



## Effect of Environmental Factors, Rainfall, Relative Humidity and Temperature on Yield of Saffron (*Crocus sativus L*) in South Khorasan

Dr. M. H. Saberi\*, Dr. M. A. Behdani\*\*, K. Gharibi\*\*\*

H. Zra'atgar\*, A. Azari Nasr Abad\*, A. Maghari Fariz\*

### Abstract

Iran produces more than 200 tons of saffron, also has 90% of the cultivation area world wide and also 93.7% of the global production of this product. Plant growth and development and their ultimate performance depends greatly on the factors of climate conditions. Among climate factors, temperature, rainfall and relative humidity are considered factors that determine the changes in the yield of saffron in different regions. The South Khorasan province was selected for this study, farms with GPS coordination were determined. The Saffron fields after studying were selected, so that the model represents the main saffron in the province. Long-term meteorological data for each of the studied- areas were obtained from the Meteorological Office. According to relationship between rainfall, relative humidity and temperature on yield for each month, general equations were derived by using stepwise regression. In these equations, rainfall of November, December, January, February, March and April, relative humidity of November, December, January, February, March and May, Average temperature in months of October, November, December, January and February had greatest impact on yield of saffron. For High yield the average temperature in October 15 to 17.5, November 10 to 12, December 7 to 9.5 and in January 0 to 2.5 degrees Celsius.

### Keywords:

Saffron, Yield, Rainfall, Temperature, Relative Humidity, South Khorasan Province.

\* Scientific Members of Agricultural and Natural Resources Research Center of south Khorasan .

\*\* Associate Professor ,Faculty of Agriculture , University of Birjand.

\*\*\* Senior Expert of Agricultural Insurance Fund of Iran.