

**YIELD RESPONSE OF IRRIGATED COTTON TO RATE OF APPLICATION
OF THE PLANT GROWTH REGULATOR ARYSTA-EXP-NP321.**

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Abstract

This study evaluated the effects of different application rates of the plant growth regulator ARYSTA-Exp-NP321 on growth, yield, and fiber quality of cotton under irrigated, near optimal growing conditions. Active ingredients of ARYSTA-Exp-NP321 are sodium-p-nitrophenolate (0.3%), sodium-o-nitrophenolate (0.2%), and sodium-5-nitroguaiacolate (0.1%). The study was conducted at the Texas A&M University Agricultural Research and Extension Center in Corpus Christi, TX, in 2001 and at a commercial farm in San Patricio Co., TX in 2002. Treatments included four foliar application rates: 2.5, 5.0, 10, and 20 oz./ac applied at early bloom (about 9 nodes above white flower). Results from this study show that ARYSTA-Exp-NP321 is effective to increase yields when used on high-yielding cotton. The 5.0-oz./acre rate increased lint yield 256 lbs./acre (16.4%) over the untreated control yield of 1557 lbs./acre in 2001 and 274 lbs./ac (13%) over the untreated control yield of 2152 lbs./acre in 2002. Lint yield increases resulted from a significant increase in individual boll weight. Fiber quality was not affected in 2001, but in 2002 there were small effects, particularly with the higher rates, including decrease of micronaire and increase of length and strength. These results indicate that the use of ARYSTA-Exp-NP321 may become an important tool to increase yields and profitability of irrigated cotton crops.