EVALUATION OF FOLIAR FEEDING OF COTTON IN ARKANSAS

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Abstract

Cotton producers are looking for ways to improve production and increase yield to help off-set low commodity prices. Foliar applied fertilizer has been a common practice for cotton producers in Arkansas for several years. However, yield responses from supplemental foliar N and K applications are often erratic. Therefore, the objective of this study was to evaluate the effects of foliar fertilizer products on cotton yield in a production field in northeast Arkansas. Recent adoption of yield mapping equipment has allowed producers to identify low yielding areas within production fields. It is not clear if foliar fertilizer products should be used to boost production in low yielding zones or to preserve and enhance yield potential in all yield zones. The boll load or lack thereof can be an important factor in determining the positive outcome from foliar feeding. Stoneville ST 4946GLB2 was planted at the Manila Airport Research Field on May 8, 2015. Production inputs were based on weekly field inspections and followed University of Arkansas recommendations for cotton production. All practices, with the exception of foliar applied products were consistent across all plots in this study. Based on recommendations of the manufacturer, all foliar fertilizer applications (including application rates) were made during the first 10 days of flower. Treatments were established on July 17, 2014, approximately 10 days after first flower, and included four 38 in rows by 50 ft. long. Plots were arranged in a randomized complete block and included three replications. All foliar products were applied using a self-propelled plot sprayed calibrated to deliver 15 gallons per acre. Plots were machine harvested on October 21, 2015 and converted to a per acre yield. Yields from the 2015 crop were high and the range of yields from treatments in this study was similar to the yield observed in the producer's field. Results observed from treatments in this study showed that yield was not affected by foliar treatments. Soil test levels were above optimum levels for most nutrients supplied in the foliar products tested. It is possible the high soil nutrient levels observed in this test location masked any fertilizer treatment effects. Future plans are to evaluate these and similar products on field areas expressing historically low yields and in areas of varying soil texture.