

Abstract

To study the effect of different levels of bacteria and bio-manure on crop quality and quantity characteristics in order to reduce the use of chemical fertilizers soil amending and improving nutritional status of a factorial experiment in a randomized complete block design with three replications Education - University of Zabol,2013 was carried out. Treatments consisted of three levels of manure control (no manure application), 20 and 30 tons per acre and includes four levels of bio-fertilizer control (no application of bio-fertilizer), Azospirillum, Azotobacter and Azospirillum combined addition of Azotobacter. Based on the results obtained from the use of different levels of manure on plant height, number of heads per plant, number of seeds per head, seed weight, seed weight, economic yield, harvest index and biological plant had a significant influence. Biological treatments on all traits except seed weight was significant. review of the interaction of factors, the survey showed that most of the economic performance of 8.49 kg/ha associated with 30 tons of fertilizers and manure animal biodiversity azotobacter. The effect of manure on percent of the oil seeds was significant. The results showed that the combined use of bio-fertilizers and manure, rather than taking them separately could increase crop yield and quality can play an effective role.

Keywords: Azotobacter , Azospirillum , leaf chlorophyll , oil percent



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Title

**Effect of Biofertilizer and the levels of manure on
quantitative and qualitative traits of safflower (*Carthamus
tinctorius* L.)**

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