

## Effect of Humic Substance on Ex-Vitro Propagation of Saffron (*Crocus Sativus L.*)

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**Abstract :** Saffron (*Crocus sativus L.*), the most expensive spice in the world derived from the stigmas, is an autumn-flowering and sterile triploid ( $2n=3x=24$ ) geophyte species that belong to the Iridaceae family. This plant species is mainly propagated vegetatively through the formation of daughter corms from the mother one. Low multiplication rates of daughter corms under natural conditions, along with fungal contamination, significantly reduce the productivity and quality of saffron corms. The development of efficient and sustainable strategies for rapid and large-scale production of selected cultivars of saffron will be desired. For this, the main objective of this work is to improve the vegetative propagation of saffron under ex-vitro conditions. Preliminary results of the influence of increasing doses of humic substances (HS) on the growth and multiplication of corms under greenhouse conditions are evaluated. The obtained data shows that the effect of HS depends on the concentration used and the mode of application. Indeed, the application through irrigation has increased the number of shoots and corms, but it has reduced other parameters. On the other hand, the temporary treatment has improved all observed parameters except for the number of shoots and corms. Results obtained in this work suggest that it is possible to improve the propagation of saffron corms under greenhouse conditions.

**Keywords :** saffron, *Crocus sativus L.*, corm, humic substances

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