

**Field Treatment of Cotton Seed During Planting
With an Undefined Plant Growth Regulator**

Wallace C. Hofmann, Crop Physiologist; David L. Kittock, Agronomist;
Joel Malcuit, Technician

A test was planted on the Marana Agricultural Center on 26 April 1984 to evaluate a plant growth regulator produced by Westbridge Co. of San Diego. The material was sprayed on and near the cotton seed direct behind the planter shoe as cotton seed was planted. Subsequent information indicates that the treatment was several fold too strong for our method of application. Varieties and seed treatments are shown in Table 1. The test had four replications of four row plots that were 35 feet long.

The treatments reduced emergence of both cotton varieties as compared to the untreated cotton. There was no significant treatment effect on days to emergence (ET 50) or weighted days to emerge (WET 50). Treatments did not significantly affect lint yield of either variety. Since stand was reduced by the treatments, but yield was not, there is a possibility that the treatments increased lint yield when corrected for reduced stand. However, regression analysis using dummy variables showed no statistically significant increase in lint yield.

Table 1. Percentage stand, days to 50% emergence (ET 50), and weighted days to 50% emergence (WET 50) of two upland cotton varieties treated with a material supplied by Westbridge Co. by spraying on seed as it was planted at Marana, Arizona on April 26, 1984.

<u>Variety</u>	<u>Ounces/Acre</u>	<u>% Stand</u>	<u>ET 50</u>	<u>WET 50</u>	<u>Lbs. Lint/Acre</u>
DPL 55	control	61.0 a*	12.1 a	0.37 a	1033 a
DPL 55	10	39.8 c	12.7 a	0.88 a	941 a
DPL 55	15	59.7 b	12.1 a	0.40 a	806 a
DPL 55	20	48.8 c	12.4 a	0.48 a	1353 a
DPL 90	control	46.9 c	12.2 a	0.57 a	1026 a
DPL 90	10	45.8 c	12.9 a	0.57 a	1024 a
DPL 90	15	38.1 c	11.2 a	0.59 a	1038 a
DPL 90	20	37.3 c	13.4 a	0.81 a	958 a
<u>Two Variety Mean</u>					
	control	53.9 a	12.1 a	0.47 a	1030 a
	10	42.8 a	12.8 a	0.72 a	983 a
	15	48.9 a	11.7 a	0.49 a	922 a
	20	43.0 a	12.9 a	0.65 a	1156 a
Mean		46.8	12.4	0.58	1022
C.V.		16%	9%	42%	10%

*Means within a column followed by the same letter are not significantly different at the 0.05 confidence level according to Duncan's Multiple Range Test.