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Carbohydrate and nitrogen content of pummelo in relation to flower induction by water stress

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Abstract: In tropical regions, floral induction occurs as a result of water stress during the dry season. Correlation between flowering characteristics and physiological changes associated with carbohydrate and nitrogen contents of two pummelo cultivars ('Thong Dee' and 'Khao Nam Phueng') was examined in response to water stress. Pummelo trees were exposed to water stress for 14 days. For both cultivars, water stress reduced soil moisture in the root zone and leaf relative water content (RWC). After re-watering, flowering period, flowering rate, number of flowers per inflorescence, inflorescence types and percentage of fruit set showed no difference between cultivars. Water stress induced leaf total non-structural carbohydrate accumulation (TNC) and C/N ratio of pummelo trees, whereas leaf total nitrogen (TN) decreased during water stress. Sucrose was the major sugar and increased during water stress, while glucose and fructose contents remained stable throughout the experimental period. Results indicated that water stress was effective in controlling pummelo flowering and promoted carbohydrate and sucrose accumulation.

Biography: Thiwaporn Phadung is currently working as a senior scientist at the Department of Agriculture,Thailand. She has received her Ph.D. on horticuture from Kasetsart University, Thailand and postdoctoral studies on agriculture and life science from Lincoln University, New Zealand. She has authored several publications in various journals and books. Her publications reflect his research interests in plant physiology and plant nutrition.

Publications:

 Evaluating the Mechanical Properties of Admixed Blended Cement Pastes and Estimating its Kinetics of Hydration by Different Techniques
Genetic Diversity Using Random Amplified Polymorphic DNA (RAPD) Analysis for Aspergillus niger isolates
Au-Ag-Cu nanoparticles alloys showed antifangal activity against the antibiotics-resistant Candida albicans
Induce mutations for Bavistin resistance in Trichoderma harzianum by UVirradation
Biliary Sludge. Analysis of a Clinical Case

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