



## **Dr. N.K. Krishna Kumar** **Our New DDG (Horticulture)**

Indeed, it is our proud privilege to congratulate Dr. N.K. Krishna Kumar on his assuming the office of Deputy Director General (Horticulture), ICAR on August 9, 2012. A distinguished alumnus of University of Hawaii, USA and postdoctoral fellow from University of California, USA, Dr Krishna Kumar is a world renowned personality in the field of pest management in horticultural crops and has developed IPM strategies for important fruit and vegetable crops. He has for the first time developed a database on serpentine leaf miner and pest information on tomato. He has also developed DNA barcodes for 50 different species of insect-pests of different orders and has designed species specific markers for major insect-pests of horticultural crops. His work has been published in journals of national and international repute as research papers and reviews. Besides authoring a number of popular articles and bulletins, Dr. Kumar has edited a book on 'Advances in IPM for Horticultural Crops'. Dr. Kumar has been bestowed with several important assignments including nomination to the Consultative Committee of the Planning Commission. He is an active member of several professional societies viz. President, Association for Pest Management in Horticultural Ecosystem; Vice-President, Society for Promotion of Horticulture, and is a founder member of Entomology Academy of India.

Dr Kumar has visited several countries and is actively engaged in deliberations with scientific fraternity globally through workshops, seminars etc. He was also instrumental in organizing national and international seminars in India on contemporary R&D issues. Dr. Kumar has been bestowed with several prestigious awards in India as well as abroad including East-West Centre Award and Award of Merit Gamma Sigma Delta, Pacific branch for his outstanding contribution in Agricultural Entomology. The elevation of Dr. Kumar to the office of Deputy Director General (Horticulture) has been paved through more than a decade's experience in Research Manager Positions in ICAR including Director NBAIL, Bangalore; Director IIHR (Acting), Bangalore and Head (Entomology and Nematology), IIHR. We believe that the Horticulture Division will stride to new heights under his guidance and wish him a grand successful tenure.

## *Ceranisus* sp. – A new parasitoid of onion thrips, *Thrips tabaci* (Lindeman)

B. R. Jayanthimala

Onion thrips, *Thrips tabaci* (Thysanoptera: Thripidae) is a major pest of onion and garlic crops. Yield losses in onion and garlic due to thrips were estimated to the tune of 50% during *rabi* season. Several management practices are in vogue worldwide to control thrips. The major strategy to control onion thrips is by using insecticides like dimethoate @ 0.06% or imidacloprid @ 0.04%, profenofos @ 0.05% or carbosulfan @ 0.05% or lambda cyhalothrin @ 0.025% or methomyl @ 0.05% or spinosad @ 56 g ai/ha or fipronil @ 60g ai/ha etc., integrated with cultural/ mechanical methods like barrier cropping with two rows of maize and one row of wheat surrounding onion crop (DOGR recommendation), and biological methods. Biological methods include control by utilising natural enemies fauna like micropathogens, *Verticillium lecani*, *Beauveria bassiana*, *Paecilomyces* etc. But these performed poorer than insecticides (DOGR experiments). Insect predators like *Orius tantillus*, *Blaptostethus* sp., and predatory thrips *Aelothrips* sp. have also been reported to control thrips. At the experimental fields of DOGR, Rajgurunagar for the first time during *rabi* season 2012 we observed tiny hymenopterans on onion crop. Hymenopterans were identified as parasitoid, *Ceranisus* sp. (Hymenoptera: Eulophidae) which can parasitize *T. tabaci*. In completely unsprayed onion crop upto 80% of *Ceranisus* sp. was observed. However, on garlic crop only 10% of the parasitoid population was observed. Parasitoids were not observed in the sprayed plots of onion and garlic.



This parasitoid which is occurring naturally contributes to suppression of thrips population. Therefore, augmentation of this natural enemy of thrips should be taken care by minimizing the insecticidal sprays or by selecting botanicals or less harmful insecticides. The existence and affectivity of suppressing thrips population by these parasitoids will be studied further under natural conditions.

