

Enhancing Storability of Ridge Gourd Seeds Under Ambient Conditions by Silica Gel

***Usha Nandhini Devi, H. and Swarnapriya, R.**

Department of Vegetable Science, Tamil Nadu Agricultural University, India

*Corresponding email: drushajana@rediffmail.com

The storage of vegetable seeds after harvest until next planting time assumes prime importance for successful breeding and seed production programmes, since the viability and vigour in storage is regulated by many physio-chemical factors. Therefore, experiments were carried out to study the possibility of enhancing storability of ridge gourd seeds using silica gel under ambient conditions at the Department of Vegetable Science, Horticultural College and Research Institute, Coimbatore during 2017-2018 using seeds of ridge gourd CO1. The experimental design was Factorial Randomized Complete Block Design with four replications. Factor 1 included 3 levels of moisture content *viz.*, 9 % (shade dried fresh seeds), 6 % and 4 % (dried using Silica gel). Factor 2 included four different packing materials *viz.*, Aluminium foil (polylined), polyethylene cover (500 gauge), polyethylene cover (700 gauge) and cloth bag and stored for 15 months under ambient temperature. At three months intervals (0, 3, 6, 9, 12 and 15 months) the seeds from different packing materials were sown on paper towels and observations on seed growth parameters *viz.*, Germination percentage, Vigour index I and Vigour index II were recorded. The results showed that during "0" storage period the seeds with 6 % moisture content packed in polythene cover of 500 gauge thickness recorded a higher germination percentage (74 %), vigour Index I and II (3142.2 and 71 respectively). During 3 months, the Vigour Index II (49) was higher in seeds with 6 % moisture content packed in polythene cover of 500-gauge thickness. During 6 months, seeds with 4 % moisture content packed in polythene cover of 500-gauge thickness recorded higher germination percentage (57 %) and Vigour Index I (2111.85). During 9 months, the seeds with 4 % moisture content packed in Aluminium foil registered higher germination percentage (88 %) and Vigour Index II (91.68). It can be inferred that the seeds packed in aluminum foil (polylined) expressed the highest germination percentage (88 %) and vigour index II (91.68) up to 9 months. Desiccated seeds stored in moisture impervious containers produced seedlings that are more vigorous. Thus, adoption of appropriate moisture level and packing materials would significantly increase the storability of ridge gourd seeds under ambient conditions.

Keywords: Germination percentage, Ridge gourd storability, Vigour index