

# PRELIMINARY EVALUATION OF SIZED COTTON PLANTING SEED

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## Abstract

Sized planting seed of two varieties were evaluated for seedling emergence and yield. The small seed had a poor seedling emergence and the largest seed size of each variety had an emergence that was not as good as that of the sizes that are slightly smaller. The composite was almost as good in emergence and yield as the best sizes of the sized seed. The better sizes appear to break a soil crust and allow the small seed to emerge.

## Introduction

Seed sizing may aid in producing a crop that develops more uniformly which would be of benefit in post-emergence applications of over the top herbicides. Timing of many cultural practices such as pinhead square application of insecticide and timing of defoliation should be improved with a more uniform plant development.

## Methods

Sized planting seed of two varieties, D&PL 458 B/RR and Paymaster 1220 B/RR were sized using slotted screens measured in 64ths of an inch. The sizes were evaluated for vigor and lint yield. The plots were four rows wide and 31 feet long. Row width was 38 inches. The trial was planted May 14 and farmed in a manner typical for the area and was irrigated. The plots were evaluated starting May 27 and were harvested with a two row International picker. The samples were ginned on a 20 saw Continental gin with an inclined cleaner, feeder extractor and a single stage of lint cleaning. The samples were classed on a high volume instrument at the Texas Tech International Textile Research Center at Lubbock, Texas. The experimental design was a randomized complete block replicated four times.

## Results

Shortly after emergence it was apparent that the small seed had poor emergence. Stand counts increased with seed size except the largest size was slightly lower than the second largest size. Average height and node number one month after planting followed the same trend as the stand count. The composite had a stand count similar to the second largest size. The height and node number of the composite did not

show as distinct of a trend. The largest size in each variety appeared to be slightly less vigorous than the sizes that were slightly smaller. The natural composite, which is the seed normally purchased and has all sizes of seed in the normally occurring ratios, had an early vigor and emergence similar to the best sizes of the particular variety. The yields showed a numeric trend toward the largest size producing the most lint and the composite being virtually the same.

## Discussion

The small sizes appear to have a poor emergence, especially in a variety with a poor cold germination test. The composite performed particularly well considering many of the seed were of sizes that perform poorly when planted separately. This would indicate that a good vigorous seed would break a crust thereby allowing a weak seed to emerge and grow. This conclusion would support the practice of hill dropping seed. Space planted seed would probably perform better with sized seed.

### DP 458 B/R

Seed Size	%	seed per lb.
• < 9	10.92	6624
• < 10	20.76	6147
• < 11	42.25	5848
• < 12	23.08	5102
• > 12	2.99	4238
• Composite		5677

### PM 1220 B/R

Seed Size	%	seed per lb.
• < 9	.32	5681
• < 10	3.71	5380
• < 11	19.23	4986
• < 12	42.48	4511
• < 13	27.73	3992
• > 13	6.52	4000
• Composite		4604

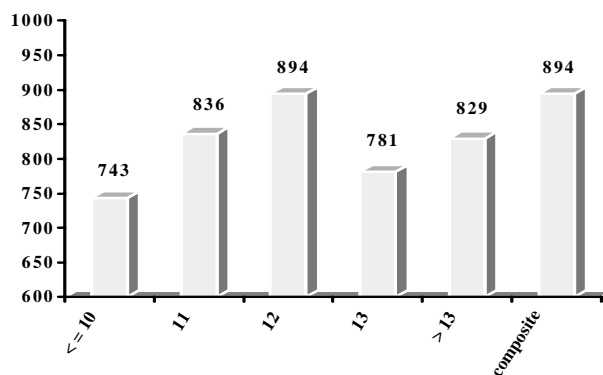
### PM 1220 B/R

Seed Size	Warm		Cool
	4 Day	9 Day	1 1/2"
• < 9	60	60	50
• < 10	81	87	79
• < 11	76	84	74
• < 12	78	87	77
• < 13	73	82	84
• > 13	77	89	83
• Composite	81	90	73

