



RESEARCH PAPER

Free radical quenching effect of botanical treatments on storability of greengram seeds

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Abstract : Storage of seeds enhances the longevity of the seed for sowing in the following season. Seed quality is the prerequisite condition that affects the germination and yield of any crop plants. The studies were carried out to determine the effects of three botanicals on greengram seeds storage. Laboratory studies were conducted with leaf powders of three plants to show the preservative effect for maintaining the quality of greengram seeds in storage. After processing and drying, seeds were preserved with different botanicals such as *Albizia amara*, *Azadirachta indica*, *Phyllanthus emblica* at a dose of 10g/kg and halogen mixture @3g/kg stored in gada cloth bags. At the end of six and twelve months, the germination percentage and the changes in the antioxidant enzymes such as superoxide dismutase, catalase, polyphenoloxidase and peroxidase were determined in the treated seeds. The results revealed that, the botanicals and halogen mixture treatments were significantly effective in controlling and maintaining higher seed quality throughout the storage period when compared to untreated control. Among the botanicals, the *Albizia amara* was found better by recording significantly higher germination percentage and enzymatic levels were retained when compared to untreated control seeds during storage. From this study, it is revealed that uses of different botanicals are less costly, easily available to the farmers and safe to handle.

Key Words : Greengram, Botanicals, Storage, Seed quality, Biochemical analysis

View Point Article : Chitra, M. and Pandiyan, M. (2019). Free radical quenching effect of botanical treatments on storability of greengram seeds. *Internat. J. agric. Sci.*, **15** (1) : 102-106, DOI:10.15740/HAS/IJAS/15.1/102-106. Copyright@2019: Hind Agri-Horticultural Society.

Article History : Received : 15.06.2018; Revised : 01.12.2018; Accepted : 07.12.2018