

## Division of Floriculture & Landscaping





### Name of Head

**Dr. T. Janakiram**

Phone: 25841929 (O)

### Scientific Staff

S.No.	Name of Scientist	Designation	Specialization	Contact. (STD code: 011)
1.	 Dr. T. Janakiram	Head and Principal Scientist	Crop improvement in chrysanthemum and gladiolus Crop Improvement	25841929 (O) <a href="mailto:Tolety07@gmail.com">Tolety07@gmail.com</a> <a href="mailto:headflori@yahoo.com">headflori@yahoo.com</a>
2.	 Dr. Krishan Pal Singh	Principal Scientist and Project Coordinator	Production Technology of Tuberose	25841929 (O) 25842708 (R) <a href="mailto:flori@iari.ernet.in">flori@iari.ernet.in</a>
3.	 Dr. S.S. Sindhu	Principal Scientist	Commercial Floriculture; Landscape & Arboriculture; Protected cultivation & Green House management;	25841929 (O) 25843804 (R) <a href="mailto:sssindhu2003@yahoo.co.in">sssindhu2003@yahoo.co.in</a>
4.	 Dr. Kanwar Pal Singh	Senior Scientist	Crop improvement in Rose, marigold, Lupin and other annual flowers	25841929 (O) 27853943 (R) <a href="mailto:kanwarfls@yahoo.co.in">kanwarfls@yahoo.co.in</a>

5.	 Dr. K. V. Prasad	Senior Scientist	Crop improvement in rose and chrysanthemum ; Ornamental crop biotechnology, genetic finger printing and DUS studies in rose & chrysanthemum	25841929 (O) <a href="mailto:kvprasad66@yahoo.co.in">kvprasad66@yahoo.co.in</a>
6.	 Dr. Kishan Swaroop	Senior Scientist	Improvement of bougainvillea and production technology of gladiolus	25841929 (O) 9818868307 (R) <a href="mailto:flori@iari.ernet.in">flori@iari.ernet.in</a>
7.	 Dr. M.C. Singh	Scientist (Sr. Scale)	Protected cultivation	25842481 (O) 9811652505 (Mob) <a href="mailto:mcsingh@iari.res.in">mcsingh@iari.res.in</a>
8.	 Dr. P. Naveen Kumar	Scientist (Sr. Scale)	Crop improvement in gladiolus and production technology	25841929 (O) <a href="mailto:naveeniari@gmail.com">naveeniari@gmail.com</a>

9.	 Dr. D.V.S. Raju	Scientist (Sr. Scale)	Crop improvement in rose, chrysanthemum and marigold	25841929 (O) <a href="mailto:rajivalex@yahoo.com">rajivalex@yahoo.com</a>
10	 Dr. (Ms) Ritu Jain	Scientist	Post harvest handling of flower crops	25841929 (O) <a href="mailto:ritujain.uhf@rediff.com">ritujain.uhf@rediff.com</a>
11	 Dr. (Ms) Namita	Scientist	Crop improvement in rose, marigold, Lupin and other annual flowers; Ornamental crop biotechnology	25841929 (O) <a href="mailto:namitabanyal@yahoo.co.in">namitabanyal@yahoo.co.in</a> <a href="mailto:namita_fls@iari.res.in">namita_fls@iari.res.in</a>
12	 Dr. Tarak Nath Saha	Scientist	Crop improvement in gladiolus and protected cultivation of Gerbera	25841929 (O) <a href="mailto:tnsaha@gmail.com">tnsaha@gmail.com</a>

## List of Ongoing Projects

<b>Project code No</b>	<b>Project Name</b>	<b>Principal Investigator, Co-Principal Investigator and associates</b>
<b>A.R: FLS: 01</b>	<b>Breeding of Commercial Flower Crops</b>	<b>Dr. T. Janakiram, Head</b>
<b>Sub - Project 1</b>	<b>Breeding of Rose for Commercial Traits</b>	Dr. D. V. S. Raju Dr. (Ms.) Namita Dr. K. V. Prasad Dr. Kanwar Pal Singh Dr. M. R. Dhiman ( IARI Regional Station, Katrain) Dr. R. K. Sharma (Division of Entomology) Dr. (Mrs) Pratibha Sharma (Division of Plant Pathology)
<b>Sub - Project 2</b>	<b>Breeding of Chrysanthemum for Commercial Traits</b>	Dr. K.V. Prasad Dr. D. V. S. Raju Dr. T. Janakiram Dr. R. K. Sharma (Division of Entomology) Dr. (Mrs) Pratibha Sharma (Division of Plant Pathology) Dr. T. Mohapatra (NRCPB, New Delhi)
<b>Sub - Project 3</b>	<b>Breeding of Gladiolus for Commercial Traits</b>	Dr. P. Naveen Kuma Dr. T. Janakiram Dr. Krishan Pal Singh Dr. Kishan Swaroop Dr. S. K. Lal (Division of Seed Science and Technology) Dr. R. K. Sharma (Division of Entomology) Dr. (Mrs) Pratibha Sharma (Division of Plant Pathology)
<b>Sub - Project 4</b>	<b>Breeding of Marigold and Lupin for Higher Yield and Quality</b>	Dr. Kanwar Pal Singh Dr. Namita Dr. D. V. S. Raju Dr. (Ms.) Gautam Chawla (Division of Nematology) Dr. Gunjeet Kumar