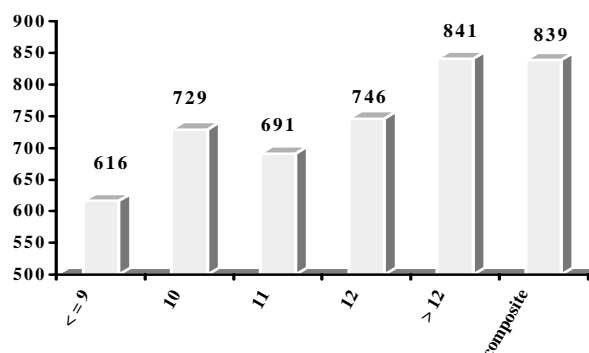
# **DP 458 B/R**

Seed Size	Warm		Cool
	4 Day	9 Day	1 1/2"
• < 9	71	78	47
• < 10	69	80	49
• < 11	68	82	51
• < 12	76	90	63
• > 12	58	83	59
• Composite	72	86	62

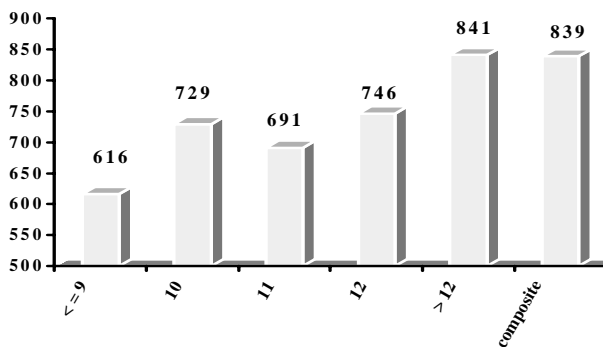
**Lint Yield - PM 1220 B/R**



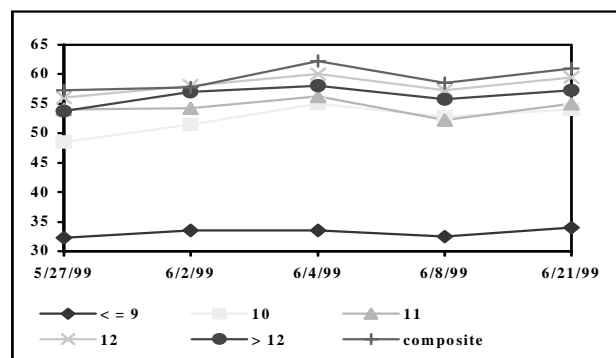
**Lint Yield - DP 548 B/R**



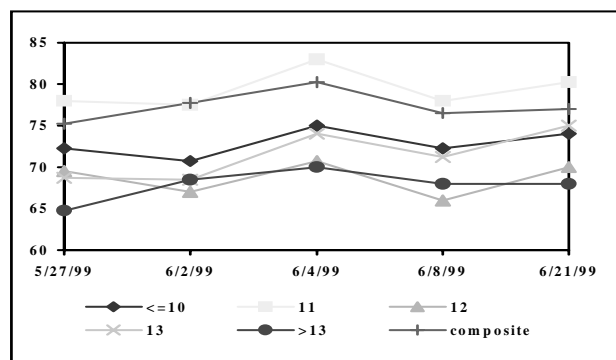
**Lint Yield - PM 1220 B/R**



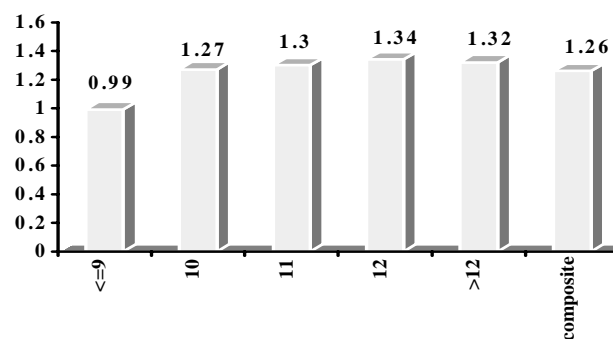
**Stand Counts - DP 458 B/R**



**Stand Counts - PM 1220 B/R**



**Height/Node Ratio - DP 458 B/R**



**Height/Node Ration PM 1220 B/R**

