

Jariya Wongtree 2006: Effect of Nitrogen and Potassium Fertilizers on Leaf Nutrient Content, Yield and Fruit Quality of Citrus. Master of Science (Agriculture), Major Field: Soil Science, Department of Soil Science. Thesis Advisor: Associate Professor Jongrak Chanchaoensook, D.Agr. 287 pages.
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Experiment 1 Leaf analysis studies of the nutrient content in Tangerine leaves showed that P and K contained in the non-fruit bearing leaves were generally higher than those contained in the fruit bearing leaves. Higher N rate of application tended to reduce sugar content of the fruit, while increasing rates of K application would increase its sugar content, but had no effect on the acid content of the fruit. The increasing rates of NK fertilizer applications tended to reduce the size of the fruits. Experiment 2 Studies of N in leaves, and components of the Tangerine showed that %N in the leaves, the fruit rind and the pulp increased with the increasing rate of NK application, while that in the fruit juice remained the same. With respect to the maturation of the fruit from 3-9 month, N content in leaves gradually decreased but increased in the pulps and fruit juice. Meanwhile N content in the rind remained constant throughout. The increasing rates of application of NK fertilizers had no effect on the P content in the leaves, fruit rind, pulps and fruit juice. However in the maturation of the fruit, P content in leaves were decreasing, while in the rind and pulps were increasing P in juice was very low and remained relatively constant. With the increasing rate of application of NK fertilizers, K contents in leaves, rind and pulps would decrease accordingly but in the juice was increasing significantly. Experiment 3 Studies of nutrient status during 4-8 month of the development of the tangerine fruit, showed that in the later state of fruit maturation stage accumulation of K much higher was in the fruit as compared to that in the early stage. The N accumulation in the fruit was relatively steady throughout the stage of maturity. Accumulation of P was greatest at the early stage of fruit development and again decreased finally at the later stage. This seems to indicate that in the fruit development sufficient at the earliest stage while K would be needed at the later stage, meanwhile the steady supply of N would be required throughout the stage of fruit development. Establishment of nutrient removed of tangerine production showed that to produce one ton of fruit would require N 2.14 kgN P 0.56 kgP₂O₅ and K 3.68 kgK₂O. Experiment 4 Leaf analysis studies of pampelo show that favorable high yield and good fruit quality should be maintained at the N = 2.29 - 3.11 % P = 0.27 % K = 2.04 % .

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