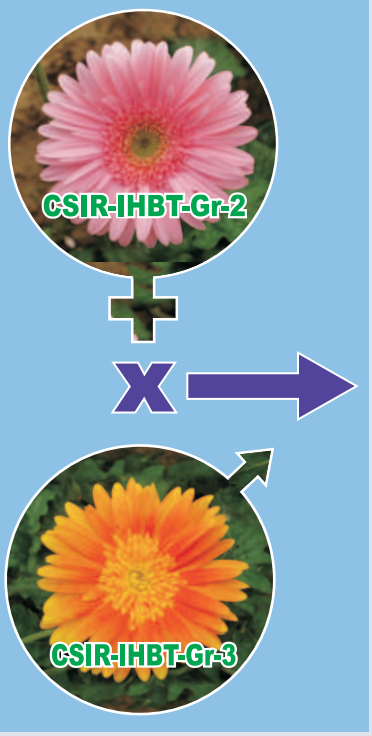
Release of *Gerbera jamesonii* Cultivars

Him Glow and Him Peace

The cultivars Him Glow (CSIR-IHBT-Gr-23-1) and Him Peace (CSIR-IHBT-Gr-E-3) of *Gerbera jamesonii* have been developed by CSIR-Institute of Himalayan Bioresource Technology through hybridization and selection approach. The cultivars were selected for double flower shapes with bright colours and long vase life. The cultivars have been developed through controlled hybridization programme using characterized gerbera lines as parents and selecting the promising hybrid genotypes based on floral attributes and field performance. The cultivars have good nursery performance and are vigorous in growth and adaptability under greenhouse conditions.

Him Glow (CSIR-IHBT-Gr-23-1)

Parentage



Salient features of the cultivar Him Glow

Stem length (cm)	41.2
Flower head type	Double
Flower diameter (cm)	10.8
No. of flowers per plant in a year	23.5
No. of flowers per square meter in a year	210
Colour of leaves	Dark green
Outer colour of petals	Yellow orange*
Inner colour of petals	Yellow orange*
Disc colour	Green
Flower vase life (days)	18
Diameter of Inner ray florets (cm)	6.7
Flower type	Standard

* Colour Chart of The Royal Horticulture Society, UK

IHBT

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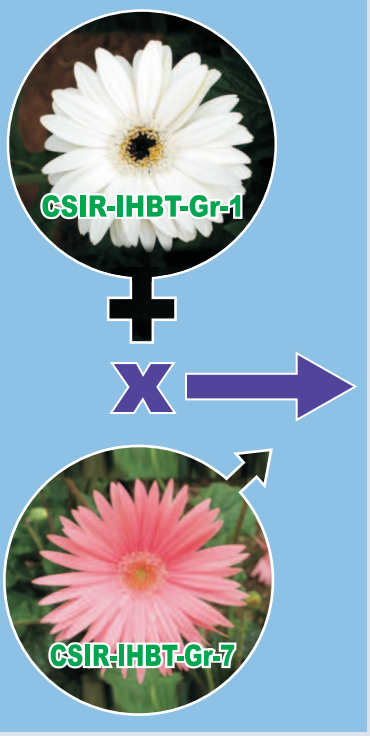
Him Peace (CSIR-IHBT-Gr-E-3)

Parentage



Salient features of the cultivar Him Peace

Stem length (cm)	33.1
Flower head type	Double
Flower diameter (cm)	7.9
No. of flowers per plant in a year	18.8
No. of flowers per square meter in a year	170
Colour of leaves	Dark green
Outer colour of petals	White*
Inner colour of petals	White*
Disc colour	Green
Flower vase life (days)	15
Diameter of Inner ray florets (cm)	5.6
Flower type	Mini Dwarf

* Colour Chart of The Royal Horticulture Society, UK

In vitro mass multiplication of gerbera cultivars

Vegetative propagation in gerbera is possible through divisions, but rate of multiplication is too slow for commercial purposes. *In vitro* culturing is an important tool to produce disease free plants on large scale. The protocol for shoot regeneration, multiplication and root induction is being used at the Institute for mass multiplication of gerbera plants.

