

Effect of fertigation on tissue nutrient status of Kinnow mandarin.

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Abstract

A field experiment was conducted at Division of Fruit and Horticultural Technology, Indian Agricultural Research Institute (IARI), New Delhi, during 2010-2011, on 5-year-old plants, to find out the effect of fertigation on nutrient acquisition of Kinnow. The data on leaf nutrient status were collected after two fertigation cycles and at the end of experiment. Standard dose of fertilizers were 600g of N, 300g of P, and 400g of K per tree per year, scheduled in three splits during the period of February (300g N, 75g P and 100g K), April (150g N, 112.5g P and 150g K) and August (150g N, 112.5g P and 150g K) respectively. The treatments were T₁: Ring irrigation with standard N, P, K as soil application; T₂: Drip with 100 per cent N, P, K as soil application; T₃: Fertigation with 100 per cent N and P, K as soil application; T₄: Fertigation with 75 per cent N and P, K as soil application; T₅: Fertigation with 50 per cent N and P, K as soil application; T₆: Fertigation with 100 per cent N, P, K; T₇: Fertigation with 75 per cent N and 100 per cent P, K fertigation and T₈: Fertigation with 75 per cent N, P, K. Fertigation treatments resulted in significant variation in leaf nutrient content in the leaves of Kinnow during the both sampling intervals. Higher nitrogen (2.85%), phosphorus (0.17%), manganese (61.33 ppm) and copper (14.85 ppm) were recorded with fertigation with 100 per cent N, P, K, while higher potassium (1.84%) and zinc (64.83 ppm) were in leaves of the plants fertigated with 50 per cent N and 100 per cent P, K as soil application. There was no significant effect of fertigation on leaf iron content during both sampling stages. Fertigation with 75 per cent N and 100 per cent P & K (450 g N, 300g P and 400 g K) can be recommended for application in three splits during February (225N:75P:100K), April(112.5N: 112.5P: 150 K) and August (112.5N: 112.5P: 150 K) for young Kinnow orchards.

Key Words: Kinnow, fertigation, tissue nutrient

