FRUITING PATTERNS AND PRODUCTIVITY OF MODERN COTTON CUYLTIVARS IN THE TEXAS HIGH PLAINS

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ABSTRACT

This study aims to re-evaluate the partitioning patterns and nutrient uptake index of new and soon-to-be released cotton cultivars to optimize the nutrient inputs for farmers and producers. The study will be divided into two phases: Phase I will be the determination of different nutrient uptake indices of 10 modern cotton cultivars and Phase II will be the development and establishment of new fertilizer management strategies for modern cotton cultivars using the results of plant nutrient uptake from Phase I. The location of the study trial will be at the Texas Tech University Research Farm in New Deal, TX which is equipped with subsurface drip irrigation system. The new cotton cultivars will be grown in a non-limiting environment in terms of irrigation and fertilizer management, with 4 replications. The expected results from this study are determined values of total nutrient uptake and nutrient uptake index specific for each cultivar, partitioning patterns of nutrients throughout the growth cycle of each cultivar and new fertilizer management strategies for each cotton cultivar based on the nutrient uptake indices developed in the study.