## Exploration and collection of *Allium* germplasm from Sikkim and West Bengal

A.J. Gupta and K.S. Negi

Germplasm is the basic building material used by plant breeders for crop improvement. The variation provided by diverse germplasm shapes the crops we grow. In view of the importance and scope of *Allium* germplasm, we have undertaken the exploration for collection of diverse *Allium* germplasm (cultivated and wild) from Sikkim and Darjeeling hills of West Bengal in collaboration with NBPGR RS, Bhowali during September 10-21, 2012. Four districts (North, East, West and South) of Sikkim and a part of Darjeeling, West Bengal were surveyed and 51 *Allium* germplasm were collected. In most of the villages only 1-3 primitive cultivars (variation in bulb/clove size, shape, colour, taste and pungency) were observed. Due to climate change, urbanization, road construction, heavy rainfall, landslides many primitive cultivars were on the verge of extinction. Species *Allium hookerii* and *Allium tuberosum*, known as Dungdunge in local parlance, had two types:

### Germplasm collections made from Sikkim and Darjeeling (WB)

S. No.	Crop	No. of Accessions
1.	Onion ( <i>Allium cepa</i> )	4
2.	Garlic ( <i>Allium sativum</i> )	21
3.	Leek ( <i>A. ampeloprasum</i> )	3
4.	Shallot ( <i>A. ascalonicum</i> )	11
5.	<i>Allium tuberosum</i>	3
6.	<i>Allium hookerii</i>	7
7.	<i>Allium</i> spp. (unknown)	2

Shanu, narrow leaf and Thulo- broad leaf. These were found in few pockets as a semi- domesticated type. *Allium ascalonicum* (Shallot), known as Cheepi in local parlance was common in remote or inaccessible areas. *Allium*

*ampeloprasum* (Leek) known as Bhotiya lahsoun in local parlance is also being cultivated and largely used for medicinal purpose.

Wide range of variation was observed in bulb/clove colour, size, shape and number of bulblets/cloves. In case of onion, majority of the accessions possessed globe or flat globe bulbs, which were dark red or light red. Bulb weight showed high diversity (10.1-101.3 g), followed by equatorial diameter (2.64-6.16 cm) and polar diameter (2.52-5.31 cm). In case of shallot, light red and dark red were the more commonly occurring. Bulb weight had high diversity (1.9-16.5 g), followed by bulblet weight (2.3-4.3 g), polar diameter (2.18-3.07 cm) and equatorial diameter (1.34-1.90 cm). Garlic accessions had ovate or circular bulbs, which were commonly purple or reddish white. Clove weight showed high diversity (0.4-13.0 g), followed by bulb weight (7.2-46.0 g), equatorial diameter (2.52-5.47 cm) and polar diameter (2.28-4.17 cm).

Promising accession of onion was NG-3144 (101.3 g, high bulb weight) and of shallot were NG-3157 (16.5 g) and NG-3142 (15.6 g). Garlic accessions NG-3174 (46.0 g), NG-3186 (41.5 g), NG-3145 (37.8 g) and NG-3143 (36.4 g) were identified for high bulb yield. These cultivars hold potential for possible utilization in breeding programmes.



Variability in onion germplasm



Variability in garlic germplasm

## Meeting of Institute Management Committee at Directorate



Meeting of IMC

The 16<sup>th</sup> meeting of Institute Management Committee (IMC) of Directorate of Onion and Garlic Research (DOGR) was held on August 27, 2012 at DOGR, Rajgurunagar, Pune. It was chaired by Dr. Jai Gopal, Director, DOGR and attended by all other members including Dr. Madhuban Gopal, National Fellow, Division of Agri. Chemicals, IARI, New Delhi, Dr. G.S. Karibasappa, Principal Scientist, NRC for Grapes, Pune and Dr. L. Pugalandhi, Professor & Head, Deptt. of Vegetable Crops, TNAU, Coimbatore.



The welcome of the committee members was followed by a presentation by Director about the activities of the directorate and significant achievements. He elaborated the aspirations of the directorate for the XII Plan EFC. Dr. Jai Gopal also expressed that the primary focus of DOGR is on innovative measures to provide healthy working ambience. Following the chairman's remarks, the committee discussed the agenda items. The members offered valuable suggestions

in the light of ICAR guidelines and the need of the directorate. QRT recommendations, purchase of spill over items and other agenda items were approved by IMC. The meeting ended with the vote of thanks by Mr. Subodh Neeraj, Member Secretary, IMC. The IMC members also visited the different sections and laboratories of the directorate and discussed various issues with the scientists and the staff to accommodate their views amicably

