Volume 4; July-December 2017

Flori News

An Official Half Yearly Newsletter of
ICAR-Directorate of Floricultural Research
(An ISO 9001 :2008 Institute)
College of Agriculture Campus, Shivajinagar, Pune

In the inner pages...

Lotus, in full bloom unstained..

Even in muddy pond, beautiful and strong

Open to the rising sun

Cool and majestic, rising from the murky water

A teacher for life's lessons

From Director's Desk

Dr. K.V. Prasad
Director ICAR-DFR, Pune

Greetings from ICAR-DFR!

I have great pleasure in presenting the July to December issue of Florinews. During this year ICAR-DFR made significant progress in research and outreach programmes. In crop improvement, promising gladiolus hybrids were identified and evaluated for morphological traits. Four hybrids were found promising on the basis of morphological and flowering characters. In tuberose selections from open pollinated populations, PR-9 (Phule Rajani), AN-3 (Arka Nirantara) and SS-26 (Sikkim Selection) were found to be dwarf and would be useful as pot plants and vertical gardens to introduce fragrant flowers. In crop production alternate media substances were tested. In case of crop protection, deploying nested PCR with 16srRNA based primers, manifestations of phytoplasma infection were investigated. In our endeavour to mechanize floriculture operations we have developed a pedal operated rose grafting machine with stainless steel and mild steel material. DFR was privileged to receive Honorable Secretary, DARE and DG, ICAR, Dr.Trilochan Mohapatra in December 2017. His towering presence was a great inspiration to all the members of the DFR. ICAR-DFR was equally benefited by the visits of Hon'ble DDG Horticulture Dr.A.K.Singh who had reviewed the progress made by ICAR-DFR. ICAR DFR organized a number of outreach programmes that included International Soils Day, Mera Goan Mera Gaurav, Swaatch Bharat Mission, Hindi Pakhwada and Hindi Workshop. ICAR-DFR places on record its deep sense of gratitude in honour of Dr.T.Mohapatra, Hon'ble Secretary-DARE and Director General, ICAR for his constant support and encouragement in all its endeavours. I take this opportunity to profusely thank Dr.A.K.Singh Honble DDG (Horticultural Science) for his overall leadership, guidance and encouragement from time to time. Constant guidance and encouragement from Dr.T.Janakiram, ADG (HS) has been a boon for ICAR-DFR. We place our sincere acknowledgments for his untiring efforts to help ICAR DFR to re-establish itself at Pune. The editorial team of Florinews deserves special appreciation for their involvement and commitment in bringing out this publication.

Happy reading!

Pune, 20th July 2018

(K.V. Prasad)

Research Updates

CROP IMPROVEMENT

Light pink and lemon yellow gladiolus hybrids add to gladiolus colour basket of ICAR DFR

DFR-G-Hy-31 (Hunting Song x Ocilla)

- A hybrid of Hunting Song x Ocilla produces more number of florets per spike (20.67) having pale yellow (18C as per R.H.S colour chart).
- Reddish spots at the base of inner tepals on background of pale yellow coloured florets make it more attractive.
- The hybrid starts producing longer spikes (99.53 cm) after 92.86 days and 4-5 florets remains open at a time.
- A very good multiplier producing 2.0 corms and about 40.70 cormels which makes it more suitable for commercialization

DFR-G-Hy-87 (Yellow Stone x Blues)

- A hybrid of Yellow Stone x Blues. Produces strong reddish orange coloured florets (31A RHS colour chart)
- Longer spikes (80.46 cm) with more than 17.03 florets per spike and
- Its early season hybrid takes 63.55 days for spike initiation with robust and compact spikes making it suitable for cut flower production.
- 6-7 florets remain open on spike at a time which is aesthetically appealing.
- In addition to that it's also good multiplier making it suitable for cut flower production.

