

Floriculture

1. **Objectives** (Brief description of the overall objectives of the R&D pursued in the Area) **OLP 0042**
 - Enrichment and maintenance of new and novel cultivars of Ornamental plants
 - Improvement of ornamental plants by selection, hybridization and mutation breeding methods.
 - Release of new cultivars.
 - Generate societal awareness of floriculture and its commercial utilization.

2. **Goals:** (Main goals of the R&D, reflecting the national and global relevance)
 - Development of new cultivars of ornamental plants.
 - Societal upliftment through commercial floriculture and dehydration of flowers and floral craft through training courses, flower shows, counselling and technical advice.
 - Germplasm collection, maintenance and distribution of ornamental germplasm for commercial and academic exploitation to entrepreneur and researcher

3. **Competencies :** (Skills and experience available with Groups in relevant areas of R&D)
Required skill, expertise and experience is available with our group

4. **Facilities:** (Major and Important facilities available with the R&D Groups)

1. Gamma irradiation facilities: Gamma chamber-900

5. **Highlights of Current Research:** (Brief description of the ongoing R&D showing glimpses of objectives, and progress/achievements through good quality photographs, figures, graphs, etc.).

New Ornamental Varieties developed/released: Last five years

Amaryllis: Agni, Dhruva, Prakash, NBRI Kiran

Bougainvillea: Abhimanyu: Bud sport of 'Arjuna', Los Banos Variegata – Jayanti Pixie variegata

Chrysanthemum: Vijay Kiran, NBRI little Kusum, NBRI Little Pink , NBRI Little Hemant , NBRI Little Orange, Himanshu, NBRI Kaul, NBRI Khoshoo

6. List of Ongoing projects:

(Title of the project, Funding Agency, Duration, contact name and e-mail ID of PI/Co-PI)

Title of the Project: All India Co-ordinated Research Project on floriculture.

Funding Agency: Directorate of Floriculture, IARI, PUSA, New Delhi.

Duration: One Year (Renewed every year)

Contact name and e-mail ID of PI: Dr.B.K.Banerji, banerjibk@yahoo.co.in

Contact name and e-mail ID of Co PI: Dr. A.K.Dwivedi,
akdfioriculture@gmail.com

7. Significant achievements: (major achievements/outputs of the R&D Groups in bullet points)

- Collection of new and novel cultivars of chrysanthemum, Hibiscus, rose and tuberose
- Development of new cultivars of ornamental plants
- Registration of Bougainvillea cultivars

8. Recent Publications: (Important publications reflecting the major outcomes/outputs of the R&D Groups)

- Banerji, B.K., Gupta, V.N. and Dwivedi, A.K. 2009. NBRI Vijay Kiran-A chrysanthemum cultivar evolved at National Botanical Research Institute, Lucknow. *Vatika*, Winter-2009 (Oct-Dec,2009) Issue 4 Page28-30.
- Saxena, M., Banerji, B.K. and Dwivedi, A.K. 2009 Mckean Hybrid Double- A unique *Hippiastrum* with multipetalled flower. *Herbertia*. Vol.63:160-167
- Rakesh Tuli, Banerji, B.K., Sharma, S.C. and Roy, R.K. 2009. Crop Breeding: using both traditional and biotechnology techniques: Floriculture, *The Hindu Survey of Indian Agriculture*, 2009 Global climate change and it's impact on agriculture yield. Pages 88-89 & 92.
- Verma, Arvind Kumar, Misra, Priya, Dwivedi, A.K. and Banerji, B.K. 2009. Effect of Ethyl Methane Sulphonate on Large flowered Chrysanthemum cultivar Red Ball with particular reference to induction of Somatic mutations. *Progressive Research* Vol. 4 (2):211-214.
- Verma, Arvind Kumar, Misra, Priya, Dwivedi, A.K. and Banerji, B.K. 2009. Morphological characterization of large flower chrysanthemum cultivar. *Progressive Research* Vol. 4 (2):244-246.
- Dwivedi, A.K. and Banerji, B.K.2009. Effects of gamma irradiation on Dahlia cv. 'Pinki' *Journal of Ornamental Horticulture* Vol.11 (2): April-June issue (publ. August 2009) at pg.148-151.
- Singh Viveka Nand, Banerji, B .K. Dwivedi, A.K., and Verma Arvind Kumar 2009. Effect of gamma irradiation on 'African Marigold (*Tagetes erecta* L.) cv. "Pusa Narangi"'. *Journal of Horticulture Science*, Vol.4 (1): 36-40.
- Raj,S.K.,Snehi,S.K.,Kumar,S.,Banerji,B.K.,Dwivedi,A.K.,Roy,R.K. and Goel,A.K. 2009. First report of 'Candidatus *Phytoplasma asteris*' (16SrIgroup) associated with colour-breaking and malformation of floral spike of *Gladiolus* in India. *New Disease Reports*. http://www.bspp.org.uk/publications/new_disease_reports/ndr.phd?id=019023. (SCI Journal)

- Verma Arvind Kumar, Banerji, B.K. Chakarbarty, D. And Datta, S.K. 2010. Studies on “Makhana (*Euryale ferox* Salisbury). *Current Science*, **99**(6):795-800. (**SCI Journal**)
- Banerji, B.K. 2010. Floriculture and its importance to Indian Agriculture. *Financing Agriculture*, Vol. **42**(3):213-217.
- Banerji, B.K., Batra, Atul, Saxena, M and Dwivedi A.K. 2010. Narcissus-A fragrant bulbous plant. *Herbertia*, **64**:328-333.
- Banerji, B.K. 2010. Pixies variegate - A new Bougainvillea Cultivar developed by NBRI, Lucknow. *Indian Bougainvillea Annual*, April 2010. Vol. **23**: 41.
- Singh Viveka Nanda, A.K.Dwivedi, Mandeep Saxena and B.K.Banerji 2010. Plant Blackberry in your Garden. *Aesthetics. Indian Horticulture*, January-February 2010, Vol. 55 (1):29&31.
- Banerji, B.K. 2010. Disease Management: Diseases of Bougainvillea and its Management. *Floriculture and Nursery Times*. Jan-Feb-2010. Vol.**3** (5):31-34.
- Banerji, B.K. 2011. The protection of Plant varieties and Farmer’s rights in India with special Reference to Rose. *The Rose Annual*, 2011 pp 32-37.
- Banerji, B.K. 2011. Biodiversity in Rose. In: Conference on Forest Biodiversity: Earth’s Living Treasure, 22 May, 2011 Souvenir pp 85-92.
- Dwivedi, A.K., Verma, Arvind Kumar and Banerji, B.K. 2011. Morphological and Anatomical studies on *Catharanthus roseus* (Linn.) *Progressive Research*, **6**(1): 51-55.
- Dwivedi, A.K. and Banerji, B.K. 2011. Chrysanthemum: An Ocean of Beauty In: Conference on Forest Biodiversity: Earth’s Living Treasure, 22 May, 2011 Souvenir pp 119-124.

9. Scientists: (Name and Designation of Scientists working in the Research Area/R& D Groups)

1. Dr.B.K.Banerji Sci ‘F’
2. Dr.A.K.Dwivedi Sci. ‘F’

10. Technical Staff: (Name and Designation of Technical / Lab Astts./TOs in the Research Area/R& D Groups)

1. Dr.Atul Batra T.O.
2. Mr.Alok Kumar T.O.

11. Research Fellows/ Project Assistants: (Name and Designation of JRF/SRF/RA/PAs working in the Research Area/R& D Groups).....Nil