## Research Advisory Committee Meeting of the Directorate

The fifteenth RAC meeting of DOGR was held on November 5-6, 2012. Dr. B.S. Dhankhar, Former Assistant Director General (VC), ICAR, New Delhi chaired the meeting. Other RAC members were Prof. M. Udayakumar, UAS, Bangalore, Dr. Hari Har Ram, Vice President (R&D) Krishidhan Seeds Pvt. Ltd., Dr. S.J. Singh, Former Head, IARI Regional Station, Pune, Dr. Umesh Srivastava, ADG (Vegetable Crops) ICAR, New Delhi, Dr. R.P. Gupta, Director, NHRDF, Nashik, Dr. Jai Gopal, Director DOGR and Dr. C.R. Ramesh, Member Secretary. All the scientists of DOGR were also present in the meeting. Dr Jai Gopal, Director felicitated the Chairman and other members and briefed the RAC about the salient achievements of DOGR and the proposed programmes. Dr. C.R. Ramesh presented the Action Taken Report. The progress reports and future plans of the different programmes were presented by respective scientists. Each presentation was followed by in-depth discussion. The issues of impact of climate change on onion and garlic production, flower induction in garlic and molecular breeding for quality



RAC during field visit

attributes were highlighted. The thought provoking interaction of RAC with DOGR scientists led to thirty recommendations in different disciplines and helped to prioritize the R&D endeavors. Efforts were also made to streamline the research programmes in the light of XII EFC. A visit to field experiments at Rajgurunagar and Manjri farms was also organized for RAC members.

## Director, DOGR Visits AINRPOG Centers



Dr. Jai Gopal in discussion with Manipur center's scientists

Dr. Jai Gopal, Director DOGR and Project Director All India Network Research Programme on Onion and Garlic (AINRPOG) visited AINRPOG network centres at TNAU, Coimbatore and Ooty on 9-10<sup>th</sup> August 2012 and at CAU, Imphal on 11<sup>th</sup> September 2012. He monitored the ongoing research experiments of network projects and had comprehensive discussion with the scientists. Dr Jai Gopal complimented the staff for their achievements and assured them for all sort of help from HQ for their future endeavors.

## Extension Activities

### TV Shows and Radio Talks

- Dr. V. Mahajan, Principal Scientist delivered a radio talk on October 3, 2012 at All India Radio on Rabi Onion Production Technology.
- Dr S.S. Gadge, Sr. Scientist presented three TV shows viz. Saam Marathi (2/7/2012), ABP Maza (5/7/2012), and Sahara Samay (8/7/2012) on different topics related to Kharif production technology for onion growers

### Training programmes

A training programme was organized for the farmers' of Dhamalemala, Dist Pune in collaboration with Gramonnati KVK, Narayangaon, Dist. Pune on October 31, 2012. On the occasion, Dr. S.S. Gadge, Sr. Scientist delivered lecture on rabi onion production technology while Dr A.J. Gupta, Sr. Scientist elaborated onion varieties developed by DOGR for rabi season. The scientists also demonstrated the nursery raising techniques to the participants.



Dr. S.S. Gadge delivering a lecture at training programme

## Release of DOGR Publications

Two publications from Directorate of Onion and Garlic Research, Pune were released on November 9, 2012 at the inaugural function of 22<sup>nd</sup> Meeting of ICAR Regional Committee – VII, hosted by ICAR Research Complex for Goa. These publications are: a technical bulleting entitled “Onion and Garlic Varieties of DOGR” and a CD on “Micro-Irrigation in Onion and Garlic”. His Excellency Shri Bharat Vir Wanchoo, Governor of Goa was the Chief Guest and Dr. Ramkrishna Kusmaria, Minister of Farmer Welfare and Agricultural Development, Govt. of Madhya Pradesh was Guest of Honor. Dr. S. Ayyappan, Secretary DARE, GoI and DG ICAR presided over the function. The publications are available at DOGR for stakeholders.



## Human Resource Activities

### Training programmes

Name and Designation	Duration	Event
Dr. S.S. Gadge, Sr. Scientist	August 1 -7, 2012	Workshop on 'Institutional Innovations in Agricultural Extension for Inclusive Growth' at NAARM, Rajendranagar, Hyderabad.
Dr. S.J. Gawande, Sr. Scientist	September 11 -17, 2012	MDP Workshop on 'Policy and Prioritization, Monitoring and Evaluation (PME) Support to Consortia-based Research in Agriculture' at NAARM, Rajendranagar, Hyderabad.
Dr. S. Anandhan, Sr. Scientist	September 21 - 25, 2012	Training programme on 'Intellectual Property Rights and Biotechnology' at NAARM, Rajendranagar, Hyderabad.
Dr. V. Sankar Sr. Scientist	Nov. 21 to Dec. 11, 2012.	Training programme on 'Sustainable Weed Management Options - Approaches and Applications' at TNAU, Coimbatore



## Meetings/ seminars attended by scientists

### Dr. Jai Gopal

- Knowledge Meet at New Delhi on 21-22nd August 2012 organized by ICAR Hqrs., New Delhi.
- DBT meeting on "Genetic improvement of fruits & vegetable crops for traits" at NRCPB, New Delhi organized by DBT, MoS&T, New Delhi on 17th October 2012.
- Meeting on supply chain management of onion at Pune organized by NABARD, Pune on 9th October 2012.
- XXII ICAR Regional Committee No. VII meeting at Goa organized by CICR, Nagpur from 9-10th November 2012.