DFR-G-Hy-43-5 (Lemon Drop x Purple Flora)

- A hybrid of Lemon Drop x Purple Flora. It produces light pink coloured florets (62D RHS colour chart)
- It is an early hybrid produces spikes in 64.07 days with more than 18.20 florets per spike.
- Widely arranged larger florets on spike with medium texture make it attractive.
- Longer spikes (100.73 cm), with 4-5 florets remain open at a time making it suitable for cut flower production.
- In addition, it is a very good multiplier which makes it more suitable for commercialization.

DFR-G-Hy-39 (Invitatie x Novalux)

- A hybrid of Invitatie x Novalux which produces bicoloured florets of deep yellow coloured blotch and pale yellow coloured florets having pink strips on borders (162D RHS colour chart).
- Deep yellow blotch on background of pale yellow florets makes it more attractive.
- It starts producing spikes in 70.75 days with robust and compact florets arrangements having spike length more that 97.06 cm.
- It produces more number of florets per spike (19.60) with more than 5-6 florets remain open at a time.
- It's also a very good multiplier with more than two (3.0) corms and 35.7 cormels per plant.

Induction of variation in tuberose through mutation breeding

Mutation breeding has been initiated to induct novel characters like colour in Tuberose.

Uneven Opening of Buds

Uneven Bud Size

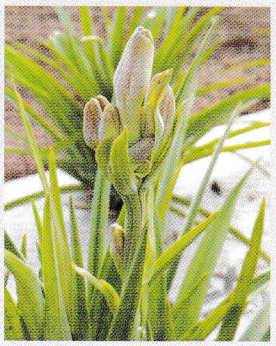
Compact Rosette Inflorescence

Variability in Mutated Population of Tuberose Cultivar Phule Rajani at 10Gy

Variability in Mutated Population of Tuberose Cultivar Phule Rajani at 15Gy

Fused Rachis

Crinkled Leaf



Irregular Bud Arrangement

Stunted Growth

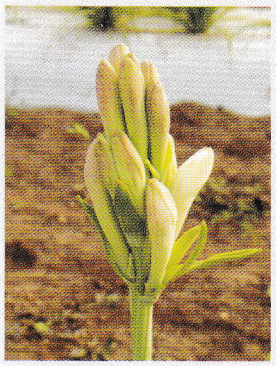
Basipetal Opening of Florets

Crooked Spike

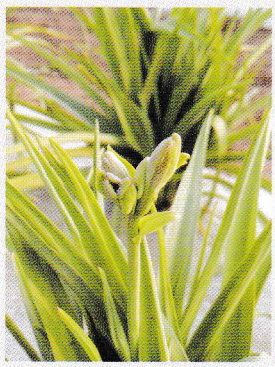
Variability in Mutated Population of Tuberose Cultivar Mexican Single at 10Gy

Variability in Mutated Population of Tuberose Cultivar Mexican Single at 15Gy

Leafless Spike



Bundled Florets



Malformed Buds

DFR C 9-4-1011 and DFR C 25-3-1112 chrysanthemums promise new variety for loose flower production

Evaluation of chrysanthemums for various floriculture attributes have identified cultivars DFR C 9-4-1011 and DFR C 25-3-1112 suitable for loose flower production with short stature , compact flowers with more than 100 flowers per plant.

DFR C 9-4-1011

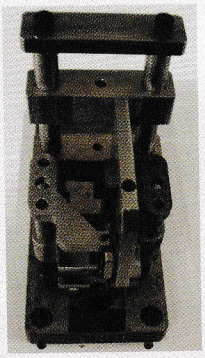
The genotype is suitable for loose flower production. The flowers are cream in colour, with no visible disc and posse's mild fragrance. The average plant height is 65.93 cm, plant spread 55.90 cm, flower diameter 6.83 cm and bears approximately 181.00 flowers per plant.

DFR C 25-3-1112

It is late flowering and is suitable for loose flower production. It bears pink colour flower and falls in double Korean group. The average plant height is 45.30 cm, plant spread (42.27 cm), flower diameter (5.50 cm) and bears approximately 98.00 flowers per plant.