		(Division of Germplasm Evaluation NBPGR, New Delhi) Dr. Chitra Pandey (Division of Germplasm Conservation) NBPGR, New Delhi
<b>Sub - Project 5</b>	<b>Improvement of Bougainvillea for Novel Colours</b>	Dr. Kishan Swaroop Dr. Ritu Jain Dr. S. K. Misra (Division of Germplasm Evaluation NBPGR, New Delhi)
<b>A.R: FLS: 02</b>	<b>Development of Production and Postharvest Management Technologies in Commercial Flower Crops</b>	<b>Dr. Krishan Pal Singh</b>
<b>Sub - Project 1</b>	<b>Standardization of Production Technology of Tuberose, Gladiolus and Chinchinchee.</b>	Dr. Krishan Pal Singh Dr. P. Naveen Kumar Dr. Kishan Swaroop Dr. Tarak Nath Saha Dr. S. K. Lal (Division of Seed Science and Technology) Dr. Rajvir Sharma (Division of Agronomy) Dr. Livleen Shukla (Division of Microbiology) Dr. S. K. Misra Division of Germplasm Evaluation NBPGR, New Delhi
<b>Sub - Project 2</b>	<b>Postharvest Management and Value Addition of Chrysanthemum, Marigold and Tuberose</b>	Dr Ritu Jain Dr. Kanwar Pal Singh
<b>Sub - Project 3</b>	<b>Protected Cultivation of Chrysanthemum and Gerbera</b>	Dr. S. S. Sindhu Dr. T. N. Saha Dr. K. V. Prasad Dr. D. R. Biswas (Division of Soil Science and Agricultural Chemistry) Dr. Renu Pandey

		(Division of Plant Physiology)
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### On-going External Funded Projects

<b>Project No. 1</b>	DUS Testing of Rose and Chrysanthemum Cultivars
<b>Project title</b>	DUS Testing of Rose and Chrysanthemum
<b>Name of the funding agency</b>	PPV&FRA, G.O.I.
<b>Principal investigator</b>	Dr. K.V. Prasad
<b>Co-Principal investigator</b>	-
<b>Date of Start</b>	September 2002
<b>Total Fund Allocation</b>	Rs. 57,05,000/-
<b>Total fund utilized during the period</b>	Rs. 26,83,841/- till 31.03.2007 Rs. 17,99,108/- till 31 <sup>st</sup> March 2008
<b>Facilities created</b>	DUS lab
<b>Number of SRF in the project</b>	-
<b>Point wise achievement</b>	75 rose varieties have been characterized as per the new guidelines and the digitalization of the data completed. 54 varieties were characterized based on the new test guidelines.
<b>Publications from the project</b>	K.V.Prasad, V.B.Patel and Mohan Ram (2008) Protection of Plant Varieties and Farmers Rights: Initiatives in Horticultural Crops. In: Recent Initiatives in Horticulture, K.L.Chadha, A.K.Singh and V.B.Patel (eds), Published by Horticultural Society of India pp: 140-66.
<b>Fund received</b>	Rs 48,15,000/- Funds received till 31.03.2007 Funds received during 2007-08- NIL

## On-going Institute collaborative Projects

<b>Project No. 1</b>	Recycling of Animal and Farm waste and Application of their Value Added Products in Sustainable crops production and Animal Husbandry
<b>Sub-Project title</b>	Application of Vermibiomanure in Ornamental Plants
<b>Name of the funding agency</b>	Collaborative Research Project between IVRI, IARI, CARI & IIT- Roorkee
<b>Principal investigator</b>	Dr. S.S. Sindhu
<b>Co-Principal investigator</b>	Dr. K.V. Prasad

### POST-GRADUATE TEACHING

#### TRIMESTER I

Sr. No.	Course Code	Course Title	Credits
1.	HORT.100	Basic Horticulture	(3+2)
2.	HORT.152	Nutritional Requirement of Horticultural Crops	(3+1)
3.	HORT.152	Fundamentals of Floriculture	(3+2)
4.	HORT.253	Landscape Gardening	(3+2)
5.	A3	Principles of Horticultural Crops	(2+1)
6.	HORT.310	Export Oriented Horticulture	(3+1)

