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Micronutrient and Compost Induced Changes of Growth, Yield, Nutrient and Phytochemical Content of Canola Grown in Saline Soil.

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SUMMARY

This study was carried out to determine the effect of the combined application of compost and foliar application of Zinc and Manganese on productivity of canola grown in saline soil. Field experiment was conducted in the experimental farm, Faculty of Agriculture, Fayoum University, Egypt during winter seasons of 2012 and 2013. Compost applied to soil at rates of 2.5, 5.0 and 7.5 ton fed⁻¹. Foliar application of micronutrient fertilization in the form ZnSO₄ at a rate of 50 ppm Zn and MnSO₄ at a rate of 100 ppm Mn were applied in two equal doses after 30 and 60 day of sowing. Results observed that the treatment of ZnSO₄ at a rate of 50ppm Zn combined with compost at a rate of 5.0 ton fed⁻¹ gave the best value of pod weight, plant height, pod number of plant, total content of macronutrient (N, P, K) and micronutrient (Fe, Zn and Mn). Also, data showed that a remarkable increase in phytochemical composition represented of oil, carbohydrates, protein, phenolic content, flavonoids and antioxidant activity. The highest values were obtained of seed and straw yield of canola due to the combined application of compost and micronutrients as zinc and manganese. This can maintain soil fertility and enhance and canola production under saline soil condition.