

عنوان مقاله:

Effect of plant growth regulators on control of saffron (*Crocus sativus* L.) corm dormancy

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خلاصه مقاله:

Purpose: Saffron (*Crocus sativus* L.) is a valuable medicinal plant with a short flowering period. Its flowering management can be useful for the production of saffron in a farm or controlled condition. The objective of this study was to determine the effect of plant growth regulators (PGRs) on saffron corms sprouting. **Research method:** For this purpose, corms were treated with different PGRs including α -naphthaleneacetic acid (NAA) (0, 100, 200, 300 ppm), chlorocholine chloride (CCC) (0, 100, 200, 300 ppm) and gibberellic acid (GA3) (0, 5, 10, 20 ppm) for two hours and incubated at 20-22 °C for eight weeks. **Findings:** The results revealed that the effect of PGRs on corms sprouting was significant. It has been shown that treatment of corms with auxin at all concentrations reduced sprouting compared to the control. To prolong dormancy for five weeks, NAA at 200 mg L⁻¹ was the best choice. While for the fifth week onwards, the most effective treatment was NAA at 100 ppm. Treatment with GA3 (20 ppm) has shown a stimulatory effect on corm sprouting. **Research limitations:** No limitations were founded. **Originality/Value:** Sprouting acceleration can keep flowering away from early autumn frosting in farm conditions, while prolongation of corms dormancy provides the possibility of harvesting saffron flowers in several times in a hydroponic system. The results of this study suggested two kinds of chemical for different purposes, inhibition and stimulation of sprouting of saffron corms that can be applicable for saffron hydroponic or farm production, respectively.

کلمات کلیدی:

CCC, Corm sprouting, *Crocus sativus*, GA3, NAA

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