

A nursery experiment was conducted in the National Research Centre, Egypt, during the period from 2-7-2022 to 14-9-2023 to study the effect of foliar spray with Spirulina extract and Nano-micronutrients (iron and zinc) on Nemagaurd rootstock seedlings is an effective way to improve vegetative growth and leaf mineral content and promote seedling growth, which could have practical application in nursery management to shorten the time needed to reach the appropriate size to be grafted onto. extract at concentrations 5 and 10 mL/L or Nano-micronutrients (Iron and Zinc) at concentrations 2 and 4 mL/L and their interactions on vegetative growth parameters and nutritional status of Nemagaurd peach seedlings, beside the control treatment (spray with distilled water only). fertilization and Nano microelements, the combination SE1 + (NF2+NZ2) treatment gave the highest significant increase in seedling height and diameter, total chlorophyll leaf content, fresh and dry weight of leaves, potassium, magnesium, and zinc. Moreover, application of nano-Fe/Zn and Spirulina extract resulted in higher microbial activity in the seedling rhizosphere compared to the control treatment. Briefly, it can be concluded that applying Spirulina. Meanwhile, the combination SE2 + (NF2+NZ2) treatment gave the highest significant increase in the number of branches and leaves/seedling and leaf area, the leaf content of total carbohydrates, nitrogen, phosphorus, and iron. Results showed that both types of fertilizers were effective in increasing all the studied growth parameters compared to untreated control seedlings.