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Livro de Resumos



Clinoptilolite zeolite foliar application on rainfed olive trees: effects on physiology, biochemistry, growth, yield and olive oil quality

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Resumo

With the advances of climate change, it is expected harmful consequences to olive tree (*Olea europaea* L.). Therefore, it is necessary to develop cost-effective practices to reduce the vulnerability of olive crops to the adverse impacts of environmental stresses. Rainfed olive trees were sprayed with zeolites, natural crystalline aluminosilicates, and its effects on photosynthetic activity, phenolic composition, antioxidant activity, leaf minerals concentrations, plant growth, yield, and olive oil quality were assessed. Zeolites application enhanced photosynthetic activity, as well the concentrations of N, Mg, Cu, Zn and Mn in leaves, and changed the secondary metabolism, with decrease of total phenols, ortho-diphenols and total antioxidant activity, signs of lower oxidative stress. As consequence, zeolites boosted plant growth, crop yield, and size and weight of fruits. The foliar spray did not significantly affect the oil quality indices free acidity, peroxide value and K_{232} and K_{270} coefficients. This study strongly suggests that foliar zeolites might be an effective strategy to mitigate the adverse environmental conditions.

Palavras-chave – Adaptation measures, climate change, environmental stresses, *Olea europaea* L., olive oil quality.

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