A grafting machine for Rose from ICAR DFR

Grafting of rose is being done manually but due to the shortage of agricultural labor and the deficiency of skilled rose grafters make more necessary the need of a mechanization in rose grafting process. There is a need of grafting for many modern roses like the Hybrid Teas (HTs) and Floribundas to achieve a reliable rate of success and production of high quality planting material. The pedal operated rose grafting machine is made with stainless steel and mild steel material. The rootstock and scion are kept manually in cutting and reunion assembly. Preliminary trial shows that this grafting machine can takes approximately 08-10 seconds for grafting of single rose.

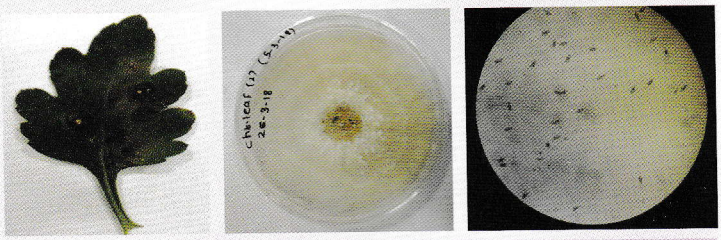


Pedal operated Grafting Machine

CROP PROTECTION

Morphological diversity of foliar fungi causing leafspot diseases in flower crops

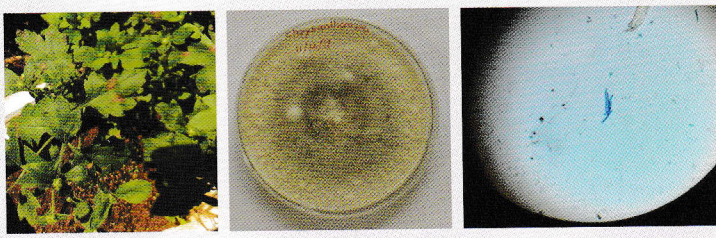
Morphological characteristics of fungal pathogens were studied at both asexual and sexual stages for the identification of these pathogens. Some fungal pathogens which were identified on the basis of morphological characters are discussed below.



Chrysanthemum leaf spot | Pure culture | *Pestalotiopsis* spores

Rose Black leaf spot | Pure culture | *Diplocarpon rosae*

Leaf spot of Gerbera | Pure culture | *Alternaria* spore



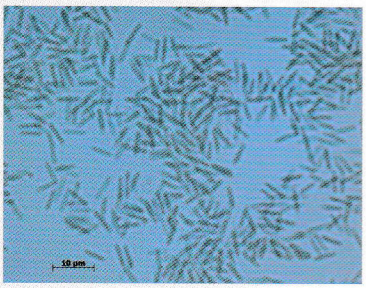
Chrysanthemum leaf spot | Pure culture | *Septoria* spores

Myrothecium roridum; A fungi associated with leaf blight of Chrysanthemum

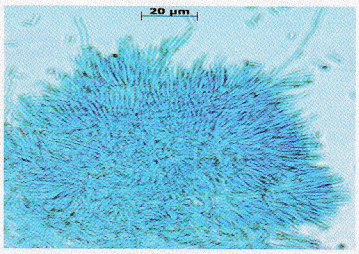
Symptoms: Upper part of leaf has shown symptoms like spot dark tan brown to dark brown 7x7 mm, globose, later coalescing to form irregular spots.

Morphological Characters of isolated pathogen: *Sporodochia* sessile, up to 1.5 mm. diam., often confluent, at first green, later black with a white margin, without setae. *Phialides* 10-12 x 1-2 µm. *Condia* cylindrical with rounded ends, colourless to pale olive, green to black in mass, mostly 6-8 x 2-3 µm.

