

An experiment was conducted in 5 kg plastic culture pots on two-year-old Nemagaurd peach seedlings during the years 2022–2023 at National Research Centre in Egypt to study the effect of foliar spraying with seaweed extract and some micronutrients (Iron and Zinc) on the growth and nutritional status of the seedlings. Table (1) shows the physical and chemical analysis of agricultural soil. The seedlings were sprayed with three levels 0, 5, and 10 ml/L of algae *Spirulina platensis* extract provided by the Biofertilizer Production Unit, National Research Centre, Cairo, Egypt and three levels 0, 25, 50 mg/L of each Fe and Zn. The experiment consisted of 9 treatments applied using a randomized complete block design (RCBD) with five replications. The studied traits were recorded two months after the last spray from both seasons. Based on these findings, it appears that foliar spraying seaweed extract can enhance the chemical composition and vegetative growth of Nemaguard Seedlings, especially when combined with zinc and iron. Further investigation could provide significant insights into the foliar application of seaweed extract and essential micronutrients such as iron and zinc to optimize plant growth. The overall well-being and yield of the plants may benefit from this