



ICAR-Directorate of Floricultural Research, Pune



Vision

To harness the research and development activities in flower crops and landscape gardening for promotion of domestic and export markets.



Mission

To carry out research, impart education, conduct out-reach programmes in floriculture and landscaping with national and international partners for enhancing the production, productivity, profitability besides alleviating the rural poverty.

Introduction

ICAR - Directorate of Floricultural Research (DFR) is an exclusive Institute under Indian Council of Agricultural Research (ICAR), New Delhi to conduct Research & Developmental (R&D) activities in commercial floriculture. It was established on December 10, 2009 at New Delhi (in the campus of Indian Agricultural Research Institute, Pusa, New Delhi). In the year 2014, it was shifted to Pune, Maharashtra and started its operations from the Agricultural College Campus, Shivajinagar. Research work initiated at Shivajinagar farm has been expanded to Hadapsar (Keshavnagar) farm from 2017.

ICAR – DFR came in to being by upgradation of Project Coordinator Cell of the All India Coordinated Research Project (AICRP) on Floriculture which was established during IV Five-Year Plan (in the year 1970-71) to carryout nation-wide interdisciplinary research by linking ICAR Institutes with State Agricultural Universities (SAU's) and CSIR organizations. Since its inception the Coordinated Project has contributed significantly for the development of floriculture in India. The technologies developed under AICRP on Floriculture include new and improved varieties of commercial flower crops, production technology including pest & disease control and post-harvest management & value addition.

Considering the research needs and widening scope of floriculture in India, the mandate has been revised to increase the crucial technological support to the growers and entrepreneurs besides, providing employment generation for rural youth.



Indian Council of Agricultural Research (ICAR)
Ministry of Agriculture and Farmers' Welfare
Government of India





Mandate

- To conduct basic, strategic and applied research to enhance sustainable productivity, quality and utilization of ornamental crops.
- To develop a repository of genetic resources and scientific information on ornamental crops.
- To transfer technology, capacity building and impact assessment of technologies.
- Coordinate research and validation of technologies through AICRP on Floriculture.

How to Reach

Shivajinagar Campus

ICAR-DFR is presently located in the campus of College of Agriculture, Shivajinagar, Pune. It is about 3.5 km from Pune railway station and about 11 km from Pune airport. The nearest bus stand is 1.5 km at Shivajinagar and 5 km from Swargate (bus stand).

Hadapsar Campus

The research farm of ICAR-DFR is located in Keshavnagar (near Z Corner on Mundwa-Manjri road), Hadapsar. It is about 9 km from Pune Railway Station and about 14 km from Pune airport. The nearest bus stand is 4 km at Hadapsar and 9 km from Swargate (bus stand). The Hadapsar Campus is about 14 km from Shivajinagar Campus.

ICAR-DFR Regional Station, Vemagiri, Kadiyam

ICAR-DFR has a Regional Station located at Vemagiri (village), Kadiyam (Mandal), East Godavari Dist., Andhra Pradesh. This is about 11 km from Rajamahendravaram railway station and 26 km from Rajamahendravaram airport. The nearest bus stand is Vemagiri which is on Rajamahendravaram – Kolkata highway. Initial office is located at ICAR - Central Tobacco Research Institute (CTRI), Bhaskarnagar, Rajamahendravaram.



ICAR-DFR office at Shivajinagar

Mandate Crops

At present ICAR – DFR is focusing on rose, chrysanthemum, marigold, tuberose, gladiolus and turf grasses. Collection of germplasm of various ornamental crops is in progress to develop a repository.

Research Projects (On-going)

1. Utilization of specialty flowers, cut foliage, fillers and aromatic flower crops to address various landscape uses.
2. Evaluation of industrial and agricultural by-products as potting media components for production of potted ornamental plants.



