



STUDY OF BIOCHEMICAL INDICATORS FOR SOME VARIETIES OF PALMS AT SOME POINT DEFECTS

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Abstract

The experiment was carried out in the Palm and Dates Research Laboratories, where samples were taken from Kut Research Station in Kut Governorate during the 2016 growing season. In order to compare some of the chemical characteristics of 20 varieties of date palm trees. The trees were selected at the age of 14 years and at the rate of three palms for each of the studied varieties. The trees were selected as homogenously as possible and the trees were cleared from the green pollen vaccine and in the usual season of pollination. Carbohydrates were significantly higher in carbohydrates than in other varieties. The highest concentration was (32.5%) in the Premim red category. For anthocyanins, the highest yield was the highest concentration of anthocyanins in fruits and Reached (2.07 mg/g fresh weight) differed significantly from the rest of the cultivars studied, while we find class Hoithi less yellow content has given the fruits of anthocyanins compared to other cultivars studied (0.56 mg/g soft weight).

Key word: Biochemical indicators, some point defects, varieties of Palms

Introduction

The date palm (*Phoenix dactylifera* L.) is among the most important species in the Palm family (Arecaceae), which encompasses about 200 genera and more than 2,500 species (Jain *et al.*, 2011). It is a long-lived monocotyledonous species and one of the tallest domesticated trees. This perennial and dioecious species represents a keystone of the economy in many producing countries, especially in North Africa and the Middle East. It plays an important role in agriculture and represents a significant part in the reclamation programme. Date fruits are a good source of low cost food and are an integral part of Arabian diet (Plant manager 1983 FAO, 1986).

Pass the fruits of Palm trees with many stages during their growth and maturity after pollination and fertilization and growth processes called Decade fruits which can be divided into alhababok walkmri walkhlal wet and dates and longer phase defects adulthood for fruit (maturation). Then begins the fruit into adulthood (Ripening) which consists in wet phase and stage of development which can be considered a stage of ageing fruits (Shabana *et*

al., 2006).

The phase the defects determined start fruit color change from green to yellow or red, take 3-5 weeks, this phase is characterized by continuing declines in rates of increase in weight and size as shorthand sugars accumulation rate and decreasing pH and humidity while you get a rapid increase in the accumulation of Sucrose and total sugars and TDS (Benjamine *et al.*, 1976). This phase is characterized by a distinctive sweetness sweet varieties of sugar sucrose as albrhai because they are useless altaininih materials altaininih materials starting in sedimentation in other items deposited in cells into pellets insoluble in water, leading to the disappearance of tastes and vary speed Deposition of alteininat in different varieties in some varieties of sweet but somewhat scathing (Aqidi, 2010).

While he found that proteins are present in a small percentage of meat. It has been found in California (hussein *et al.*, 1993) concentration of protein for the varieties of dates Zuhdi, hadrawi, sweets, khstaoi, Sayer of 1.5% - 2% it is high quality food, as applicable (Abdel Nabi 1998). The proportion of protein in sixty four

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varieties of dates UAE wattage 2 - 4.8%. Ibrahim said (2008). The pigments are present on the form wanthosianidin anthocyanin, and noted that high trakisha at the stage of Al-Jamri, goes down at some point defects, and that their color is predominant in categories that are fruit red color at some point defects.

Materials and Methods

Materials and methods this study was conducted in the laboratories of date palm research unit where she took samples of date palm research station Kut-Kut 2016 during the growing season. It elected 14 year old trees and three Palms for each item selected. trees provided harmonies in vegetative growth as possible vaccinated by trees of green alghanamy vaccine in the vaccination season. During the growing season performed agricultural service operations. samples were taken at some point defects in 6/8/2016 history. Almrosh characteristics: fruit content of carbohydrates is put 1 ml of the sample prepared in the test tube by Dubois way 1956 and added to 1 ml of the phenol and concentration of 5% and mixed well and then add 5 ml of sulphuric acid concentration Centre 97% and mixed well and leave for 10 minutes after the arrival of heat pipe To room temperature limits of 35 m and been reading samples by a spectrophotometer optical spectroscop on wavelength 490 mn fruit content of proteins are estimated on the

basis of nitrogen by weight (0.2)g of dry matter for the fruit and digested using the method Mic-Kjdhl 1979 Then as the nitrogen almaikrokldal Cresser & Parson protein intake by multiplying nitrogen nitrogen represents approximately 6.25 16% protein by weight. The degree of discoloration of fruit (anthocyanins) (mg/g by weight) by taking 1 g of fruit and soft tissue crushed in ethanol were acidified (HCL standard 1.5 and alcohol 95% aithanoli) Nominated after taking 1 ml of solution and complete to 10 ml, measured by a spectrophotometer at a wavelength nanometers as 535 (Ranganna, 1986).

