

## **EARLY SEASON USES OF PIX ON THE TEXAS HIGH PLAINS**

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### **Abstract**

Early season use of PIX on the Texas High Plains has generally been reserved for irrigated cotton. However the early season use of PIX plant regulator as a management tool on dryland and limited irrigation cotton may offer the benefits of earliness, better defoliation and increased water use efficiency (lbs. lint / acre inch of rainfall or applied water). A study with Texas A&M, Lubbock TX, was initiated in 1994 at the AGCARES facility located near Lamesa Texas, to evaluate low use rates (2, 4, 6 and 8 oz /A) of PIX across a range of water supplies. Water levels ranging from .50 to 1.25 ET replacement rates were evaluated. Results from that study indicated variable response depending on water supply and PIX use rate. This study was repeated in 1995. Another study conducted by Texas A&M, at Lubbock TX., was initiated to evaluate the effects of PIX on water use efficiency. Water levels of .1, .2 and .3 inches / day maximum water supply were evaluated. Both individual plant and total field water use was monitored. PIX applications of 4.0 oz /A were made at matchhead square and early bloom. Plots were split with harvest aid treatments later in the season. Preliminary results indicate lower water use per plant (oz of water / hour / plant) in the PIX treated plots. There was a slight increase in lint yields at the .1 inch water level. A yield decrease was noted in the .2 and .3 inch water levels.

An additional study in 1995 was conducted to evaluate low rate single applications of PIX on dryland cotton. Two large block dryland locations were treated with at matchhead square with 2, 4 and 6 oz / A of PIX. Treatments were 10 to 15 acres each and were harvested and ginned separately. Although there were no significant differences in lint yields, there was an increase in lint lbs / A with the 2.0 oz / A PIX application.

A study to evaluate matchhead square applications of above label rates of PIX (2, 4, 8 and 16 oz /A) was also initiated. The objective was to demonstrate that PIX will not permanently damage cotton at these above label rates. Six tests were located across the Texas High Plains ranging in size from 4 rows x 40 feet in length to 4 rows x 500 feet long. Three studies were under center pivot irrigation while the others were row watered. Limited mapping information along with yield data were taken. Reductions in plant height and NAWF were noted at 30 DAT. Although there

was a decrease in plant height and NAWF early in the season, lint yields with the higher rates were not significantly different from the untreated.

Results from 1995 coupled with those of 1994 have continued to drive this project into the 1996 growing season. Due to the climatic conditions encountered on the Texas High Plains, dryland and limited irrigation cotton may find similar benefits, to those expected only on irrigated cotton, from early season PIX applications.