

EFFECT OF FUNGICIDAL SEED TREATMENT ON SEED MYCOFLORA AND SEED GERMINATION DURING STORAGE OF SORGHUM

PV Mane¹, LR Rathod², GB Honna³ VC Patil¹ and SM Muley⁴

¹ Dept. of Botany Dayanand Science College, Latur.

² Dept. of Botany Mahatma Phule Arts, Science and Commerce College, Panvel.

³ Dept. of Botany Shri Siddeshwar College, Majalgaon Dist. Beed.

⁴ Chatrapati Arts & Science College Jawalabazar Dist. Hingoli

Email: - lrathod78@yahoo.com

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ABSTRACT

The Sorghum Cv. Nirmal – 21 seed lots were treated with fungicides Thiram, Carbendazim, Mancozeb, Copper oxychloride, Captan, Captafol @2.5 g/kg seed and untreated lot was kept as control. These seed lots were tested for seed mycoflora and seed germination for 36 months at 2 months interval. There was significant increase in seed mycoflora and reduction in seed germination after 36 months storage period. The germination was significantly superior in Thiram treated (83%) than Carbendazim (80%), Mancozeb, (76%) Copper oxychloride (75%), Captan (74%), Captafol (59%) and untreated control (54%).

Key words – *Sorghum vulgare* (Pers.) Cv. Nirmal- 21), Fungicides

INTRODUCTION

Sorghum seeds, treated with fungicides, are reported to harbour reduce seed mycoflora and maintain seed germination for longer period than untreated ones. The reports of Vyas and Nene (1975); Nagrajan and Karivaratharaju (1976); Vidhyasekaran *et al.* (1980); Muggate and Raut (1982) and Patil and Jarhad (1988) confine to the storability of either hybrids or varieties of Sorghum. This study was undertaken to assess the longevity of fungicide treated seeds of Sorghum Cv. Nirmal-21 during storage under ambient condition.

thiram, Carbendazim, Mancozeb, Copper oxychloride, Captan and Captafol seed @ 2.5g/kg seeds and untreated seed lot was considered as control. Both treated and untreated seeds were stored in cloth bags. The seeds were tested at two month intervals for 36 months for germination and seed mycoflora by blotter paper method. The main objectives of seed health testing are related to the actual policy towards seed improvement, seed trade and plant protection (De Tempe 1953, ISTA 1966 and Anonymous 1976).

MATERIALS AND METHODS

The experiment was conducted during 2007-08, 08-09 and 09-10. The seeds obtained after harvest in October 2010 were adjusted to 9-10% moisture by drying in sunlight. The seeds were treated with fungicides

RESULTS AND DISCUSSION

The results (Table 1) indicated that there was a significant increase in mycoflora from 5 to 31% and reduction in seed germination from 89 to 57 % after 36 months storage in control. The minimum germination

Table 2: Seed mycoflora and seed germination as influenced by Fungicides in Sorghum Cv. Nirmal – 21.

Fungicides	Seed Mycoflora (%)	Seed Germination (%)
Thiram	07	83
Carbendazim	08	80
Mancozeb	08	76
Copper oxychloride	10	75
Captan	14	74
Captafol	17	59
Control	29	54
S.E ±	2.7	3.8
C.D. at 5%	6.7	9.3

for maintaining standards (75%) was maintained up to a period of 14 months after storage under normal conditions at udgir.

The germination percentage was significantly superior in thiram treated seed than carbendazim, mancozeb, copper oxychloride, captan captafol and untreated control. Seed mycoflora was also less in the thiram treated seed (Table 2). Similar beneficial effects of seed treatment were obtained in sorghum by Vyas and Nane (1975) Nagrajan and Karivaratharaju (1976), Mughate and Raut (1982) and patil and Jarhad (1988).

It was thus evident from this study the sorghum Cv. Nirmal-21 could maintain its germination above certification standard (75%) for about 14 months from harvest at udgir station. There is no need of retreatment or revalidation in up to 14 months in storage for sorghum Cv. Nirmal-21.

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Table 1: Seed mycoflora and seed germination influenced by period in Sorghum Cv. Nirmal- 21.

Period (Months)	Seed Mycoflora (%)	Seed Germination (%)
0	5	89
2	6	84
4	7	82
6	7	80
8	8	79
10	9	77
12	9	75
14	11	75
S.E ±	1.49	1.5
C.D. at 5%	3.5	04
16	13	73
18	14	72
20	16	72
22	16	69
24	17	68
26	18	67
S.E ±	0.6	22
C.D. at 5%	1.5	56
28	12	64
30	27	62
32	28	60
34	30	58
36	31	57
S.E ±	1.2	1.14
C.D. at 5%	3.5	3.16

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