Data were analyzed statistically in a way variance analysis and comparison arithmetic using less moral difference (L.S.D) at the 5% level (Alsahoki and frank, 1990).

Results and Discussion

The content of carbohydrates in fruits note from Fig. 1 item thanred Prem yellow weshoithi moral content of carbohydrate fruits compared to the rest of the items and has the highest concentration (32.5%) when the itemred Prem while seeing that item yellow Derry had given less content of alkerbohida And which reached (20%).

Fruit content of nitrogen

Illustrated fig. 2 that moral differences in nitrogen

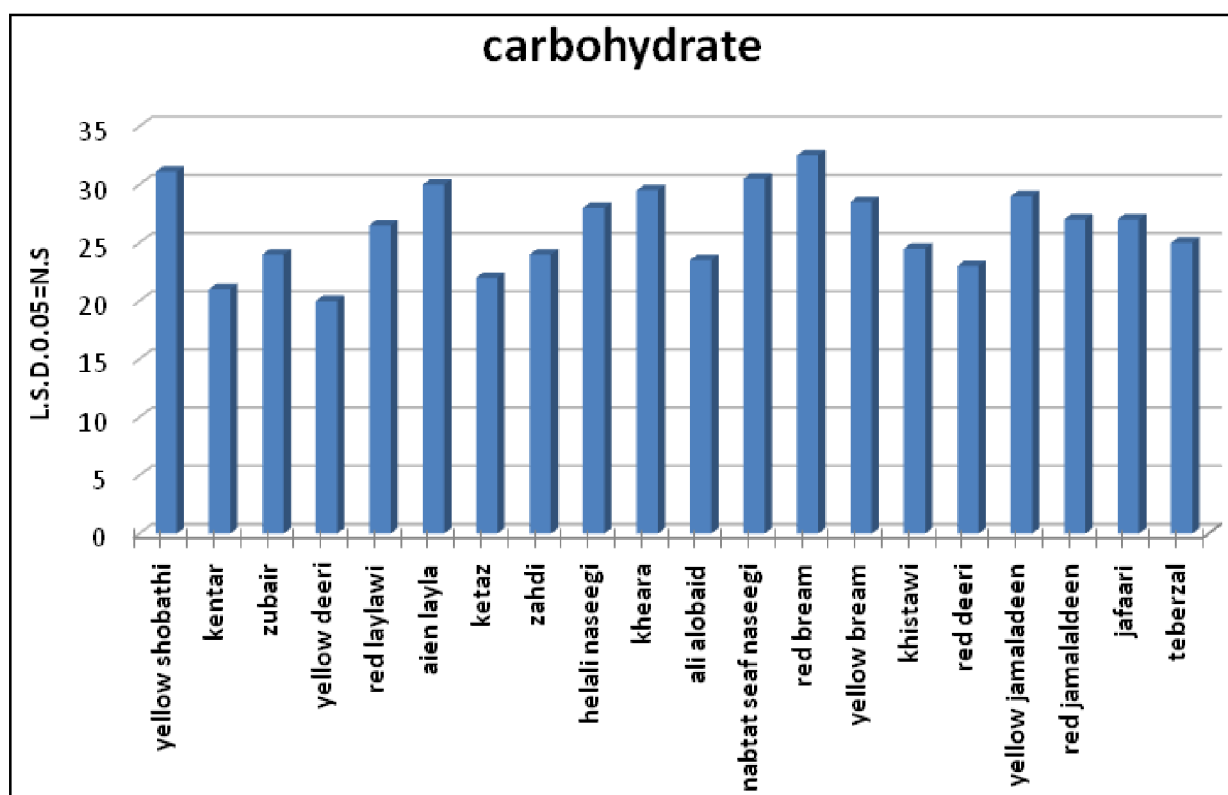


Fig.1.

