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EVALUATION OF THE NUTRITIONAL STATUS OF STRAWBERRY DURING THE PRODUCTION SEASON

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Abstract

The mineral contents of leaf, leaf petiole, fruit and fruit peduncle during the early and late stages of the production cycle may explain differences in response to fertilization in several strawberry genotypes. The aim of this study was to evaluate the nutritional status of two strawberry cultivars grown in soil. The nutritional status was determined as the amounts of nutrients taken up by the strawberry plants and the nutrient distribution within various parts of the plants during the production season. Uptake and partitioning of nutrients were determined by successive destructive harvesting of plants and mineral analysis of plant organs at two stages of growth (early and late season). The trial was conducted using a randomized complete block design with three replicates per treatment. The data were examined by analysis of variance (three-way ANOVA), with cultivar ('Camarosa' and 'Candonga'), type of sap (leaf petiole sap, fruit peduncle sap), plant organ (leaf and fruit) and growing season included as factors. The macronutrient contents were influenced by the production season, organ and type of sap, and strawberry cultivar. However, the macronutrient contents were more strongly influenced by the production season than by the strawberry cultivar. In addition, the micronutrient contents of leaf petiole sap and the fruit peduncle sap varied widely, whereas the micronutrient content of the whole organ was higher in leaf than in fruit. The results thus suggested that fruit nutrient concentrations decreased over time. The results also revealed a significant effect of production season on the composition of all macronutrients.

Key words: 'Camarosa'; 'Candonga', plant organ, sap

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