



**RESEARCH ARTICLE :**

## Evaluation of botanicals and insecticides against *Sitotroga cerealella* (Olivier) on stored paddy seeds

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**SUMMARY :** Rice, *Oryza sativa* L. is the most economically important food crop grown by millions of people in India. It plays a major nutritional role in the diet of people of many developing nations (Norman and Kebe, 2006; FAO, 2013). The productivity of rice is threatened by a wide range of pre and post harvest pests (Ashamo and Akinnawonu, 2012). Stored product insect pests such as *Sitophilus oryzae* (Linnaeus), *Sitophilus zeamais* (Motschulsky), *Rhyzoperthadominica* (Fabricius) and *Sitotroga cerealella* (Olivier) are usually seen on rice in most of the stores. An experiment was conducted at Seed Research and Technology Centre, Rajendranagar, Professor Jayashankar Telangana State Agricultural University, Hyderabad during 2015-16 to study the efficacy of botanicals on storability of paddy seeds through seed treatments. The storage studies revealed that among botanical seed treatments, significantly highest seed germination was recorded in seeds treated with *Acorus calamus* @ 10ml per kg seed (96.33%) followed by Karanj oil @ 5ml per kg seed (90.33%) and the lowest in untreated seeds (80.67%). Significantly highest seedling vigour was also observed in *Acorus calamus* @ 10ml per kg seed (1947) followed by Karanj oil @ 5ml per kg seed (1853) while significantly lowest seedling vigour index was recorded in untreated control (1458). Though lowest seed infestation was recorded in Karanj oil @ 5 ml/kg seed (5.3 %) but it was on par with *Acorus calamus* (8.0 %) at the end of twelve months of storage. Among the various treatments, *Acorus calamus* and Karanj oil were found to be superior in maintaining seed quality through out the storage period over control. In all the treatments, seed quality parameters declined progressively with increase in storage period. The average germination per cent age and vigour index of the seed at the beginning of storage period was 99.10 per cent and 3556, respectively, which declined to 90.71 per cent and 1766.71, respectively at the end of 12<sup>th</sup> month of storage.

**KEY WORDS :**

Paddy seeds,  
Angoumo is grain  
moth [*Sitotroga  
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