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# Influence of nitrogen and potassium fertilization on nutrient content of the guava "Paluma" fruit

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The mineral fertilization consists in the delivery of nutrients to the soil, which promotes, in general, an increase on plant productivity. On the other hand, nutrients are exported from orchards through fruit removing. This study aimed to evaluate the effect of N and K fertilizations on the nutrient content of guava fruits from trees managed according to an intensive production system. The experiment was carried out at Vista Alegre do Alto, SP, Brazil in an irrigated seven years old guava orchard, cultivated on dystrophic Acrisol and managed by pruning during three consecutive producing cycles. The experimental design was randomized blocks, with three replications, in a factorial design with four doses of nitrogen (0, 0.5, 1.0 and 2.0 kg N plant$^{-1}$) and four of potassium (0; 0.55, 1.1 and 2.2 kg K2O plant$^{-1}$). It was used urea and potassium chloride, split into four equal applications. Fertilization was complemented with superphosphate, boric acid and zinc sulfate. The samples consisted of 18 fruits per plot, which were oven-dried at 70°C and analyzed to determine the levels of nutrients. In the evaluations of the first production cycle it was found that nitrogen fertilization increased N, K, Cu and Mn in the fruit. This effect was represented by quadratic regression equations, and linear increments in S. In the second production cycle, it was verified that nitrogen fertilization increased the N contents in the fruits, and the effect was represented by the quadratic equation, and linear increments of Mn. There was also observed that the levels of P, Ca and Zn decreased with the nitrogen fertilization, represented by quadratic equations, while the B concentration decreased linearly. It was detected for these two cycles, no effect of potassium fertilization and no N x K interaction on the concentration of elements in the fruits. On the other hand, assessments of the third harvest showed significant effects of nitrogen fertilization on the nutrient content of fruits; N and Mn increased linearly while P and Mg decreased, here represented by quadratic

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equations. Different from the first and second harvests, the third showed that the potassium fertilizer affected the nutrient levels, and promoted the linear increase of K and the linear decrease in the levels of B on fruits, as well as, a significant interaction of N x N for the elements K , P, S and B.

**Keywords:** *Psidium guajava* L, macronutrients, micronutrients.

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