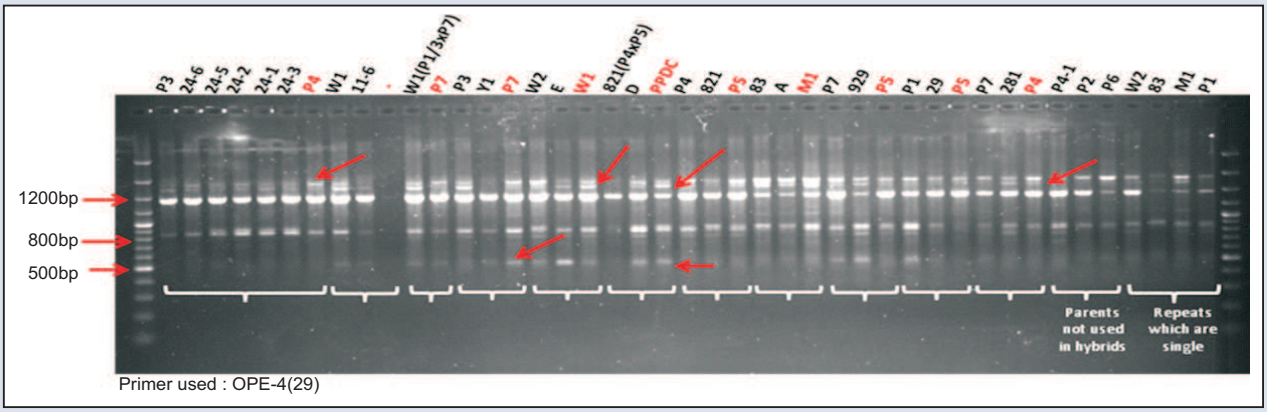
A large number of *in vitro* rooted plantlets of gerbera were successfully hardened in plastic trays containing sand, and covered with plastic bag to maintain humidity. After about three weeks of acclimatization they were transplanted in sleeves for further cultivation in soil. The new gerbera hybrid genotypes showed high growth response to *in vitro* proliferation as compared to other gerbera genotypes and have good potential for commercialization.

In vitro propagation of gerbera cultivars

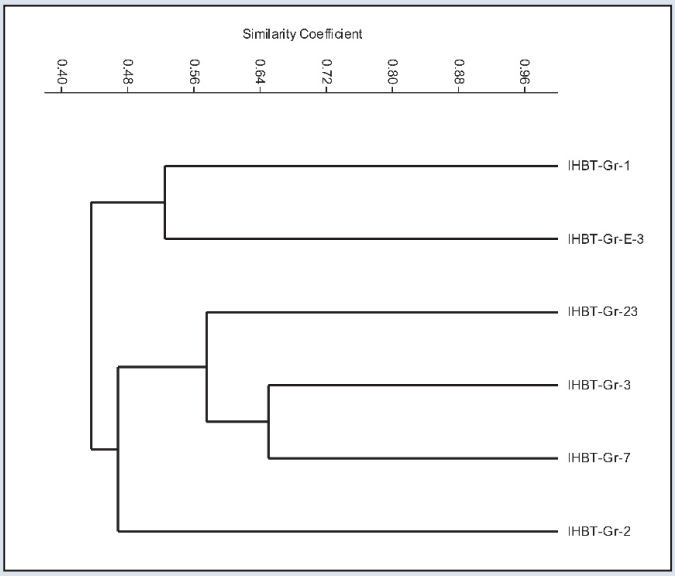
Hardening of tissue culture raised plantlets of gerbera cultivars

DNA Fingerprinting of cultivars Him Glow and Him Peace using RAPD markers

The genetic distinction of cultivars Him Glow and Him Peace were established using 73 RAPD markers. The cultivars along with the parental lines were used for comparison purpose. In total, 53 alleles were detected with an average of 3.53 alleles per RAPD locus. Twenty RAPD markers evincing reproducible polymorphic loci among the improved selection Him Glow, Him Peace and parental lines were used for development of fingerprints. Based on the RAPD data, consolidated DNA fingerprints were developed with unique marker loci. Cluster analysis of gerbera genotypes based on 73 polymorphic loci grouped in three major groups. Genetic similarity data suggested that improved gerbera selections have captured high level of genetic diversity and can be potentially used as promising parental group for future genetic improvement programme of gerbera.



Representative RAPD profile of gerbera parental genotypes and their hybrid progenies using primer OPE-4 (polymorphic bands are marked with arrows)



Dendrogram of gerbera genotypes representing genetic diversity among the parents and cultivars (Scale indicates Jaccard's similarity coefficient)

RAPD Marker	Gr-23	Gr-P2	Gr-p3	Gr-E-3	Gr-P1	Gr-p7
OPT-13-500	■		■	■	■	■
OPM-04-1300				■		
OPE-04-1300	■		■	■	■	■
OPE-04-1100		■				■
OPS-07-750	■	■	■		■	
OPE-04-800			■	■	■	■
OPM-10-900		■				
OPE-04-500				■	■	■
OPS-02-1100	■	■	■	■		■
OPM-04-500	■	■		■	■	■
OPM-14-1200		■			■	
OPM-14-1050	■	■		■	■	■
OPM-14-1000	■		■			■
OPM-14-550	■	■		■	■	■
OPS-02-1250	■	■		■	■	
OPS-02-400			■	■	■	■
OPS-02-1350	■		■			■
OPS-02-300					■	■
OPS-07-1300	■	■	■	■	■	■
OPM-04-600	■	■	■			■

Diagrammatic representation of DNA fingerprints of gerbera cultivars and parents revealed by RAPD markers amplicons

Performance evaluation of cv. Him Glow under polyhouse condition

Performance evaluation of cv. Him Peace under polyhouse condition

Contributors

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