B-78 : DETERMINATION OF A SUITABLE STORAGE TEMPERATURE FOR BITTER GOURD SEED

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There is an urgent need for preservation and management of plant genetic resources to be used in crop improvement programmes. It is well known that dry, cold storage conditions will increase seed longevity. However, the optimum moisture level and temperature required for seed storage of each species should be investigated. Bitter gourd (*M.charantia*) seeds cannot be stored at less than $+1^{o}C$ as viability decreases repidly during storage. Therefore, investigations had to be undertaken to find a suitable storage temperature for seed conservation.

Bitter gourd cultivar MC 43 was used for this study. First, the initial seed moisture content and initial seed germination were determined. Subsequently seeds were divided into two portions and one portion placed in aluminium foil bags (seed moisture content 11.2%). The other portion was dried to a low moisture content (around 6%) and placed in aluminium foil bags. Each bag contained 2000 seeds. Bags were stored at five different temperatures ($25^{o}C$, $18^{o}C$, $5^{o}C$, $1^{o}C$ and $-18^{o}C$).

Four hundred seeds from each storage temperature were drawn at 30 day intervals for viability testing.

According to the results obtained rapid loss in viability occured when seeds were stored at -18°C and 1°C at both moisture levels. Gradual loss in viability occured under room temperature when seed moisture content was high (11.2%). Seeds retained their viability up to 08 months at 18°C regardless of seed moisture levels. Seeds stored at 5°C lost their viability quicker than seeds stored at 18°C at both moisture levels.

These results suggest that +18°C is the suitable storage temperature for bitter gourd seeds.