Hon'ble Secretary (DARE) & DG (ICAR) Dr. T. Mohapatra with Directors and Staff of ICAR institutes at Hadapsar farm

3. Standardization of post-harvest technology and value addition techniques in ornamental crops.
4. Investigations on virus and phytoplasma diseases of commercial flower crops.
5. Breeding of tuberose for quality and yield.
6. Improvement of gladiolus for commercial traits.
7. Improvement of rose for commercial traits.
8. Improvement of chrysanthemum for commercial traits.
9. Standardization of post-harvest packaging technology for tuberose and jasmine.

Inter-Institutional Projects

1. Harnessing natural pigments from flower crops for making high value products and possible utilization in value added products in grape (Collaborative project with ICAR-NRCG, Pune).
2. Design and development of tools and gadgets for floriculture (Collaborative project with ICAR-CIAE, Bhopal).
3. Development of unique DNA fingerprints of flower crops (Collaborative project with ICAR-NRCPB, New Delhi).

Research Orientation

To achieve the set mandate / objectives, research is planned and being conducted under the following themes.

Crop Improvement

Major activities include germplasm collection, evaluation, characterization and utilization in commercial flower crops and to serve as a National Repository; and, Development of improved varieties in respect of yield, quality, novelty, resistance to biotic and abiotic factors, etc. Crops being dealt at present are rose, gladiolus, chrysanthemum, tuberose, marigold and flowering annuals.

Crop Production

The focus is on location/region specific production technologies, minimization of cost of production and enhancement of net returns per unit area.

Crop Protection

Evolving improved measures for the control of insect pests (including nematodes) and diseases (including viral & phytoplasma based) with the use of new molecules and following the approach of Integrated Pest Management.

Post-harvest Management & Value Addition

Standardization of post-harvest handling (maturity/stage of harvest, pre-treatments, use of chemicals, storage, packaging & transport) techniques for respective flowers and value addition avenues to increase the farm income.

Research Highlights



Farmers- scientists interaction



Integration of apiculture with floriculture



Tuberose research plot at Hadapsar

- Promising gladiolus hybrids, tuberose hybrids & mutants, and mutants in chrysanthemum are being evaluated.
- Through pest surveillance, population dynamics are determined for important pests in major flower crops.
- Population dynamics and manifestations of nematodes are determined in tuberose and chrysanthemum.
- Manifestations resulting from *Alternaria* leaf spot in tuberose and gerbera; red blotch in Amaryllis; and *Fusarium* wilt in gladiolus are documented.
- Crop specific manifestations and extent of damage due to phytoplasma infection in nursery plants, China aster and marigold are documented.
- Harnessing natural pigments from flower crops for making agro-based value added products.
- Flower market dynamics are documented for Pune and Mumbai markets.
- Tools and gadgets, tailor made, for flower crops are being developed.

Teaching

Scientists of ICAR-DFR are recognized as the faculty members of MPKV, Rahuri and associated in the teaching of Under Graduate (UG) and Post Graduate (PG) courses in the discipline of Horticulture and guiding of PG students in floriculture.

Capacity Building and Transfer of Technology

ICAR – DFR conducts periodical trainings to all the stakeholders (Farmers, Department officials, nurserymen, academicians in floriculture, amateurs, gardening hobbyists, etc) to impart latest developments. Transfer of technologies in the form of publications (technical bulletins, folders, pamphlets, etc); various extension activities (field

days, frontline demonstrations, participation in flower shows, Horticulture Mela/Kisan Melas, farmers meetings); and dissemination through electronic media (AIR, TV) and print media being taken up from time to time. The flagship programmes of Government of India, **Mera Gaon Mera Gaurav, Soil Health Management**, etc are being implemented by ICAR – DFR.

Services Offered

- Sale of planting material (seed of flowering annuals, cuttings/suckers (chrysanthemum), bulbs (tuberose), corms (gladiolus), etc).
- Sale of fresh flowers (loose/cut) during respective seasons.
- Technical guidance on production technologies of flower crops including control of pests and diseases, post-harvest handling, value addition, etc; planting material production in major flower crops; garden designing and landscaping; plant pigments & essential oils, etc.
- Capacity building through training programmes, workshops, demonstrations, and consultancy services to various stakeholders.
- Soil/water testing.



Initial office at Hadapsar farm



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