### Dr. V. Mahajan

- QRT meeting organized by DOGR in consultation with Chairman, QRT-DOGR at IARI, New Delhi on 17th July 2012, and 18-19th October 2012.
- Meeting for finalization of technical programme for onion and garlic under NICRA project held at IIHR, Bengaluru August 30, 2012.
- Chaired session in a meeting on working guidelines of seed certification standards for onion and garlic and bulb production held at NHRDF, Nashik on July 25, 2012.

### Dr. S.J. Gawande

- Meeting of RFD Nodal officers at ICAR, New Delhi on 23rd November 2012.
- Meeting for finalization of technical programme for onion and garlic under NICRA project held at IIHR, Bengaluru August 30, 2012.

### Dr. A.A. Murkute

- Meeting on supply chain management of onion at Pune organized by NABARD, Pune on 9th October 2012.

### Mr. Vishwanath

- Meeting on working guidelines of seed certification standards for onion and garlic and bulb production held at NHRDF, Nashik on July 25, 2012.

## Recognition

Dr S.S. Gadge received "Shashtri Gaurav Puraskar" from All India Shashtri Social Forum, New Delhi on 14/10/2012 at Nagpur for outstanding achievements in the field of science and social works. The award contained citation and certificate.



Dr. S.S. Gadge receiving felicitation

## Personnel

### Transfers

Dr. C.R. Ramesh, Pr. Scientist (Plant Pathology) transferred to Indian Institute of Horticultural Research (IIHR), Bengaluru w.e.f. Dec. 15, 2012

### New Joining

Mrs. Kalyani Gorrepati, Scientist (Agricultural Structures and Process Engineering) joined DOGR w.e.f. Nov. 26, 2012

## प्याज एवं लहसुन अनुसंधान निदेशालय में हिन्दी सप्ताह का आयोजन

प्याज एवं लहसुन अनुसंधान निदेशालय, राजगुरुनगर, पुणे में दिनांक १४/०९/२०१२ से २०/०९/२०१२ तक हिन्दी सप्ताह मनाया गया, जिसमें दिनांक १४/०९/२०१२ को हिन्दी दिवस के दिन हिन्दी कार्यशाला का आयोजन रखा गया था। हिन्दी कार्यशाला में श्री आर. पी. वर्मा, वरिष्ठ सहायक निदेशक (राजभाषा), हिन्दी शिक्षण योजना, राजभाषा विभाग, पुणे (महाराष्ट्र), ने कम्प्यूटरों में युनीकोड के माध्यम से हिन्दी एवं अन्य सभी भारतीय भाषाओं में कार्य करने से अवगत कराया, जिसमें अन्य भाषाओं से संबंधित साफ्टवेयर लोड करने की आवश्यकता नहीं होती। यह सुविधा कम्प्यूटरों में पहले से ही उपलब्ध होती है। हिन्दी सप्ताह के दौरान निदेशालय में प्रश्न मंजूषा, शुद्ध लेखन, हिन्दी अनुवाद, वाद-विवाद, कविता पाठ एवं निबंध प्रतियोगिताओं का आयोजन किया गया जिसमें समस्त अधिकारियों/कर्मचारियों ने बढ़चढ़ कर भाग लिया।

हिन्दी सप्ताह समापन समारोह मुख्य अतिथि महोदय डॉ. सुनील केशव देवधर, कार्यक्रम अधिकारी, आकाशवाणी केन्द्र पुणे की अध्यक्षता में सम्पन्न हुआ। डॉ. जयगोपाल, निदेशक प्याज एवं लहसुन अनुसंधान



हिन्दी सप्ताह समारोह

निदेशालय ने मुख्य अतिथि का स्वागत किया तथा निदेशालय की उपलब्धियों से अवगत कराया एवं हिन्दी में किये जा रहे कार्यों की जानकारी दी। मुख्य अतिथि महोदय ने अध्यक्षीय भाषण में हिन्दी भाषा को राजभाषा से राष्ट्रभाषा बोलने में जो संकोच होता है, उस पर अपना मत व्यक्त किया तथा हिन्दी को एक मत से राष्ट्रभाषा का दर्जा देने के लिए आह्वान किया। मुख्य अतिथि द्वारा विजेताओं को पुरस्कार वितरित किये गए। डॉ. विजय महाजन ने सूत्र संचालन किया तथा श्री सुबोध नीरज, प्रशासनिक अधिकारी के आभार प्रदर्शन के साथ हिन्दी सप्ताह का सफलतापूर्वक समापन हुआ।

