



University of zabol

Graduate school

Faculty of agriculture

Department of agronomy

**The Thesis submitted for the Degree of M.Sc
(in the field of agronomy)**

Title:

**Evaluation of different feeding systems on the quantitative and
qualitative characteristics of sour tea**

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Abstract

In order to investigate different feeding systems on the quantitative and qualitative characteristics of sour tea, an experiment was conducted in a completely randomized block design with four replications in Ghale Ganj city in 2018. Treatments included NPK fertilizer, humic acid, biosorbent, NPK + humic acid, NPK + biosorb, humic acid + biosorb and control. Results of analysis of variance showed that plant height, stem diameter were affected by fertilizer treatment. The highest amount of mentioned traits belonged to the application of 50% NPK and 50% humic acid and the lowest values belonged to control treatment. The effect of different fertilizers on fresh and dry weight of sepals was significant and the highest weight of sepals was obtained by application of 50% NPK + humic acid. Fruit number, fruit weight, shoot fresh weight were affected by different fertilizers and the effect of combined fertilizer and humic acid application was more than other fertilizers. Leaf protein content and content of photosynthetic pigments such as chlorophyll a, b and total chlorophyll were significantly affected by fertilizer treatments, with 50% NPK + 50% humic acid treatment superior to other treatments. The results of mean comparison of different levels of fertilizer showed that different fertilizer treatments were different in terms of chlorophyll a, b and total chlorophyll, which had the highest application of chemical fertilizer and humic acid and the lowest control. The effect of fertilizer on anthocyanin content was significant at 1% level. Although no significant difference was observed between NPK fertilizer treatment with combined humic acid + 50% NPK fertilizer application, however, the highest value was related to the combined application of humic acid and NPK and the lowest was related to control treatment. The relative water content of leaves affected by fertilizer treatment showed a significant difference. The combined application of humic acid + fertilizer had the highest and the lowest control relative water content, respectively. In general, the combined application of humic acid + chemical fertilizer increased the physiological and morphological traits and ultimately increased sour tea growth by accelerating root nutrient uptake and thus rapid establishment.