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Effects of Bed Type, Corm Weight and Lifting Time on Quantitative and Qualitative Criteria of Saffron (Crocus sativus L.)

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Abstract : In order to study the effects of corm weights and times of corm lifting saffron in different planting beds, an experiment was conducted as Factorial layout based on a Randomized Complete Block Design with three replications at the Fadak Research Center of Agricultural Research in Food Science during 2010. Treatments were two corm weights (8-10, 10 < g), two planting beds (stone wool and peat moss) and five levels of lifting time (mi-June, early July, mid-July, early August and mid-August). No. of corms were 457 corms.m-2 and for 40 days and were stored for 90 days in incubation, 85% relative humidity and 25°C temperature in the darkness. Then, saffron corms were transferred to growth chamber with 17 °C in 8 hours light and 16 hours darkness. Characteristics were number of flower, fresh weight of flower, dry weight of flower, fresh and dry weight of stigma, fresh and dry weight of style, fresh and dry weight of stigma+style and Picrocrocin, Safronal and Crocin contents of saffron were measured. Results showed that the corm weight, bed type and time of corm lifting had significant effects on economical yield of saffron such as picked flowers, dry weight of stigma and fresh weight of flowers. The highest saffron economical yield was obtained in interaction of corm weight, 10 g, peat moss and lifting time in mid-June as much as 5.2 g.m-2. This yield is 11 fold of average yield of Iranian farms. Picrocrocin, Safranal and Crocin contents was graded as excellent thread in peat moss under controlled conditions compared with ISO Standard of 203.

Keywords : corm density, dry stigma, safranal-flowering, yield saffron
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