#### TRIMESTER II

Sr. No.	Course Code	Course Title	Credits
1.	HORT.153	Breeding of Ornamental Plants	(3+1)
2.	HORT.204	Plant Propagation	(2+2)
3.	HORT.256	Protected Cultivation of Horticultural Crops	(3+1)
2.	HORT.305	Commercial Floriculture	(3+1)

### TRIMESTER III

Sr. No.	Course Code	Course Title	Credits
1.	HORT.211	Growth and Development	(3+2)
2.	HORT.252	Value addition in Ornamental Crops	(1+1)
3.	HORT.254	Indoor Plants	(3+1)
4.	HORT.306	Plant Tissue Culture in the Improvement of Horticultural Crops	(2+1)
5.	HORT.309	Advance Breeding of Ornamental Crops	(3+1)

A large contingent of foreign students representing countries such as Bangladesh, Ethiopia, Iran, Srilanka, Vietnam and Nepal, obtained M.Sc and Ph.D. Degrees from the Division

### Recent Publications

Baskaran, V. and R. L. Misra, 2007. Effect of plant growth regulators on growth and flowering of gladiolus. *Indian Journal of Horticulture*, **64**(4): 479-482.

Bhatia, R., Kanwar P. Singh and M. C. Singh, 2008. Effect of growth regulators on regeneration from leaf derived callus and shoot proliferation in gerbera. *Indian Journal of Horticulture*, **65** (3): 312-16.

Bhatia, R., Kanwar P. Singh, T. Jhang and T. R. Sharma, 2009. Assessment of clonal fidelity of micro propagated gerbera plants by ISSR markers. *Scientia Horticulturae*, **119**: 208 - 211.

D.V.S. Raju, Kanwar P. Singh and Kishan Swaroop, 2006 . Behaviour of French marigold (*Tagetes patula*) under different plantings in Delhi conditions. *Journal of ornamental Horticulture* , **9**(3) : 217-217.

Dhiman, M.R. and S.S. Sindhu, 2007, Effect of propagation media and growth regulators on bulblet formation through scale propagation of *Lilium*. *Journal of Ornamental Horticulture*, **10**(3):181-183.

Gajanana, T.M. and Krishan P. Singh, 2006. Effect of planting densities on yield and economics of gerbera cultivation under naturally ventilated greenhouse. *Mysore Journal of agricultural Sciences*, **40** (2): 238-242.

Gautam, C., K.K. Kaushal, A.N. Srivastava and Krishan P. Singh, 2007. *Cordyline terminalis* – a monocot plant host of *Meloidogyne incognita* (Kofoid & White) (Chitwood). *Journal of Ornamental Horticulture*, **10** (1): 69.



Gautam, C., Krishan P. Singh and A.N. Srivastava, 2006. Study on managing root knot nematode (*Meloidogyne incognita*) infection on tuberose (*Polianthes tuberosa* Linn.) through treatment of mother bulbs. *Journal of Ornamental Horticulture*, **9**(4): 290-292.

Gautam, C., Krishan P. Singh and A.N. Srivastava, 2006. Study on propagation of root knot nematode (*Meloidogyne incognita*) through tuberose (*Polianthes tuberosa* Linn.) bulbs. *Journal of Ornamental Horticulture*, **9**(1): 73-74.

K.V.Prasad, Sudhir Kumar and M.L.Choudhary, 2006. Molecular Characterization of fragrant cultivars of roses. *Indian Journal of Horticulture*, **63**(3) 229-234.

K.V.Prasad, SudhirKumar and M.L.Choudhary, 2006. Molecular Characterization of fragrant cultivars of roses. **63**(3) 229-234

Kanwar P. Singh, K. Ravindra Kumar, K. V. Prasad, Madan Pal and D. V. S. Raju, 2008. Influence of VAM inoculation on root colonization, survival, physiological and biochemical characteristics of chrysanthemum plantlets. *Indian Journal of Horticulture*, **65**(4): 461-465.

Kanwar P. Singh, T. N. Saha, K.V. Prasad, Charanjit Kaur and D.V.S.Raju, 2008. Recovery of carotenoids and its fractions from marigold flowers as influenced by genotype, grading and stage of harvest. *Indian Journal of Horticulture*, **65**(1)91-93.

Kanwar P. Singh, T. N. Saha, K.V. Prasad, V.R. Sagar and D.V.S.Raju, 2008. Influence of pre-treatment, drying methods and packing on retention of carotenoid pigments in dried petals of marigold. *Indian Journal of Horticulture*, **65**(2): 184-186.

