

Abstract:

Roselle has a very important role in farmers' income; besides the multiple Medicinal uses. This research, in order to evaluation effects of organic and chemical fertilizers were evaluated on quantitative and qualitative characteristics in roselle (*Hibiscos sabdariffa* L.). the research was conducted under field condition in complete randomized block design with four replications at the Research field of the zabol university Agriculture college, Sistan Dam, zabol. the treatments included: (T1) control, (T2) nitrogen, phosphorus and potassium in a ratio of 2:1:1 (300 kg ha⁻¹), (T3) livestock manure (20 t ha⁻¹), (T4) compost (10 t ha⁻¹), (T5) vermicompost (5 t ha⁻¹),(T6) foliar of humic acid in a ratio of 1/5 in a thousand, (T7) Fifty percentage of T2 and T6 ,(T8) Fifty percentage of T3 and T6 ,(T9) Fifty percentage of T4 and T6 and (T10) Fifty percentage of the T5 and T6. result showed that The application of organic and chemical fertilizers increases height, diameter and number of branches per plant. so that maximum of the characters was obtained for the height with treatment T8 and plant diameter and the number of lateral branches with treatment T9. also vegetative growth trend in the growing season showed that over time, the use of chemical and organic fertilizer with humic acid, height, diameter and number of lateral branches has increased, compared with the individual application of these fertilizers. The effect of different fertilizers on plant weight was significant and maximum weight per plant was obtained with the application of livestock manure. the effect of fertilizers is significant on fruit number, seed yield, fruit weight, fresh and dry weights of sepals, inflorescence length and fruit. The effect of organic fertilizers with humic acid was higher compared with the other fertilizers. Although effect of organic and chemical fertilizers of statistically, was not significant, on the percentage of ash and the organic matter of the leaves and sepals but the highest amount of ash leaves and sepals was obtained of T4 and T1 treatments. also the highest percentage of organic matter was obtained in leaves and sepals with treatment T10 and T7 respectively. The effect of fertilizer treatments on protein and nitrogen of sepals was significant and T7 treatment was superior to other treatments. The highest percentage of phosphorus, potassium and calcium in leaves and sepals and magnesium of sepals was obtained by use of organic fertilizer and organic fertilizer combined with humic acid. Maximum of the sodium percentage in leaves and sepals was obtained of treatments T4 and T1respectively. although of statistically were not observed significant differences between the Fe, Zn and Cu. But the highest amount of iron was obtained of treatment T8, zinc and copper of treatment T5, and Pb of treatment T2. the effect of different fertilizers was significant on Mn. so that the highest Mn was obtained to treatment T10 and lowest to the control treatment. The highest vitamin C and anthocyanins and pH was obtained with treatment T8 and Maximum carbohydrates with treatment T3 and dissolved solids in the treatment T7. Maximum chlorophyll a, chlorophyll b and total chlorophyll was devoted to T8. According to the results of this experiment can be said: Due to increase quantitative and qualitative characteristics, roselle planting by the use of organic fertilizers with humic acid is suitable in Zabol weather conditions.

Keywords: Humic acid, Roselle, Quantitative and qualitative characteristics, Vitamin C



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