Plant Height of Cotton Irrigated with Drip Irrigation

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The length of water run via drip tape in the drip systems can have an effect on plant height. Three plant height measurements were taken during the growing season. At the top end of the field where the water was initiated the plants were taller than at the bottom end of the field. In the above ground system the water flow decreased by 25% from top to bottom. No efficiency test was performed on the below ground system. Height differences suggest additional water and nutrients at the top end of the field resulted in larger plants. We thought the difference may also result in greater yields. Although yields from both ends of the field were not significantly different a trend was observed as shown in the Table below.

ABOVE GROUND SYSTEM PLANT HEIGHTS TAKEN IN 10 FT. PLOTS

Date	Variety	$\bar{x}$ Height at Start of Tape (in.)	$\bar{x}$ Height at End of Tape (in.)	Yield at Start of Tape (lbs./A)	Yield at End of Tape (lbs./A)	% Decrease in H_2O Flow From Start to End of Tape
11-12-82	DPL 62	49 a[1/]	43 cd	3367*	4060	25
	DPL 90	47 ab	43 cd	5020	5440	25
9-12-82	DPL 62	46 abc	42 d			25
	DPL 90	45 bcd	41 d			25
7-12-82	DPL 62	38 e	33 f			25
	DPL 90	36 e	32 f			25

* Seed Cotton

1/ Values followed by the same letter are not significantly different at the .05 level by the Student-Newman-Keul's Test.

BELOW GROUND SYSTEM PLANT HEIGHT TAKEN IN 10 FT. PLOTS

Date	Variety	$\bar{x}$ Height at Start of Tape (in.)	$\bar{x}$ Height at End of Tape (in.)	Yield at Start of Tape (lbs./A)	Yield at End of Tape (lbs./A)
11-12-82	DPL 62	48 a[1/]	40 c	3540*	3340
	DPL 90	47 a	41 c	4453	4747
9-12-82	DPL 62	45 a	38 c		
	DPL 90	43 b	39 c		
7-12-82	DPL 62	37 cd	30 f		
	DPL 90	35 de	33 e		

* Seed Cotton

1/ Values followed by the same letter are not significantly different at the .05 level by the Student-Newman-Keul's Test.