Effects of Nitrogen Fertilizer Rate on Maturing and Fruit Quality of White Marsh Grapefruit. (S08-calvert145740-Poster)

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Abstract:

Fertilization is one of the most important factors determining fruit quality of citrus. The interactions of N, P, and K in relation to citrus fruit quality are not fully understood. A field experiment was conducted from 1997 to 2001 in a commercial grove on a Riviera fine sand (Loamy, siliceous, hyperthermic Arenic Glossaqualf) to investigate the effects of fertilizer rates on rate of maturing and fruit quality of 29 + year-old white Marsh grapefruit trees (Citrus paradise Macfad.) on Sour Orange rootstock (Citrus aurantium Lush). Fertilizer was applied as water soluble dry granular broadcast (three applications yr-1) at N rates of 0, 56, 112, 168, 224, and 336 kg ha-1yr-1 using a N:P:K blend (1.0:0.17:1.02). Juice and solid contents increased with increasing fertilizer rate from 50 to 336 kg N kg ha-1, and this trend was more obvious at early season (mid-October). Increasing fertilizer rate resulted in an increase in fruit acid concentration and a subsequent decrease in Brix / acid ratio. However, there were no significant differences in fruit acid concentration and Brix / acid ratio at N rates above 168 kg ha-1. Increasing fertilizer rate decreased fruit weight per piece, but the difference diminished with maturing time. D. V. Calvert, (772) 468-3922, dvcalvert@mail.ifas.ufl.edu

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002

Presentation Time: 2:00-4:00 pm Poster Board Number: 1328

Keywords:

Fruit quality, Grapefruit, Nitrogen rate, Temporal change