Leaf spot of Chrysanthemum



Conidia of *Myrothecium roridum*



Sporodochia

The ITS region of rDNA was successfully amplified using fungal universal primers ITS4 & ITS5. The tested fungal strain showed 100 % sequence similarity with *Paramyrothecium roridum* and *Myrothecium roridum*

Phytoplasma belongs to *C. Phytoplasma aurantifolia* group associated with phyllody in Gerbera

To identify the etiology of phyllody in gerbera plants observed during survey of Ahmednagar district, the infected plants were collected and established in glasshouse. The total DNA was isolated from the leaf petioles and detection of the probable cause ie phytoplasma was done by nested PCR using 16srRNA based primers. The amplicons were sequenced and the sequence in BLAST showed 99% sequence similarity with *C. Phytoplasma aurantifolia* group of phytoplasma.

Gerbera showing phyllody in glasshouse

Commercial lateral flow dipsticks for detection of viruses in ornamental plants for phytosanitary certification

The feasibility of dipstick or lateral flow diagnostics for detection of viruses in ornamental plants for phytosanitary certification was studied. 37 systematic samples of various ornamental plants showing virus infection like symptoms were subjected to dipstick diagnostics using lateral flow systems purchased from Agdia International for Potyvirus, Tomato spotted wilt virus, Impatiens necrotic spot virus and Cucumber mosaic virus. From the study it has been inferred that sample buffer ratio and concentration of virus particles are the critical factors to determine the accuracy of lateral flow diagnostics. Once it is used in routine diagnostics, periodic validation of results with other methods of detection like ELISA or PCR is required.

Lateral flow detection of INSV, Potyvirus and CMV and in Chrysanthemum

Rajbhasha

Hindi Karyashala" organized at ICAR-DFR, Pune

ICAR DFR organized a "Hindi Workshop" on **"Antarrashtriye Bhasha Aur Rajbhasha Ke Rup Me Hindi Ka Prayog"** on 11th July, 2017 at ICAR-DFR, Pune with participation of scientific, administrative staff of ICAR-DFR, ICAR-IVRI, RS, Pune, ATARI, Pune and ICAR-IARI, RS, Baner. Dr. Swati chadha, Hindi officer,

Dr. K.V. Prasad giving the inaugural address in Hindi Karyashala

Dr. Swati chadha, Hindi officer, CSIR-NCL delivering lecture

CSIR-NCL, Pune delivered a lecture on the above topic and give ways to make usage of Hindi in offices through various language input softwares.

ICAR-DFR Celebrated "Hindi Pakhwada"

ICAR DFR organized and celebrated "Hindi Pakhwada" from 14th to 29th September, 2017. Various programmes for promotion of hindi were conducted. On the day "Hindi Pakhwada Samapan Samaroh" Dr. S. D. Mashalkar, Dean of College of Horticulture, Shivajinagar, Pune, and Dr. G. Venkateshwarlu, Assistant Director General (EQA&R), Indian Council of Agriculture Research, New Delhi were chief guests. During this function certificates and prizes were distributed to the winners of the competitions.

Prize distribution during "Hindi Pakhwada" Celebration at ICAR-DFR, Pune

AICRP

ICAR-DFR organized XXVI Annual Group Meeting of AICRP on Floriculture at IIHR, Hessaraghatta on August 3-5, 2017

The XXVI Annual Group Meeting (AGM) of AICRP on Floriculture was held during August 3-5th, 2017 at IIHR, Hessaraghatta, Bengaluru. Review of the research work done during the last year (2016-17) at coordinated centres (25 nos.) and preparation of technical programme for the years 2018-2021 are the major objectives of this AGM. There were eight technical sessions besides inaugural and plenary. In the inaugural session (on August 3, 2017), Dr. T. Janakiram, ADG (HS-II), ICAR was the chief guest, Dr. D. R.Singh, Director, ICAR – NRC for Orchids graced the occasion as guest of honour while Dr. M. R. Dinesh, Director, ICAR – IIHR, Bengaluru presided over the function. Dr. T. Janakiram, ADG (HS-II) while addressing the gathering highlighted the scope of floriculture in India and the importance of providing strong technological base for sustaining the flower cultivation in India. The AICRP on Floriculture with its network of coordinated centres spread all over the country would certainly help not only in promoting floriculture but in enhancing/doubling the net returns from floricultural activities.

