

Amino Acids on Mango Yield and Fruit Quality at Submedio São Francisco Region, Brazil

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ABSTRACT

Farmers of the Submedio São Francisco Region (Brazil) have been spraying amino acids on mango trees with the objective of increasing panicle length and improving fruit retention and quality. This study, done in two experiments, tested the effect of amino acids sprayings at concentrations of 0.0%; 0.02%; 0.04% and 0.06%, on mango plants, 'Tommy Atkins', on the budding phase (panicles with 5 cm), fruit set and fruit growth (5 cm diameter). They were carried out from June to October in 2003, that is the natural period for harvest in the region, and from January to May, in 2004. There was no statistical differences in the first experiment among treatments regarding panicle length and fruit production, probably due to an appropriate management of nutrition, water and plant growth regulators, besides climatic conditions, mainly temperature and solar radiation. In the second experiment, significant increments in the panicle length of 13.37%, 11.70% and 21.4% were observed with amino acids concentrations, compared to the control. Increasing amino acids doses also enhanced the number of fruits per plant, thirty days before the harvest, in 16.17%, 45.32% and 37.38%, respectively, compared to the control, but there was no significant statistical differences. Characteristics of fruit quality during storage, as weight loss, total soluble solids, total titratable acidity and pulp firmness were not significantly affected by amino acids spraying. Changes on those variables were registered as a consequence of fruit ripening. Amino acids sprays lightly delayed the evolution of skin luminosity and Hue of pulp, but the differences could not be visually identified. The concentrations of amino acids were not efficient for improving the natural concentrations of these substances in the leaves, which could be the reason for the non significant effects on the variables analyzed.

BIOGRAPHY

Maria Aparecida do Carmo Mouco is an agronomist of a Brazilian research department; her Master study was on Colegio de Post graduados de Chapingo -Mexico, in Plant Physiology and her Doctor study is been carried at Universidade Estadual de Botucatu, Brazil, in the Horticulture department.

She has been working for ten years with mango floral induction management with growth regulators in Brazilian Semi-arid conditions.