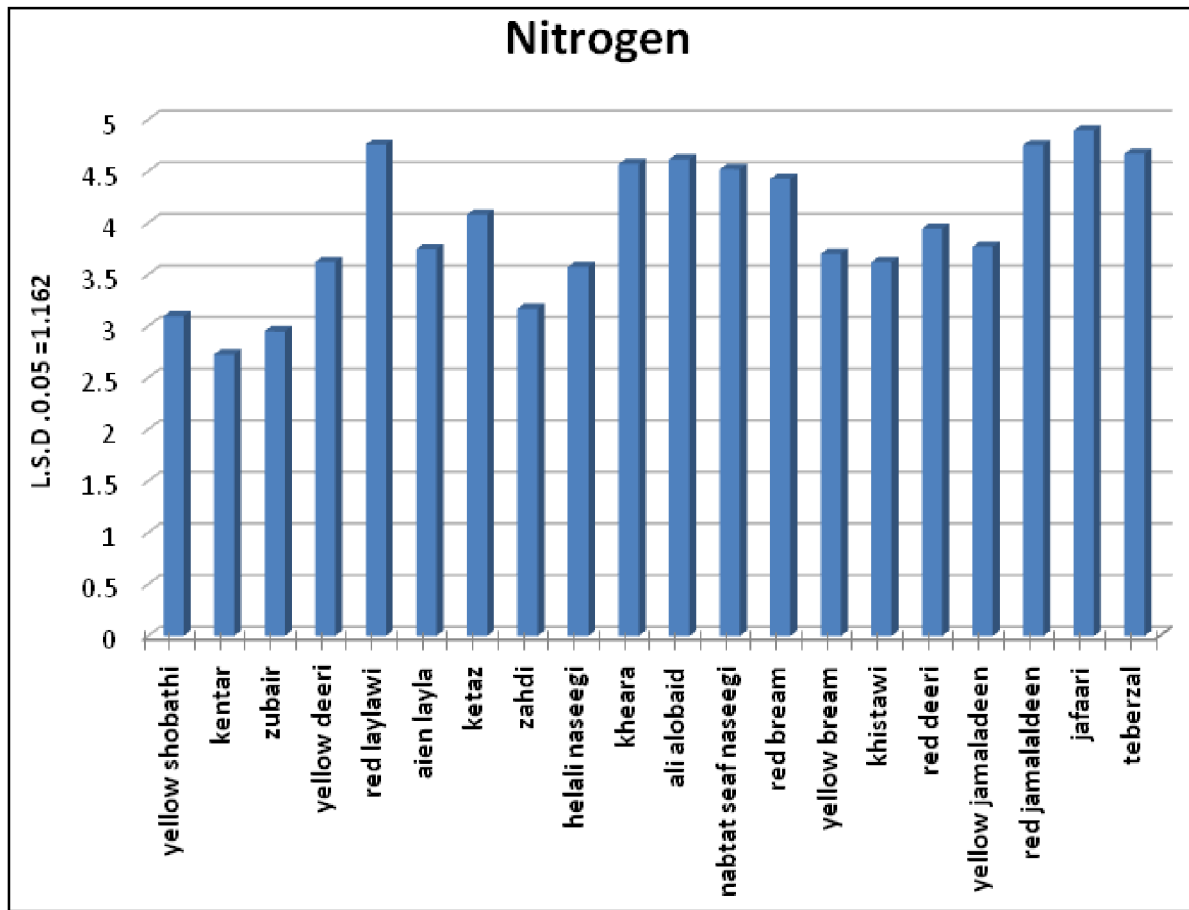


Fig. 2.

