

عنوان مقاله:

(Zinc and iron application on quantitative and qualitative characteristics of bean (*Phaseolus vulgaris* L

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: 1397)

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خلاصه مقاله:

In order to investigate the effects of foliar application and soil utility of zinc and iron on the quantitative and qualitative yield of common bean black line, an experiment was conducted in University of Guilan, Rasht province. A field experiment was conducted in a completely randomized block design with ten treatments and three replications. Treatment consisted of iron soil application (20 kg ha⁻¹secostrine), zinc soil application (30 kg ha⁻¹ ZnSo₄), iron and zinc soil application, iron foliar application (2 parts per thousand), ZnSo₄ foliar application (3 parts per thousand), iron and zinc foliar application, iron and zinc foliar application+ soil application, iron foliar application and zinc soil application, iron soil application and zinc foliar application and control. The treats of plant height, number of pods per plant, number of seeds per pod, number of seeds per plant, seed yield, biological yield, harvest index, absorption of iron and zinc and protein percentage was evaluated. Results showed that the effects of the treatment on plant height, number of pods per plant, number of seeds per plant, seed yield, biological yield, uptake of iron and zinc and protein percentage were significant ($P<0.01$) and 100 seed weight and harvest index were significant ($P<0.05$). The maximum and minimum levels of characters were obtained from the soil and foliar application of iron+ zinc treatments and control respectively. Results of showed foliar and soil application of Fe + Zn, soil application of Fe+ foliar application of Zn as 42.64 and 42.47 gr reached the maximum 100 seed weight. In contrast, the minimum 100 seed weight was observed in control. Also, mean comparison showed there was a significant difference in yield under Fe and Zn treatments so that the highest seed yield was obtained in foliar application of Zn + Fe as 1515.52 kg ha⁻¹ and the lowest seed yield was observed in 1159.55 kg ha⁻¹. Use of iron and zinc had positive results on yield and yield components. Foliar and soil application of iron and zinc had the greatest efficiency in the use of these elements and by comparison with foliar and soil application methods the foliar elements have a greater impact than the use of soil

کلمات کلیدی:

Biological yield, Micro element, Quality, Secostrine, Seed yield