The official logo of ICAR – Directorate of Floricultural Research was unveiled by Dr. T. Janakiram, ADG (HS-II) the chief guest of the function during the meeting inaugural session.

Inaugural session of 26th group meeting of AICRP on Floriculture

Dr. T. Janakiram unveiling the ICAR-DFR Logo

Extension Activities

Mera Gaon Mera Gaurav

ICAR DFR is continuing its active involvement in various developmental activities to improve floriculture in the adopted villages Kusur and Vadoj.

Providing solutions to problems of other horticultural crops

Monitoring of marigold and strawberry intercropping

Meeting with farmers

Creating awareness about the Swachh Bharat Mission at nearby villages

ICAR - DFR participated in Technology Expo during International Symposium on Horticulture

ICAR-DFR actively participated the Technology Expo during International Symposium on Horticulture: Priorities and Emerging Trends Sept 4-8, 2017 at IISC, Bengaluru. The Technology Expo was inaugurated by Sh. Vajubhai Valaji, HE, Governor of Karnataka; Sh. Ananth Kumar, Hon'ble Minister of Chemicals & Fertilizers, GoI. Also Dr. A. K. Singh, DDG (HS), ICAR & Dr. M. R. Dinesh, Director, IIHR graced the occasion and visited the stall of ICAR-DFR.

ICAR –DFR stall at Technology Expo in International Symposium on Horticulture: Priorities and Emerging Trends Sept 4-8, 2017 at IISC, Bengaluru.

ICAR-DFR participated in Kisan Adhaar Sammelan at MPKV Rahuri

ICAR-DFR participated in Kisan Adhar Sammelan, September, 25-29 at MPKV Rahuri. ICAR-DFR showcased technologies, technical bulletins, live flower sample. At ICAR-DFR stall we provided solutions to the problems of farmers related to the aspects of flower cultivation.

ICAR-DFR participated in AGRIFEST-2017

ICAR-DFR exhibited stall at AGRIFEST-2017 organized by College of Agriculture, Pune at College of Agriculture Ground Shivajinagar, Pune from September 10-12th, 2017.

ICAR-DFR Stall

ICAR DFR celebrated 71st Independence Day

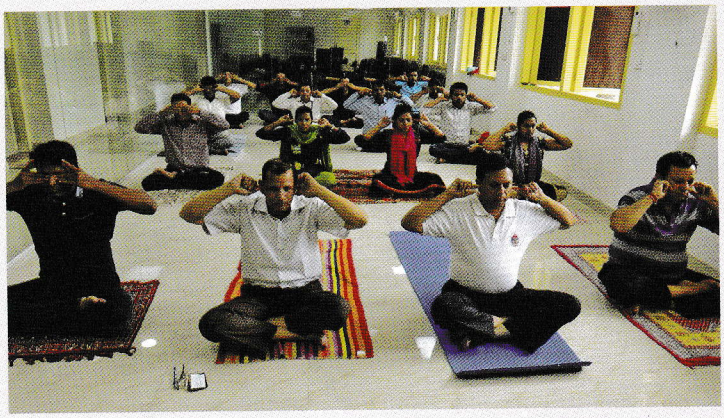
ICAR-DFR celebrated the 71st Independence day of our country on 15th August 2017 at the Hadapsar Farm with an active involvement of all the DFR staffs, labours and their family members.

Dr. K.V. Prasad addressing the gathering after hoisting the national flag

Other Happenings

International Day of Yoga Celebrated at ICAR-DFR

ICAR – Directorate of Floricultural Research, Pune celebrated International Day of Yoga on 21st June 2017 (Wednesday). A "Yoga Workshop" was organized in the premises of ICAR-DFR, College of Agriculture Campus, Shivaji Nagar, Pune in association with Agricultural Technology Application Research Institute, Pune and TEC-Indian Veterinary Research Institute, Regional Station, Pune. Yoga expert Mr. S. S. Wange from Regional Station, Indian Agricultural Research Institute, Pune, conducted the workshop and demonstrated important Asanas for the benefit of all the participants. Dr. Lakhan Singh, Director ATARI along with staffs actively involved in the workshop.



