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THE STUDY 2DE ELECTROPHORESIS OF SAFFRON (*CROCUS SATIVUS* L.) 'CORM AT FLOWERING STAGE

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Proteomics investigation was carried out on corm at flowering stage of saffron (*Crocus sativus* L.).Natural saffron is dried stigmas, and precious spice at market. Because of having many valuable substances e.g. crocin, it used as anti-tumor, anti- oxidant and anti-carcinogenesis. Saffron is a member of Iridaceae family and sterile plant. Nowadays biotechnology like proteomics helps to understand development and improvement of quality and quantity of this valuable crop. Saffron propagated by corms, the storage underground organs of saffron. Thecorm produces 7-9 tiny corms (cormlets) each year. The aim of these studies was identification of proteins which involved in saffron corm at flowering stage. The corms were collected from Research field of University of Tehran (Karaj). Proteins were extracted by using Damerval protocol, then the first dimensions isoelectric focusing (IEF) was carried out using Amersham recommended approach. The MS-spectrometry was carried out for identification of 12 spots from corm at flowering stage. The two identified proteins were, Mannose-binding lectin which was found in corm of saffron has anti-bacterial and anti-virus especially anti-HIVactivities and also Glyceraldehyde-3-phosphate dehydrogenase, when the plant expose to any stress this enzyme produce at high level. To the best our knowledge, this is the first report on saffron proteomics.

Key words: Iridaceae, proteomics, *Crocus sativus,* Mannose-binding Lectin

References

[1]Catterall, J.B.; Rowan, A.D.; Sarsfield, S.; Saklatvala, L.; Wait, R. and Cawston, T.E. Rheumato, **2006,**pp.1-9.
[2]Damerval, C.; Vienne, D.D.; Zivy, M.; Thiellement, H. Electrophoresis, **1989,** 7, pp. 52-54
[3] Spadafora, A.; Filadoro, D.; Mazzuca, S.; Bracale, M.; Mrsoni, M.; Cardilio, M.; Innocenti, A. M. P. Biosys. **2008,** 142(2), pp. 213-218.