Effect of Harvesting Time of Citrus Cultivars on the Quantity and Quality of Hesperidin in the North of Iran

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Hesperidin is one of the most important flavonoids that used as medicine to cure some diseases. It is extracted from immature citrus fruits. The aim of this investigation was to find out the effect of citrus cultivars and harvest time on the quantity and quality of hesperidin.

All field experiments were conducted at Citrus Research institute in Ramsar. The experiments were started in 1997 and repeated in 1998. The treatments consisted of four citrus cultivars including Local orange *(Citrus sinensis* [L.] Osbeck), Thamson Navel orange (*Citrus sinensis* [L.] Osbeck), Clementine mandarin *(Citrus reticulata* Blanco) and Satsuma mandarin *(Citrus unshiu* Marcovitch) and at four harvest times, as the fruits harvested from June drop every ten days. Three trees were selected for each cultivar as three replications in the base of two- factor completely randomized design.

According to the results harvest time had significant effect on hesperidin content. As the highest hesperidin content was obtained 50 to 60 days after full bloom.

Hesperidin yield was higher in Local orange and Clementine mandarin than the other cultivars. since the Local orange is cultivated in large scale in the north of Iran, therefore it is a suitable source to produce hesperidin.

flower than control plots and new ones, respectively.

Saffron crocus in Iran needs 7 months (5th Oct to 5th May) for growing and 5month (5th May to 5th Oct) for summer dormancy. Some chemical signals result the qualitative changes take place in the shoot apical meristem of corms in summer. From the middle of July up to the begining of August, cells in the shoot apex begin mitotic activity which increases the number of leaf perimordia. in the period between begining and middle of August rapid chenges occur in the shoot apex leading to initition and differentiation of flower organs.

Above findings demonstrate that water as a physical factor affects natural process of initiation and differentiation. It means that irrigation at the time of vegetative differentiation is harmful and decreases flower production , but the irrigation at the time of generative differentiation is useful and increases saffron flowering.