Attendees of Yoga workshop performing Yoga at ICAR-DFR

ICAR-DFR organized "Swachhta Hi Sewa" Campaign

ICAR – Directorate of Floricultural Research, Pune organized a cleanliness drive from 15th September, 2017 to 2nd October, 2017 as part of " Swachhta Hi Sewa" campaign to commemorate the Swachh Bharat Anniversary. All the staff of the institute administered the Swachhta Hi Seva Pledge (Sapath) on 24.9.17 whereby the staff resolved to create a clean healthy and new India and celebrated the Samagra Swachhta Diwas. Dr. K. V. Prasad, Director, ICAR- DFR Pune and all the scientific, technical, supporting staff including contractual staff participated in the cleanliness drive. A special training session on Public Financial Management System (PFMS) was organized on 24.09.2017 for effective implementation of the PFMS system in ICAR-DFR which will ensure transparent finances.A cleanliness drive was organized at Hadapsar campus of the Institute on 1st October 2017. Also, tree plantation was undertaken in the Hadapsar campus along the path leading to the experimental plots. Tree plantation was held in the gracious presence of Dr. Mangala Rai, honourable Former Director General, ICAR and Dr. Major Singh, Director, Directorate of Onion and Garlic Research, Rajgurunagar, Pune. On 2nd October 2017, ICARDirectorate of Floricultural Research organised a special campaign with a detailed deliberation on the importance of cleanliness all around by organizing different activities. "Swacchta kits" (Sanitation kits) were distributed to all the contractual farm labourers at Hadapsar campus of ICAR-Directorate of

Floricultural Research, Pune. Further to show the support for the 'Swachhta Hi Sewa (Cleanliness is Service) Campaign', an awareness rally depicting the importance of Swachh Bharath Mission (Ek Kadam Swachhta Ki Aur) was organized at Village Theur. As part of Sarwatra Swachhta (Cleaning of public places) team ICAR-DFR cleaned the premises of the Shree Chintamani Vinayaka Temple, Theur temple with the help of trust members and explained to pilgrims the importance of cleanliness.

Cleaning of Shivajinagar office premises

Cleaning and Public awareness rally at Theur village, Pune

ICAR-DFR Observed Vigilance Awareness Week 2017

As per directive of the Vigilance cell ICAR and Central Vigilance Commission, Vigilance Awareness Week 2017 was observed at ICAR-Directorate of Floricultural Research, Shivajinagar, Pune from 30th October to 4th November 2017 with the theme "My Vision: Corruption Free India". The observance of vigilance awareness week began with the staff of ICAR-DFR taking Integrity and Organizational Pledge both in English and Hindi on 30th October 2017, along with the students and teachers of College of Horticulture, GKVK, Bengaluru who visited ICAR-DFR on a study tour. On 31st October, ICAR-DFR along with ICAR-National Research Centre for Grapes organized a panel discussion on "Corruption Free India" with active involvement from the staff of both the institutes. Senior officers from the Anti-corruption Bureau cell, Maharashtra, Director, ICAR-DFR, Director, ICAR-NRCG and Director, ICAR-ATARI were the panelists. Lively interaction took place among the panelists and the participants. On the third day a quiz competition was organized for the staffs of ICAR-DFR on "Vigilance" and all the staff members actively participated in the same. An essay writing competition in Hindi on "मेरा लक्ष्य: भ्रष्टाचार मुक्त भारत" was also organized for the ICAR-DFR staff on the next day. On 3rd November, the staff of ICAR-DFR visited Ghule Vidyalaya, Manjri village and organized a vigilance awareness campaign for higher secondary students undergoing vocational higher secondary course. About 60 students participated in this programme.

