Early detection of variations among the Gerbera *(Gerbera jamesonii)* seedlings by isozyme electrophoresis

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Gerbera jamesonii has a high demand in the local and export cut flower trade in Sri Lanka and therefore early and correct identification of varieties is essential in hybridization and commercial production of Gerbera planting materials. Thus in the present study use of isoenzyme electrophoresis in identification of variations of Gerbera seedlings, produced by hybridization and cultivated under tissue culture condition were investigated.

Horizontal starch gel electrophoresis was used to analyze leaf extract prepared from immature leaves of randomly selected ten *in vitro* seedlings. Banding patterns of ADH (Alcohol Dehydrogenase), DIAP (Ddiaphorase), MDH (Malate Dehydrogenase), PGI (Phospho Gluco Isomerase), 6PGDH (6-Phospho Gluconate Dehydrogenase) and GOT (Glutamate Dehydrogenase) were used to asses the variations among Gerbera seedlings. Three enzymes 6PGDH, DIAP, PGI and ADH exhibited four patterns while three different patterns were observed for PGI. Malate Dehydrogenase (MDH) and Malic Enzyme (ME) have showed two different patterns.

Differences between hybridized seedlings were assessed by using the Rf value (Relative migration) of the bands and the number of bands produced of each enzyme for each seedling. Results of this study showed all the plants examined in the present study were genetically different from each other according to the banding patterns of MDH, ADH, ME and DIAP. Therefore iso-enzyme electrophoresis can be used as a system for early detection of variations among hybridized Gerbera seedlings.

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