

Table 3

Effect of Age of Cotton Plant at Time of Foliage
Application on Systemic Activity of Benlate

Date of Foliage Application	Plant Age (Weeks)	Assay Period (Days After First Foliage Spray)	Chemical Detection		
			Roots	Stems	New Growth
May 21	4	2 days	--	+	N.S. ¹
		10 days	--	+	+
		30 days	--	+	+
June 18	8	3 weeks	+	+	+
		4 weeks	+	+	+
		8 weeks	--	--	--
July 19	12	30 days	--	+	+
July 19, July 26, August 1		30 days ²	--	+	+

¹ N.S. indicates no sample taken, -- indicates negative results, and + positive results.

² Assays were made 30 days after the August 1 application.

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SEED TREATMENT FOR SEEDLING DISEASE CONTROL

Lester M. Blank, Research Pathologist

Various fungicides were compared as treatments on acid-delinted seed, variety Stoneville 7A, in replicated trials at Phoenix and at Marana in plantings made March 26 and April 18, respectively. At both locations the tests were planted under favorable conditions as regards soil moisture and temperature. Subsequent air temperatures were slightly below average in both tests. In one experiment we compared 16 treatments, and our surviving stands at 35 days ranged from 61 to 68% of seed planted at Phoenix and from 42 to 56% in the Marana planting. The differences in stands between the 16 treatments were not statistically significant at either location.

In a companion experiment we compared 12 treatments, most of which were combinations of fungicides. The 35-day stand counts at Phoenix ranged from

60 to 68%, based on number of seed planted, and these differences were not significant. In the Marana test the stands ranged from 33 to 49%, and differed significantly.

It should be pointed out that we did not experience a severe disease condition in any of our trials in 1968. The combination treatment used on delinted planting seed processed in Arizona in 1968, Ceresan L + PCNB, was used in all of our tests and performed very well.

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SOIL FUNGICIDES FOR SEEDLING DISEASE CONTROL

Lester M. Blank, Research Pathologist

In an experiment conducted at Phoenix, we studied the effect of the addition, or omission, of a soil fungicide in the seed furrow at time of planting. The fungicide, Terraclor Super X, was used at the rate of 15 lbs. per acre with acid-delinted and fungicide treated (Ceresan L + PCNB) seed of varieties Hopicala and Deltapine 16.

Seedling disease was very light and satisfactory stands were obtained with both varieties. The effect of the in-furrow addition of the granular fungicide was to depress the surviving stand of Hopicala by 8% while with Deltapine 16 only 1% fewer plants were found. The results of this trial tend to confirm those of earlier years and point to the fact that the addition of a granular fungicide at time of planting of treated seed may result in a depression in the number of surviving plants.

In another experiment, and conducted only at Marana, we attempted to determine the effect of the addition of granular Thimet + PCNB (6.5% each) into the seed furrow at the rate of 15 lbs. per acre as compared with its omission. The planting was done on April 17 at Marana with seed of varieties Deltapine Smooth Leaf, Deltapine 16, Hopicala and Acala 1517D. No fungicide or combination of fungicides had been applied to the acid-delinted seed.

Very little seedling disease occurred in this planting, with less than 2.5% of the emerged seedlings succumbing to disease organisms. Surviving plants were counted at 35 days and the results analyzed. We found highly significant differences in stand among varieties, with Hopicala appreciably poorer than the other three. Based on all varieties the stand of plants with Thimet + PCNB was only slightly greater than when it was not used, and the difference was not significant. Furthermore, there was not a significant interaction between varieties and the granules.

Under the very mild disease situation encountered in this test we failed to show a statistically significant benefit on stands due to the use of granular Thimet + PCNB, even though the planting seed had not received a fungicide