; Al-Sefri and Al-Makfizi had the highest degree of resemblance, i.e. 96.3% whereas Al-Sukkari and Al-Sullaj showed the lowest, i.e. 79.2%. A Dendrogram was drawn to demonstrate the relative genetic similarities among the different genotypes of the six date palms. The diagram shows that Al-Sefri and Al-Makfazi have a large degree of genetic similarities while Al-sukkari outlying hereditary of the other cultivars.
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