Halogenation on storage fungi in sorghum seeds

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Seed is a biological entity and forthwith seed deterioration is inevitable. There are cause and factor(s) effect on seed deterioration. To counteract deteriorative senescence in seed, stabilisation of \(c=c\) double bondage of the unsaturated fatty acid moiety of the lipo-protein membranes by halogenation is useful. Dry dressing of fresh seeds with halogens like iodine or chlorine has conferred beneficial effects by lowering lipid peroxidation and thereby extension of vigour and viability of number of seeds.

Fresh seeds of Sorghum cv.CO 26 produced at Coimbatore(L1) and Aruppukottai(L2) were processed and dried to 10% moisture content at the Department of Seed Science and Technology, Tamil Nadu Agricultural University, Coimbatore. Then the seeds were treated with halogen formulation (Tt). This formulation was prepared by mixing of bleaching powder(CaOC12), CaCO3, and Arappu (Albezia amara) leaf powder @ 5:3:2 ratio in air tight 700 gauge polythene containers and allowed to 3 days for stabilisation and then thoroughly mixed with seed @ 3 g/kg. After treatment, the seeds were packed in cloth bags(C1), high density polyvinyl(HDPV) bags (C2) and 700 gauge polythene bags(C3) and stored in ambient conditions along with control(T0) seeds. Pathogens were identified by blotter method initially (P0) and 10 months (P10) of storage. The data were analysed statistically to assess the level of significance and to interpret the results.

Table 1. Effect of halogenation treatment, location, containers and period of storage on the development of storage fungi in Sorghum seeds cv. CO 26.

<table>
<thead>
<tr>
<th>Container</th>
<th>Coimbatore</th>
<th>Arrupukottai</th>
<th>Over all Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(T_0)</td>
<td>(T_1)</td>
<td>(P_0)</td>
</tr>
<tr>
<td>C1</td>
<td>22</td>
<td>16</td>
<td>57</td>
</tr>
<tr>
<td>C2</td>
<td>22</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td>C3</td>
<td>22</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>Mean</td>
<td>22</td>
<td>16</td>
<td>49</td>
</tr>
</tbody>
</table>

Over all mean \(T_0\) = 27.8, \(T_1\) = 22.2, \(L_1\) - 31.7, \(L_2\) - 18.3, \(P_0\) - 15.0, \(P_{10}\) - 35.0

CD (p=0.05)  
T - 1.26  
L - 1.26  
C - 1.55  
P - 1.26
The percentage infection of storage fungi initially and after 10 months showed significant differences between treatments, location and containers used for storage (Table 1). The halogen treatment effectively contained the storage fungi. The halogenated seeds had 22.2% infection as against 27.8% in the untreated control irrespective of locations, containers and period of storage. The mean infection in Arruppukottai (L₂) seeds was lower (18.3%) when compared to Coimbatore (L₁) seeds (31.7%). Among the containers, C₃ registered lower infection (22.6%) than those in C₂ (24.3%) and C₁ (28.1%). As storage period advanced, the infection percentage increased from 15.0 to 35.0 per cent after 10 months of storage. The interaction revealed that the seeds from Aruppukottai (L₂) given halogenation treatment and stored in 700 gauge polythene bag (C₃) had the minimum infection than the other treatments. The storage fungi identified were Alternaria tenuies, Chaetomium globosum, Cladosporium herbacium, Curvularia lunata, Fusarium moniliformae, Helminthosporium turcicum, Macrophomina phaseoli and Curvularia palescens.

References

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Adoption of dairy farming practices in Ernakulam district of Kerala

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Indian agriculture is an economic symbiosis of crop and cattle production. Dairying is important for India as it is rural based, land saving and gender neutral. Dairy farming provides substantial source of income to the landless laborers as well as marginal farmers. We have witnessed a revolution in milk production with Operation flood projects, where cooperative societies have played a pivotal role. India has emerged as the world’s leading milk producer but the productivity of native cattle averages around 445 kg for cow and 811 kg for buffalo per lactation (Dairy India, 1997). So under this backdrop, the study was taken up to know the dairy farming practices followed by farmers and