

TECHNICAL NOTES.

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Mould Growth on Sorghum Seed.

Many seed samples harvested from the 1952-53 sorghum crop in southern Queensland developed considerable mould growth during germination tests. This seriously hampered the work of the Seed Testing Laboratory.

The following different fungi were isolated from the seed samples:—*Alternaria* spp., *Aspergillus* sp., *Rhizopus* sp., *Heterosporium* sp., *Helminthosporium* sp., and *Fusarium* sp.

Three species of *Alternaria* predominated, and surface sterilization with 1:1000 mercuric chloride for 20 minutes, followed by washing, failed to eliminate their growth.

A series of tests comparing the efficiency of various fungicidal dusts in controlling mould growth were conducted, with the following results.

Treatment.	Laboratory Tests in Germination Trays.		Percentage Germination in Pots of Sterile Soil.
	Percentage Germination.	Percentage Mould.	
A : Copper carbonate			
1 oz. per bushel	70	26	61.2
2 oz. per bushel	67	27	61.2
4 oz. per bushel	73	28.5	53.2
B : Thiram (50%)			
1 oz. per bushel	70.5	0	69.2
2 oz. per bushel	72.5	0	69.2
4 oz. per bushel	70.5	0	69.2
C : Chloranil (98%)			
1 oz. per bushel	73.5	0	66.4
2 oz. per bushel	76.5	1.5	65.2
4 oz. per bushel	72.5	1.5	66.4
D : Agrosan			
1 oz. per bushel	74.5	18.5	53.2
2 oz. per bushel	76	8.5	50.4
4 oz. per bushel	73.5	6	57.2
E : Untreated	68.5	40	52

The results of a statistical analysis conducted on the pot germination figures are set out below.

Treatment.	Mean Percentage Germination.	Significantly Exceeds.	
		5% Level.	1% Level.
A. Copper carbonate	58.6
B. Thiram (50%)	69.3	D, E	D, E
C. Chloranil (98%)	66.2	D, E	E
D. Agrosan	53.8
E. Control	52.0

These results show that the thiram and chloranil dust preparations at a strength of 1 oz. per bushel were extremely effective in preventing mould growth. Agrosan at 2 oz. per bushel was fairly effective, while copper carbonate was of little value.

It is obvious that the mould was having little effect on total germination percentage in testing trays. However, the results of the fungicidal tests would indicate that where a particular preparation was effectively controlling the mould growth, germination percentage in sterile soil was slightly increased.

—G. S. Purss.