

### عنوان مقاله:

Evaluation of the Effects of Organic and Conventional Cultivation Practices on Phytochemical and Anti-Cancer (.Activities of Saffron (Crocus sativus L

#### محل انتشار:

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#### خلاصه مقاله:

Saffron (Crocus Sativus L.) is a medicinal plant with high nutritional, medicinal value, and anticancer properties that have great cytotoxic effects on cancer cells. To evaluate the anticancer effects of stamen and tepal extracts of saffron on human breast cancer cells (MCF-Y), a factorial experiment based on a completely randomized block design with three replications was conducted at the Agricultural Research Field of the University of Birjand, Iran. The treatments included field age (one-, two-, and three-year-old farm), as well as organic and conventional cultivation with different levels of manure and chemical fertilizer (low, medium, and high levels of chemical fertilizer and manure), respectively. The studied traits including Total Phenolic Content (TPC), antioxidant activity, and cytotoxicity were evaluated by using, respectively, ۲,۲-Diphenyl-I-Picrylhydrazyl (DPPH), Ferric Reducing Antioxidant Power (FRAP), and A ۳-(۴,۵dimethylthiazol-Y-yl)-Y, a- diphenylte- tetrazolium bromide (MTT) tests. The results showed a significant difference among the phytochemical, antioxidant, and anti-cancer properties of the extracts obtained from organic and conventional conditions, the highest of which was obtained from organic cultivation. In addition, the content of antioxidants and therapeutic compounds in the extracts increased by increasing the level of manure. The result of the MTT test showed that both tepal and stamen extracts of saffron had an anti-proliferative effect on cancer cells, with stronger anti-cancer properties for stamen extract. Therefore, the use of stamen extract as an effective and inexpensive source for the pharmaceutical industry would open up new dimensions to prevent the therapeutic .challenges of breast cancer

# كلمات كليدى:

.Breast cancer, Cytotoxicity, DPPH, FRAP, MTT Test, Pharmaceutical industry

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