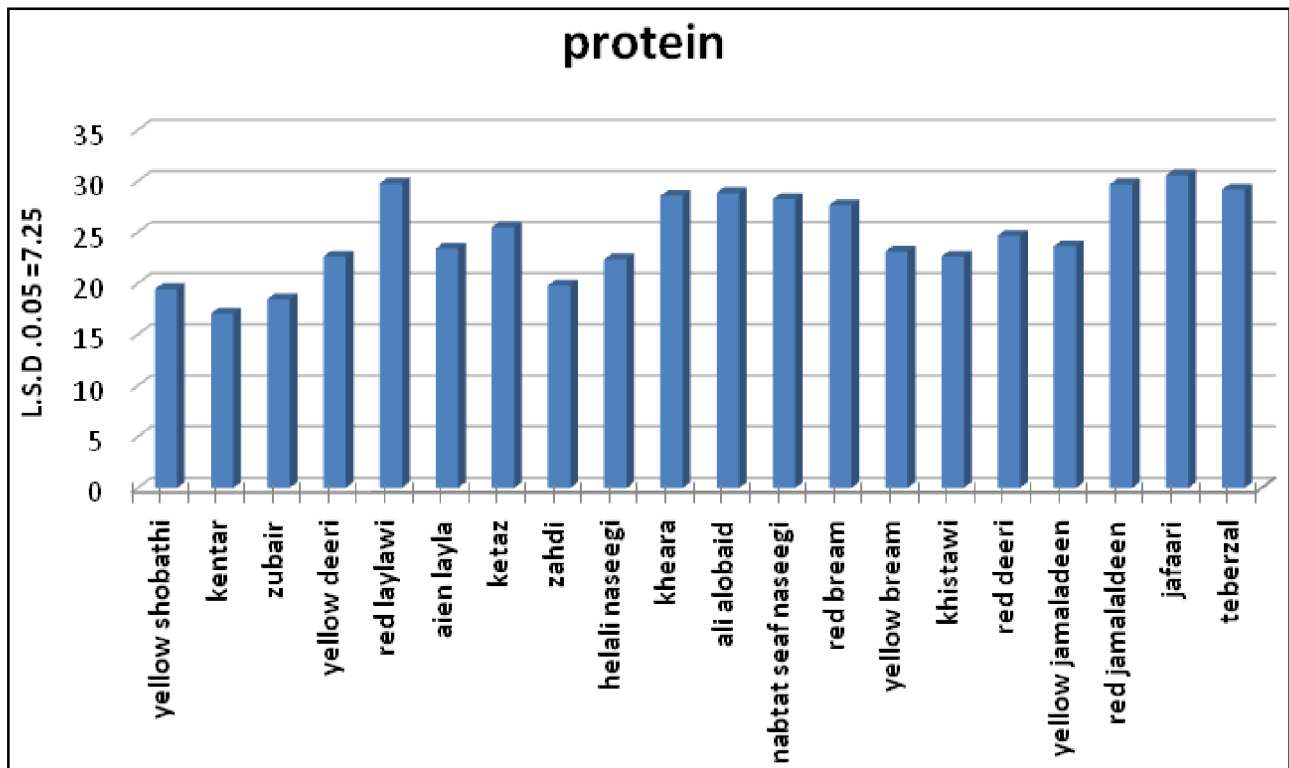


Fig. 3.

