

Abstract:

Roselle with scientific name *Hibiscus sabdariffa* L. as medicinal plants is very important in pharmaceutical industries, food and industrial. To study effect of methanol foliar and manure fertilizer on quantity and quality yield of roselle at different plant density an experiment was conducted at research farm of University of Zabol, Iran in 2013 season. Experimental treatments were arranged in a split split plot design in randomized complete block design with three replications. Treatments of methanol foliar in sub sub plot included: control (no foliar of methanol), 10%, 20% and 30% volume of methanol and three level of manure in sub plot included: control (no plot of manure), 25 ton.h⁻¹ and 50 ton.h⁻¹ and three level of density in main plot included: 6 , 8 and 11 plants per square meter. Results indicated that methanol foliar had a significant effect on number of fruit, number of branches, stem diameter, fresh weight of plant, fresh weight of sepal, fresh weight of capsule, fruit weight, dry weight of capsule, total anthocyanin content, total carbohydrates content, total protein content, ash of sepal, organic matter, index spad (SPAD), iron, copper and calcium content and concentration of chlorophyll a, b, carotenoid, total chlorophyll. manure had a significant effect on number of dry weight of sepal, total protein content, index spad (SPAD), phosphor, iron, copper and calcium content and concentration of chlorophyll a, b, carotenoid, total chlorophyll. Plant density caused significant differences on all mentioned traits. The interaction effects showed that highest roselle economic yield obtained of 30% volume of methanol and 50 ton.h⁻¹ manure in 6 plant in meter density. Generally, use integrated application of methanol foliar and manure in suitable density, than aside use in unsuitable density, could play important role in increasing roselle quantity and quality characteristics.

Key words: methanol, manure, plant density, foliar, yield.



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**Effect of methanol foliar and manure
on quantitative and qualitative yield of
roselle (*Hibiscus sabdariffa* L.)
at different plant density**

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