B-02: Screening of bittergourd cultivars for super low temperature susceptibility

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It has been suggested that bittergourd *(M. charantia)* seeds belong to the recalcitrant group. In the preliminary studies differences related to low temperature susceptibility were observed among cultivars. Lethal temperature was different from cultivar to cultivar. Therefore screening of cultivars for low temperature susceptibility is important to find out storage temperature for bittergourd seeds. Objective of this study was to screen bittergourd cultivars, collected from different countries for super low temperature susceptibility.

Seeds of 21 cultivars of bittergourd were collected from different countries and kept in the seed storage room at +18°C. Then seeds from each cultivar were taken out and the initial germination percentage was observed. Thereafter samples of each cultivar were covered with aluminium foil and directly immersed in liquid nitrogen (LN2) for 2 h. Following cryogenic storage, seeds were taken out and re-warmed under ambient conditions. These seed samples were tested for germinability.

From this study, 3 low temperature tolerance cultivars, 3 moderately tolerant cultivars and 15 low temperature susceptible cultivars were found among the cultivars tested. Most tolerant cultivar and most susceptible cultivar were found from the Indian sub continent.