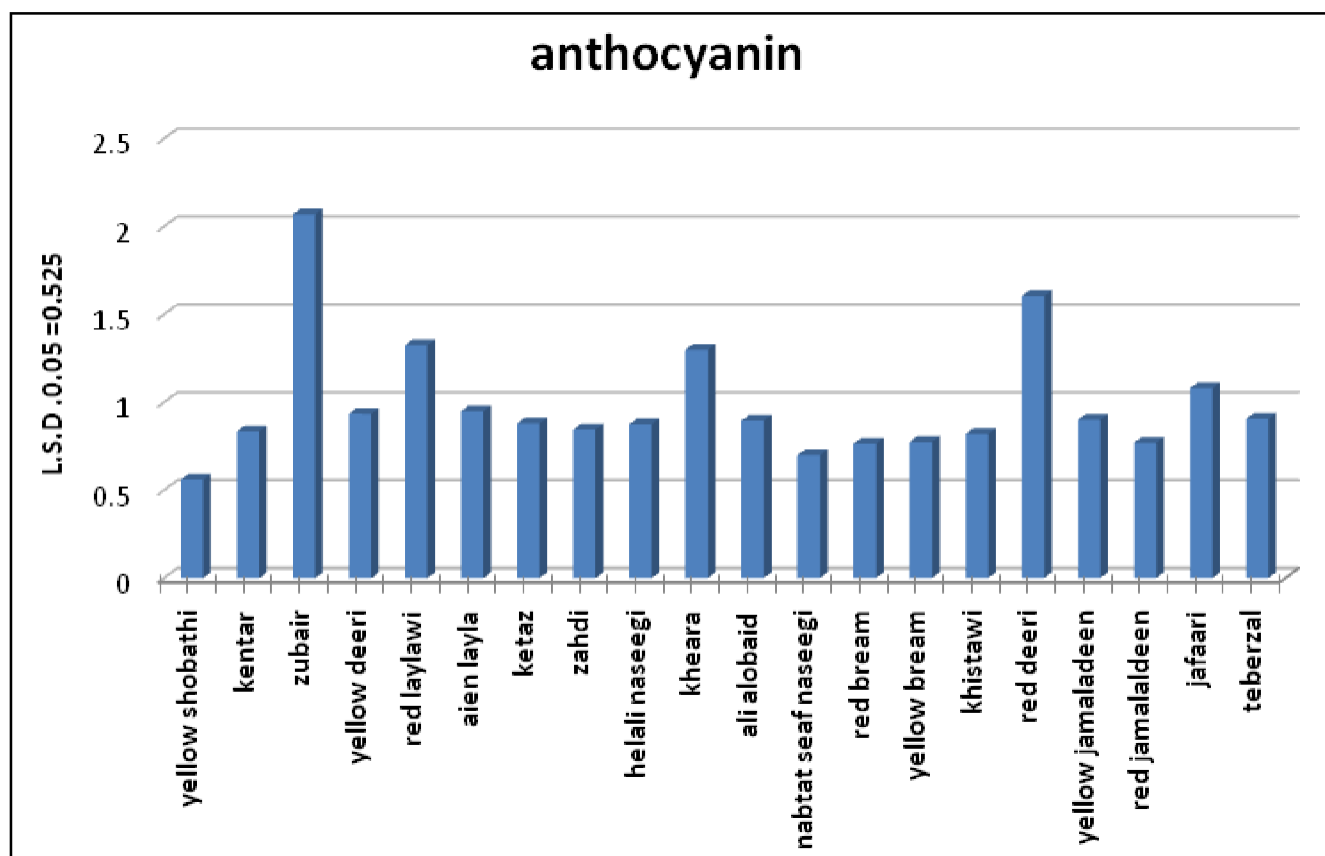


Fig. 4.

content of fruits with higher content of nitrogen Jaffrey item in the fruits (4.895%) No moral varies with twist red (4.76%) And Jamaluddin yellow (4.77%) Wetbrzl (4.76%) Either the class kntar was less nitrogen content in the fruit (2.725%).

Fruit content of protein

Illustrated by fig. 3 that there are differences in the protein content of fruit spirits with higher protein content Jaffrey item in the fruits (30.59%) No moral varies with twist red and Jamaluddin describe wetbrzl kntar item either grew less content of protein in the fruit (17.02%).

Fruit content of anthocyanins

note from fig. 4 to highest concentration gave Zubair item llanthosianin in the fruits (2.07 mg/g by weight) moral differed from the rest of the varieties studied while yellow shoithi item has given benefits from anthocyanins content less compared to the rest of the items the tides Rouse (0.56 mg/g by weight).

Deduce through our differences between the varieties studied as genetic factors are responsible for the differences in different species: the varieties of dates differ in genetic or inherent genetic combinations within the cell and these control the expression of traits Walthmrih green chemical and morphological types of sugars and

pigments and any other trait (Abu Zayd, 2000).

References

- Al-Aqidi, Hassan Khalid (2009-10). Palm dates – Lady foliage and Dora dates – safe for publishing and distribution – the Hashemite Kingdom of Jordan
- Abu Zayd, Nasr Abu Zeid Al-Shahat (2000). Plant hormones and agricultural applications Arabic House for publishing and distribution. Egypt.
- Benjamin, N.D., H.R. Shabana, K.S. Jawad, B.A. AL-Ani, H.K. AL-Agidi and H. Zubair (1976). Physio-chemical changes during different stages of ripening and determination of the dipressed period of development in the date fruit 2-chemical changes in zahdi and sayer cultivars. tech-Bull-No 1\76. palm and Date Research Center. Baghdad. Faslgtha Palm fruits, pounds and traded after harvesting.
- Hussein, F., A.M. Mohsen, M.A. Meligi and S.A. Rizk (1993). Studieson stomatal Frequency and culticular deposition in haiani date pinna. *proceeding of the third symposium on the Date palm, in sandi Arabia*- jan -17-20, 1993 Vol, 1: 477-483.
- Ibrahim, Abdel Basset Ibrahim's return (2008). date palm tree of life – Arab Center for the studies of arid zones and dry lands (ACSAD), Damascus 2008.
- Makki Mahmoud Bin Abdel Nabi, Mohamed Ahmed Hamoudi and Ali bin Salim Al Abri (1998). Science of orchids – part

- II – Palm dates – volume I – serviced and stewardship – DG Agriculture and veterinary – Diwan – Sultanate of Oman-886 pages.
- Plant wealth management sources date palm 1983 in UAE – Ministry of agriculture and fisheries – U.A.E. State.
- Ranganna, S. (1986). Hand book of analysis and Quality Control for fruit and vegetable products. total MC grawhill publishing company limited, New Dalhi.
- Shabana, Hassan Abdul Rahman and Zayed Abdul Wahab, and sonbol Abdelkader Ismail (2006). Stastics series (1986). FAO. Trade year book vol 40 FAO Rome.
- Jain, S.M., J.M. Al-Khayri and D.V. Johnson (2011). Date palm biotechnology: Springer.