

Effect of spraying myrrha extract and organic fertilizer on the leaf content of nutrients and medicinally active compounds of pomegranate plant

Punica granatum L.

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Summary

The experiment was conducted at the Agricultural Research Station of the College of Agriculture - University of Basrah during the two growing seasons, 2021-2022, on pomegranate seedlings *Punica granatum* L. Shahrban cultivar, in order to study the effect of spraying myrrha extract with three concentrations (0, 3, 6) g.L⁻¹ and the effect of spraying the organic fertilizer Foliarex was also applied at three concentrations (0, 5, 10) ml.L⁻¹ and the effect of the interaction between them in the leaf content on some nutrients and medicinally active compounds in the leaves of pomegranate seedlings, with two periods of spraying the fall season starting from 2022/10/15 and the spring season starting 2022/3/15 with 12 sprayings, between one spraying and another one week, the experiment was factorial with two factors according to the randomized complete block design (R.C.B.D). and the Least Significant Difference (L.S.D) test was used to compare the averages of the treatments and at the level of probability (0.05), the results showed that the spraying of seedlings Pomegranate with myrrha extract at a concentration of 6 g.L⁻¹ led to a significant increase in some nutrients studied such as the percentage of nitrogen, phosphorus, protein and medically effective compounds such as phenols, tannins and alkaloids, while spraying with the organic fertilizer Foliarex at a concentration of 10 ml.L⁻¹ led to an improvement in most of the nutrients and effective compounds The effect of the interaction led to a treatment of (6 g.L⁻¹ myrrha extract and 10ml.L⁻¹ organic fertilizer) significantly superior in most of the studied traits compared with the control treatment.

Key words:myrrha, organic fertilizer, Medically effective compounds, pomegranate

* Retrieved from the first researcher's thesis

Introduction

The pomegranate plant *punica granatum* L. belongs to the pomegranate family punicaceae, Pomegranate trees are widely cultivated in the subtropical regions of the world between latitudes 41 north and south of the equator, and they can grow at high altitudes of up to 2400 m, as well as in coastal areas, it is also characterized by their tolerance of soil salinity, Pomegranate tree is one deciduous trees in cold regions and evergreen to partially deciduous in tropical and subtropical regions [11].

Due to the side effects that industrial chemicals pose, which may be negative, the tendency has been to find alternatives from natural compounds that can perform an effect similar to that of industrial chemical compounds. There are many plant extracts that have a role in encouraging growth characteristics, this is due to the fact that these plants containing a number of natural chemical compounds that differ according to the plant parts, stages of growth and environmental conditions to which plants are exposed [1].