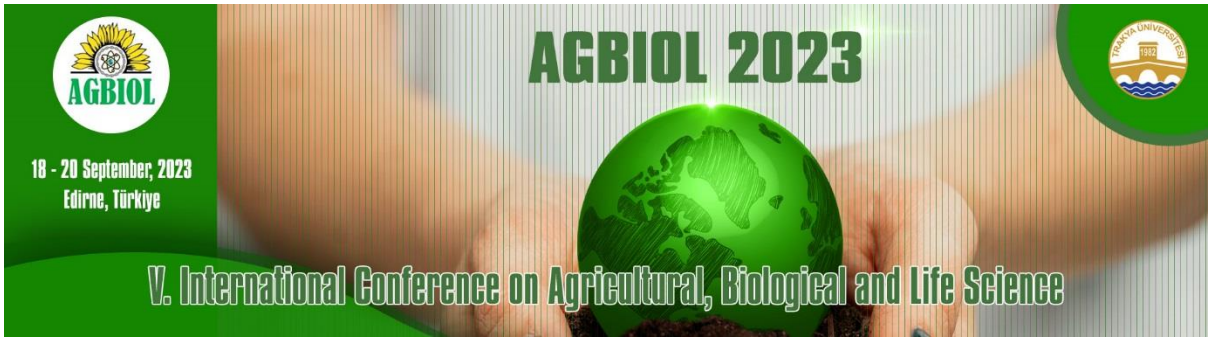

Investigation of the soils of semi-arid regions of Iran in terms of micro-elements, salinity and organic matter

Jafar PEJUHAN*, Binali COMAKLI, Reza AMIRNIA, Mehdi GHIASI and Noshafarin HOSSEINI

mahyarpejuhan@gmail.com

* **Head of Urmia Medicinal Plants Scientific Association**

Abstract

Agricultural science researchers have proven by conducting various experiments that the chemical condition of the soil, the amount of micro-elements and soil organic matter have a significant effect on the performance and quality characteristics of crops. In this direction and in order to investigate the chemical condition and fertility of farms in 2022 to 2023, an experiment was conducted in Urmia city. This area is known as one of the semi-arid regions of Iran due to the amount of rainfall less than 300 mm per year. In this research, some soil chemical properties, including soil acidity, soil salinity, soil organic matter percentage, and the amount of iron, zinc, manganese, and copper were tested. The results of this research showed that the agricultural soils of this region are poor in terms of microelements and organic matter. Also, based on the results of this experiment, it was found that the soil of these areas is very alkaline and limiting in terms of crop production. According to the results of this study, it can be concluded that in order to achieve success and increase the quantity and quality of crops in the semi-arid regions of Iran, reducing soil acidity, providing microelements, especially zinc and iron, as well as increasing the amount of soil organic matter to more than 2% it is absolutely necessary. It seems that in these soil conditions where pH is high, the simultaneous consumption of micro elements through soil and foliar nutrition can be very effective.

key words: Semi-arid areas, micro-elements, salinity, pH, organic matter