Sesame (*Sesamum indicum L.*) yield and yield components influenced by nitrogen and foliar micronutrient applications in the Fayoum region, Egypt.

Abstract

This study investigates nitrogen and foliar micronutrient applications to Sesame (*Sesamum indicum* L.) and their influence on yield and selected yield components. Also, determining the variation of contributions traits with seed yield of Sohag1 sesame variety under studied treatments in newly reclaimed soil condition. The experiment was conducted in split-plot design with three replications during the 2013 and 2014 growing summer seasons with four nitrogen rates as the main treatment and three rates of foliar micronutrients as sub plots. Results indicated that significant N levels and application of mixture of foliar micronutrients treatments for all studied traits in both seasons. The higher nitrogen rate 80 kg fed^{-1} (fed.=0.42ha) gave the highest averages for most traits except oil percentage was decreased in higher N level rate. Also, application of 400 g/fed foliar micronutrients led to increase for all studies traits, and the interaction between 80 kg N /fed with 400 g/fed foliar microelement gave the highest means for all studies traits in both seasons except harvest index was 60 kg fed^{-1} with 400 g/fed in the 1^{st} season and 40 kg fed^{-1} with 400 g/fed in 2^{nd} season. On the other hand, the highest value of oil percentage was recorded due to the interaction between 20 kg N /fed and 400 g/fed foliar micronutrients. According, the path way analysis of different traits contribute to seed yield per feddan show that the plant height followed by seed yield/plant and harvest index exhibited high positive direct effects, while the number of capsules /plant through weight of capsules and through seed yield /plant followed by seed yield /plant through weight of capsules /plant exhibited high positive the indirect effect.