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Effects of potassium fertilization in pear trees

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‘Rocha’ pear harvest in Southern Brazil, 2017. Photo courtesy of P.B. Sete.

The amount of exchangeable potassium (K) contained in native soil does not always meet the necessary nutrient demand for a pear tree, which makes the use of K-based fertilizer essential. Brazilian farmers face daily challenges to increase their productivity. Such challenges include a lack of knowledge of optimum fertilizer doses and the critical levels of fertilizers.

In a recent article published in *Agronomy Journal*, researchers report on a study to determine the impact of K-based fertilizers on the quality and yield of pears in an orchard with a long history of fertilizer use in order to establish critical levels of K in the soil and leaves.

The team discovered that the levels of exchangeable K in the soil increased along with the application of K-based fertilizers, but they did not find a correlation with the K concentration in leaves and fruits. Therefore, it was not possible to estimate the critical levels of K in the soil and leaves. Moreover, the fruits given higher doses of K showed the lowest values of ethylene production and respiration rate, which resulted in an increase in storage life in cold rooms and on the shelves.

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Sete, P.B., Ciotta, M.N., Nava, G., Stefanello, L.d.O., Brackmann, A., Berghetti, M.R.P., Cadoná, E.A., & Brunetto, G. (2020). Potassium fertilization effects on quality, economics, and yield in a pear orchard. *Agronomy Journal*, *112*.

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