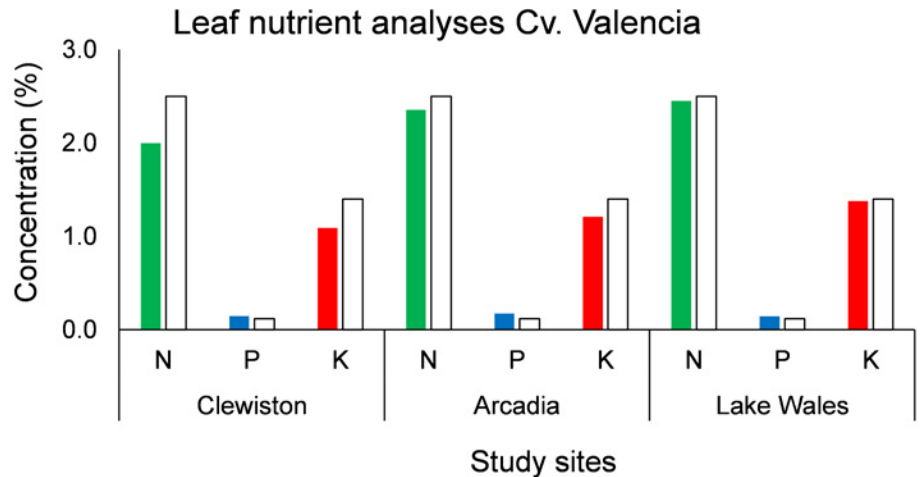


Developing Site-Specific Nitrogen and Phosphorus Rates for Young and Mature Sweet Oranges, Grapefruits, and Mandarins in Florida

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Effort Statement: More data has been collected in the second year of the project.

Summary: Current citrus nutrient guidelines are based on studies of healthy citrus trees conducted in the pre-huanglongbing (HLB) era and may no longer be valid for the present situation where 100% of mature citrus trees in Florida are HLB-affected. We propose to conduct research on different nitrogen (N) and phosphorus (P) rates for young/mature citrus cultivars including sweet oranges, grapefruits, and mandarins. Our project will evaluate five rates of N namely 100, 150, 200, 250, and 300 pounds of N per acre per year and five rates of P at 0, 10, 20, 40, and 80 pounds of P₂O₅ per

acre per year. These rates will address the objective of evaluating different levels of N and P in identifying the appropriate site-specific rate of N and P for HLB-affected citrus trees using site soil characteristics and production practices to determine if we need to increase or decrease the current guidelines for N (200 lbs/acre) or P₂O₅ (15 lbs/acre). Using conventional and controlled release fertilizer (CRF) fertilization sources, we should be able to develop and provide site-specific N and P guidelines for young and mature citrus trees of sweet oranges in central and southwest Florida, grapefruits in the Indian River district, and satsuma mandarins in north Florida. Early results show no differences in fruit yield and juice quality though nutrient

levels appear more concentrated in the upper six inches compared to lower depths. Also, in satsuma mandarins, high P levels have been observed in the panhandle. More data are being generated on water quality and canopy size and optimal fertilizer rates should be determined in a few years.

Take Home Message:

- No differences in fruit yield yet between N and P rates across sites.
- Also, in Satsuma mandarins, high P levels have been observed in the panhandle.
- More data are being generated on water quality and canopy size and optimal fertilizer rates should be determined in a few years.

Funding:

