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Effect of Bavistin and Captan on grain mold fungi associated with *Sorghum bicolor*

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Grain mold infection results in the reduction of grain size and biodeterioration of the grain besides reducing the market value. *Sorghum bicolor* (Cultivar SPV-881) was found infected heavily at field site during rainy season of 2021 by *Curvularia lunata*, *Fusarium semitectum* and *Alternaria alternata*. Therefore, Bavistin and Captan were tested as local sprays on the ear heads of SPV-881 under glass-house conditions. The fungicides were tested at 100, 200 and 400 ppm concentrations. Control was maintained by spraying sterile distilled water only. It has been found that ear heads of control plants were found infected to the level of 96% while Bavistin and Captan proved effective at 400 ppm concentration (42%, 48%). However, it is advised to use resistant varieties as the fungicide sprayed ear head grains may have fungicidal residue.

Key words :Fungicide, fungi, grain mold, inhibition, *Sorghum*

Grain mold condition refers to the situation that is produced from all contamination with *Sorghum* spikelet tissues occurring from anthesis to harvest by fungi. The grain mold infection results in the reduction in grain size and biodeterioration of the grain. Superficial growth of the fungus also occurs as dense fungal mat of pink, white or black colours on the grain. Moldy appearance of the grain is more dominant under humid environments. As the grain mold fungi cause huge losses in the field, it is thought worthwhile to control *Sorghum* grain molds through the use of resistant cultivars and also by spraying some fungicides as non-lethal dose.

The seeds of SPV-881 genotype from the crop grown during the rainy season, 2021 were used. 25 seeds were surface sterilized with 2% chlorine for 2 minutes and washed with sterile distilled water several times. Six (6) seeds per each plate were plated on Potato Dextrose Agar medium and incubated at 27^o-29^oC for 3 days. The grain mold fungi present in the seeds were isolated and identified (Nagamani *et al.* 2006). The Bavistin and

Table.1 : Percentage of grain mold colonization in *Sorghum bicolor* (Cultivar – SPV-881) following fungicide treatment

Treatment with Fungicide	Concentration (in ppm)	Colonization (%)
Bavistin	100	63
	200	54
	400	48
Captan	100	64
	200	58
	400	42
Control	Sterile distilled water	96

Captan at a level of 100, 200 and 400 ppm concentrations were tested on the seed germination and reduction of fungal contamination. Grain mold percentage was calculated in the form of weight loss against control.

From the results (Table 1), it is clear that the Bavistin and Captan have proved effective against grain mold fungi *Curvularia lunata*, *Fusarium semitectum*

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and *Alternaria alternata* as they have reduced grain mold colonization in the *Sorghum bicolor* (Cultivar SPV-881). Both Bavistin and Captan have been found effective in reducing grain mold colonization when compared to control. Thus, it is suggested that seed treatment with a mixture of Bavistin and Thiram (1:1) could be routinely used to eliminate grain mold fungi (Fromme *et al.* 2017; Gholve *et al.* 2018; Girish *et al.* 2004).

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