Kishan Swaroop, K. V. Prasad and D.V. S. Raju, 2008. Evaluation of chrysanthemum (*Dendranthema grandiflora* Tzvelev.) germplasm in winter season under Delhi conditions. *Journal of Ornamental Horticulture*, **11**(1):58-61.

Naveen Kumar, P. Reddy, Y. N. and Chandrashekar, R., 2006. Effect of different chemicals on the dormancy of gladiolus cormels. *Journal of Ornamental Horticulture*, **9**(3): 196-199

Naveen Kumar, P. Reddy, Y. N. and Chandrashekar, R., 2006. Flower induction in gladiolus cormels. *Journal of Ornamental Horticulture*, **9**(3): 174-178

Naveen Kumar, P. Venkata Ramana, C and Reddy, Y.N (2006). Flowering induction and regulation in fruit crops: a review. *International Journal of Tropical Agriculture*, **24**(1): 65-84.

Renu Pandey, Priya M. Chacko, M.L. Choudhary, K.V. Prasad and Madan Pal , 2007. Higher than optimum temperature under CO<sub>2</sub> enrichment influences stomatal anatomical characters in rose (*Rosa hybrida*). *Scientia Horticulturae*, **113**: 74-81.

Sasikumar, K., S.K. Singh, T.Mohapatra and K.V.Prasad , 2007. Characterization of rose cultivars and species by DNA fingerprinting. *Indian Journal of Horticulture*, **64**(4):435-438.

Singh, Kanwar P., T.N. Saha, K. V. Prasad , Charanjit Kaur and D.V.S. Raju, 2008. Recovery of carotenoid and its fractions from marigold flowers as influenced by genotypes, grading and stage of harvest. *Indian Journal of Horticulture*, **65**(1): 91-93.

SS Sindhu, D. B. Gholap, M. C. Singh and M. R. Dhiman, 2009. Effect of media amendments on physico-chemical properties and leaf nutrient concentration on gerbera (*Gerbera jamesonii*). *The Indian Journal of Agricultural Science*. **79**(2): 110-114.

Sudhir Kumar, K.V.Prasad and M.L.Choudahry, 2006. Detection of genetic variability among chrysanthemum radiomutants using RAPD markers. *Current Science*, **90**(8) 1108-1112

Swaroop, K. and A.P. Singh, 2007. Screening of new Gladiolus hybrids for growth and flower characters. *Orissa Journal of Horticulture*, **35**(2): 15-20.

Swaroop, K., and D.V.S. Raju, 2008. Influence of Indole Butyric Acid on the rooting of cuttings of bougainvillea cultivars. *Journal of Horticulture*, **36** (1):75-77.

Swaroop, K., D.V.S. Raju and Kanwar P. Singh, 2007. Effect of nitrogen and phosphorus on growth, flowering and seed yield of African marigold variety Pusa Narangi Gaiinda (*Tagetes erecta*). *Orissa Journal of Horticulture*, **35**(2):15-20.

Swaroop, K., K.V. Prasad and D.V.S.Raju, 2008. Evaluation of chrysanthemum (*Dendranthema grandiflora* Tzvelev.) germplasm in winter season under Delhi conditions. *Journal of Ornamental Horticulture*, **11**(1):58-61.

Swaroop, K., Kanwar P. Singh and D.V.S. Raju, 2007. Vegetative growth, flowering and seed characters of African marigold (*Tagetes erecta* Linn.) as influenced by different growth substances during mild off seasons. *Journal of Ornamental Horticulture*, **10** (4): 268-270.

Swaroop,K., K.V. Prasad and D.V.S. Raju, 2006. Evaluation of Standard chrysanthemum (*Dendranthema grandiflora* Tzvelev) cultivars in low cost polyhouse and open field conditions, *Journal of Ornamental Horticulture*, **9**(1): 69-70 .

Tripathi, S., H.C. Joshi, D.K. Sharma and Krishan P. Singh, 2007. Effect of distillery effluent and fly ash mixtures on soil fertility, plant growth and flower yield in gladiolus. *Journal of Ornamental Horticulture*, **10** (1): 34-37.

V.S. Raju Dantuluri, R. L. Misra and V.P. Singh, 2008. Effect of polyamines on post harvest life of gladiolus spikes. *Journal of Ornamental Horticulture*, **9**(3):215-217.

V.S. Raju Dantuluri, R. L. Misra and V.P. Singh, 2008. Effect of pre-harvest spray of thiol compounds on post harvest life of gladiolus spikes. *Journal of Ornamental Horticulture*, **11**(1):75-76.