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Effects of Reduced Amounts of Fertilizer on Nutritive Quality of Satsuma Mandarin Receiving Frequent Small Volume of Liquid Fertilizer

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Effects of overhead liquid fertilizer application on tree nutrition, yield and quality of satsuma mandarin (*Citrus unshiu* Marc.) were investigated. Liquid fertilizer was prepared by dissolving solid fertilizer containing 15% nitrogen in water at 300 g/L. The liquid fertilizer was applied eight times a year (four times in March and four times in November) to 10-year-old 'Nichinan No. 1' trees top-grafted on 'Nankan No. 20' (junki) orange rootstocks. The soluble fertilizer was applied eight times a year (four times in March and four times in November). As controls, pellet-shaped solid fertilizer containing 8% phosphorus and 7–9% potassium was applied on soil surfaces.

(middle March or early April), 80 kg (early October) and 50 kg (early November) per ha as nitrogen equivalents. In addition, plots in which was reduced by 30% in both liquid and solid fertilizer were allocated reduced liquid fertilizer and solid fertilizer plots demonstrated equal concentrations in the leaves, brix and citric acid concentrations in the fruit. Fertilizer was sprayed on the trees 18 times annually, it was thought was better. This indicates cost efficient overhead application of liquid fertilizer in mandarin orchards.

Key Words: [brix](#), [citric acid content](#), [labor-saving](#), [skin color](#), [spraying](#)

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