

# **INFLUENCE OF IRRIGATION TIMING AND AMOUNT ON BIOMASS PARTITIONING AND YIELD OF COTTON**

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## **ABSTRACT**

This study explores the impact of varying water levels on nutrient uptake in cotton plants, known for its sensitivity to environmental conditions. Recognizing the pivotal role of water availability in agricultural productivity, the experiment employed different irrigation scenarios and assessed the efficiency of nutrient absorption in cotton under these varied circumstances. The research also focused on analyzing nutrient content in different plant tissues, including leaves, stem, squares, flowers and bolls with a specific emphasis on crucial elements like nitrogen, phosphorus, and potassium.

The study aimed to unravel the complex relationship between water availability and nutrient absorption in cotton, thus providing valuable insights for optimizing agricultural practices. The study also aims to provide contemporary scientific evidence and propose avenues for future research through innovative and high-quality contributions. These contributions intend to enhance the understanding of the mechanisms governing interactions among soil, water, and nutrients, which in turn regulate yield, quality, and productivity. The study's implications extend to the broader context of global agriculture, where water resources are increasingly constrained. Efficient water management is crucial for maximizing crop yield while minimizing environmental impact. By understanding the nuanced and complex interplay between water levels and nutrient absorption in cotton, researchers and farmers can develop targeted interventions to optimize crop productivity and resource use.