Dr. K.V Prasad, Director, staff members of ICAR DFR and students of GKVK, Bengaluru taking oath of anticorruption.

ICAR-DFR team at Ghule Vidyalaya, Manjri village for vigilance awareness campaign

ICAR-DFR Celebrated Agricultural Education Day

The ICAR- Directorate of Floricultural Research, College of Agriculture Campus, Shivajinagar Pune celebrated Agriculture Education Day on 03rd December 2017 at Hadapsar Research Farm of the Institute. Students of K K Ghule Vidyalaya, Manjri,

Pune were invited to the ICAR-DFR Research farm. More than 70 students of IX, XI and XII standard along with teachers participated in the Event. An orientation programme followed by visit to experimental fields of ICAR-DFR was conducted for these students. Dr. D. V. S. Raju welcomed the students and teachers for this event. Dr. P. Naveen Kumar, Principal Scientist, ICAR-DFR, Pune appraised students about the importance of floriculture, organizational set up of ICAR as well as DFR and also its role in research, education and development activities. He also informed about the role of ICAR-DFR. Dr. K V Prasad, Director, ICAR-DFR, Pune in his address explained about the significance of Agricultural Education Day. He emphasized the importance of agriculture and floriculture in day-to-day life of human beings.

Team DFR with students elaborating scope of Floriculture in our daily life

ICAR-DFR Celebrated World Soil Day

ICAR-DFR celebrated World Soil Day on 5th December, 2017 in association with KVK, Narayangaon. 54 Soil Health Cards were prepared for distribution to farmers of Kusur village on the occasion of World Soil Day. About 150 farmers were invited from various places and soil health cards were distributed.

Shri. Sharadrao Lende, Member-ZP, Pune distributing Soil Health Card to farmer

ICAR-DFR Celebrated its 8th Foundation Day on 10th December 2017

ICAR Directorate of Floricultural Research, Pune celebrated its foundation day on 10th December 2017 at its Hadapsar farm with a gathering of farmers and representatives from ICAR sister institutes. Dr. R.K. Pal, Director, ICAR-NRC for Pomegranate, Solapur was the Chief Guest of the function. Dr. S.D. Sawant, Director, ICAR-NRCG, Mr. Sudhir Hiremath, IPS, DCP Cyber Crime, Pune, Mr.Dilip Khere, Chairman, APMC, Pune and Mr. Ramakanth, Agriculture Officer, Sangli region were guests of honour. Dr. M.T. Patil and Dr. Prakash Kulakarni, Dr. Indu Sawant (ICAR-NRCG) graced the occasion. The foundation day ceremony began with lighting of lamp by all dignitaries and playing ICAR Song. Dr. K.V. Prasad, Director, ICAR-DFR officially welcomed all to the function. He delivered the foundation day report casting the developments and achievements during the 8years of ICAR-DFR. In his chief guest remarks, Dr. R.K. Pa elaborated on various applications of flowers including medicinal and edible properties. He stressed upon the importance of value chain in floriculture from production t marketing owing to extremely perishable nature. All dignitarie and farmers visited the research plots of Chrysanthemum Tuberose and China aster and appreciated the efforts made b Dr. K.V. Prasad and his team. A plantation drive was als conducted during the event.

Distinguished Visitors

"Make Your Presence Felt": Secretary, DARE and DG, ICAR advises ICAR Institutes

Secretary, DARE and Honorable DG, ICAR Dr. T. Mohapatra visited Pune on 8th December 2017 and addressed all the scientists of ICAR institutes at the conference hall of ICAR-NRCG at 3.00pm. In his address Honorable DG emphasized the fact that ICAR institutes have made significant contributions in all the spheres of agriculture and congratulated all the ICAR institutes for their contributions. However he expressed that the visibility of these contributions and achievements are low. He called upon all ICAR institutes to go all out to make their presence felt. After addressing the gathering at ICAR-NRCG, he visited ICAR-DFR Hadapsar farm. He also steered to initiate research programmes in PPP mode and appreciated the collaborative research projects run by ICAR-DFR along with other ICAR institutes. He also stressed upon developing value addition and value chains in different flowers for doubling farmers income. Plantation drive was organized to mark the occasion. He appreciated the initiative of ICAR DFR for integrating floriculture with bee keeping which is one of the focus areas of the Government of India.

