

Interaction of phosphorus and pistachio green hull on some growth characteristics and nutrients in pistachio (*Pistacia vera* L.) seedlings

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Abstract

To investigate the effects of phosphorus (P) and pistachio waste (raw and dry) on growth and chemical composition of pistachio (*Pistacia vera* L. cv. Badami Zarand) seedlings, a factorial experiment in a completely randomized design with four replications was conducted. Treatments were three levels of P (0, 50 and 100 mg P/kg soil) and three levels of pistachio green hull (0, 3 and 6% w/w). The results showed that at the first level of P application, the 3% pistachio waste treatment increased root and shoot dry weight, number of leaves and leaf area of pistachio seedlings. While, application of 6% pistachio hull significantly decreased these parameters, as compared to the control. However, root and shoot nutrient concentrations including P, sodium, zinc, iron and copper at the first level of P were reduced by pistachio waste application. At the first level of pistachio waste, P application increased root and shoot dry weight, number of leaves and leaf area of pistachio seedlings. But, all nutrient concentrations of root and shoots, except P, were reduced by increasing P level. The best response of dry weight of roots and shoots, number of leaves and leaf area of pistachio seedlings was observed from application of 3% pistachio hulls and 50 mg P/kg of soil. In general, the results of this experiment indicated that application of 50 mg P/kg soil was more effective than 100 mg P/kg soil on growth and chemical composition of pistachio seedlings. Application of 3% pistachio green hull and 50 mg P/kg soil improved growth of pistachio seedlings.

Keywords: Agricultural wastes, Organic fertilizers, Growth traits.

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