Biomass and Nitrogen Accumulation by Citrus Trees Grown on Sandy Soils in Central Florida. (S04-scholberg162633-Poster)

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Abstract:

Accurate information on biomass and N accumulation in citrus is important in order to develop improved production methods that minimize the potential loss of nitrogen to groundwater. This study generated detailed information on biomass and N distributions for different sizes of Hamlin and Valencia citrus trees (Citrus sinensis L. Osbeck). Allocation of biomass and N changed with age and canopy volume. Young trees (canopy volume less than 3 m3) had nearly equal (28-29 percent) amounts of leaves and small twig compared to the trunk and larger branches. Mature trees (canopy volume greater than 30 m3) had smaller (14 percent dry weight) amounts of biomass in leaves and twigs compared to branches and the main trunk (49 percent dry weight). Dry weight allocation to roots was 36 and 40 percent for young and mature trees, respectively. Tissue N concentrations ranged from 2.2-2.7 percent N for leaf tissue to 0.4-1.2 percent N for roots and woody tissues. These studies provided detailed information on citrus N requirements and tree N budgets as a function of tree size. Information from these studies is currently being integrated into an expert system for improved N and irrigation management for commercial citrus production.

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