Hon'ble DG, ICAR Dr. Trilochan Mohapatra with staff of Pune based ICAR institutes at ICAR-DFR, Hadapsar Farm

Hon'ble DDG (Horticultural Science) Dr. A. K. Singh visited ICAR-DFR, Pune

Hon'ble Deputy Director General Horticultural Science Dr. A. K. Singh visited ICAR-DFR on 16.09.2017. The Director of ICAR-DFR welcomed Dr. A. K. Singh and apprised him of the ongoing research programmes at ICAR-DFR. Dr. A. K. Singh interacted with the scientists and enquired about the individual research projects carried out by each scientist. After the interaction DDG (HS) visited the research farm at Hadapsar and appreciated the efforts made to bring it under cultivation. He advised DFR to intensify the efforts to create a world class institution in ornamental crops.

Dr. A.K. Singh, DDG, ICAR interacting with Dr. K.V. Prasad regarding developments at ICAR-DFR

Former Vice-chancellors visited ICAR-DFR

Dr. Kisan E. Lawande, Former Director, ICAR-DOGR, Rajgurunagar & Former Vice-Chancellor, BSKKV, Dapoli; Dr. R. B. Deshmukh, Former Vice-Chancellor, MPKV, Rahuri visited ICAR DFR on 7 December, 2017. Dr. K. V. Prasad, Director, ICAR-DFR

Dr. Lawande and Dr. Deshmukh visiting ICAR-DFR flower fields at Hadapsar farm.

explained the ongoing activities undertaken at the farm. Hon'ble Vice-Chancellors also shared their experiences for creation of new facility and appreciated the efforts undertaken in a short span of time. Dr. Y. S. Nerkar, Former Vice-Chancellor, MPKV, Rahuri also visited ICAR-DFR farm and germplasm collection and gave his inputs and appreciation.

Institution Building Activities

A transit office has been developed by renovating the old structure in hadapsar farm as well as a water storage structure has been created.

Rennovated Transit office at Hadapsar farm of ICAR-DFR

Personalia

Dr. D.V.S. Raju

Dr. D.V.S Raju joined ICAR-DFR on 6th July 2017 as Principal Scientist (Floriculture and Landscaping). Before joining DFR he was working at IARI as Principal Scientist and was actively involved in improvement of Roses.

Dr. Safeena S. A.

Dr. Safeena S A joined ICAR DFR as Scientist (Floriculture and Landscaping) on 1st April 2017 from ICAR-CCARI, Goa.

Mr. Mahadev Walke

Mr. Mahadev Walke joined ICAR DFR family as Assistant on 27th July 2017.

Volume 4; July-December 2017

Flori News

An Official half yearly Newsletter of

ICAR-Directorate of Floricultural Research

(A ISO 9001 :2008 Institute)

College of Agriculture Campus, Shivajinagar, Pune-411 005, Maharashtra, India

Phone: 020-25537024, 25537025, E-mail: director.dfr@icar.gov.in, directordfr@gmail.com,

Website: https://dfr.icar.gov.in

https://www.facebook.com/ICAR-Directorate-of-Floricultural Research1126781344008685

https://twitter.com/ICAR_DFR

Published by : K.V.Prasad, Director, ICAR-DFR, College of Agriculture Campus, Shivajinagar, Pune

Editorial Team: Dr. Prabha. K, Dr. P. Naveen Kumar, Dr. Tarak Nath Saha, Er. Rahul S. Yadav & Dr. Ganesh Kadam

Printed at: Anson Advertising and Marketing :Off.:# 25, Laxminagar Commercial Complex, Laxminagar, Pune 411009, India Tel.: 020 24213244 Fax:020 24210013