## सतर्कता जागरूकता सप्ताह का आयोजन

केन्द्रीय सतर्कता आयोग, भारत सरकार, नई दिल्ली और भा.कृ.अनु. परिषद के आदेशानुसार इस वर्ष भी सतर्कता जागरूकता सप्ताह दिनांक २९ अक्टूबर २०१२ से २ नवम्बर २०१२ तक मनाया गया। इस वर्ष सतर्कता सप्ताह का विषय था 'सार्वजनिक खरीद में पारदर्शिता'। सतर्कता सप्ताह के दौरान दिनांक २९ अक्टूबर २०१२ को निदेशालय के समस्त कार्मिकों ने प्रातः ११ बजे सभा कक्ष में लोक सेवा, सत्यनिष्ठा, ईमानदारी, पारदर्शिता एवं अपने संस्थान को भ्रष्टाचार रहित बनाए रखने के लिए प्रतिज्ञा ली। जिसके प्रचार प्रसार के लिए निदेशालय के मुख्य प्रवेश द्वार पर बैनर एवं सूचनापट्ट पर परिपत्रों द्वारा जागरूकता लाने का प्रयास किया गया।

सतर्कता सप्ताह के समापन समारोह का कार्यक्रम दिनांक ०२ नवम्बर २०१२ को अपरान्ह ३.३० बजे रखा गया। जिसमें निदेशालय के सतर्कता अधिकारी डॉ. विजय महाजन, प्रशासनिक अधिकारी श्री सुबोध नीरज, एवं संस्थान के निदेशक डॉ. जयगोपाल ने अपने विचार व्यक्त किये, जिसमें विशेष रूप से समस्त कार्मिकों से आवाहन किया कि सतर्कता सप्ताह को केवल औपचारिकता मात्र न माना जाए बल्कि अपने वास्तविक जीवन में आत्म सात किया जाना चाहिए एवं सार्वजनिक खरीद में नियमों का पूर्णतः पालन किया जाना चाहिए जिससे हमारे द्वारा किये गये कार्यों की पारदर्शिता झलकती रहे। निदेशक महोदय के विचारों के साथ ही सतर्कता जागरूकता सप्ताह का समापन हुआ।

# From Director's Desk



I congratulate Dr. N Krishna Kumar on his joining as DDG (Horticulture). I am sure that under his able leadership the horticulture will attain new heights. DOGR looks forward to his advice and guidance.

The final report of the QRT of DOGR for the period 2006-2012 has been submitted by the QRT chairman Dr. Brahma Singh to ICAR. The QRT observed that DOGR has made significant contributions during the period of review not only in research achievements and technology development in onion and garlic, but also in research farms development and equipping the laboratories. QRT has made 31 recommendations encompassing crop improvement, crop production, crop protection, post harvest technology, social sciences as well as administrative and other areas relevant to DOGR. Keeping in view the charter of the directorate as well as the importance of both onion and garlic, the QRT recommends

upgrading the Directorate to full-fledged "Institute on *Alliums*". The Directorate would be earnestly implementing the recommendations made.

There were delayed and deficient monsoon rains this year (2012). This may be one of the effects of global warming. Indian agriculture normally referred to as a "gamble with monsoon" proved to be once again true. Due to poor monsoon, this year *Kharif* area under onion decreased substantially. There were few buyers for onion seed which used to be in high demand for *Kharif* crop in western Maharashtra. However, due to record production of onion in 2011-12 (150 lakhs tons), the onion price remained low. The same was true for garlic. As a result the demand for onion seed and garlic planting material remained low for the *rabi* crop also. This phenomenon is likely to make the onion and garlic market unstable.

**Jai Gopal**



Published by: Dr. Jai Gopal, Director. Compiled and Edited by: Dr. S.J. Gawande & Dr. Ashutosh A. Murkute

**Directorate of Onion and Garlic Research**

Rajgurunagar – 410 505, Dist. Pune, Maharashtra

Phone: 02135-222026, 222697 Fax: 02135-224056 E-mail: [director@dogr.res.in](mailto:director@dogr.res.in) / [aris@dogr.res.in](mailto:aris@dogr.res.in)

Website : <http://www.dogr.res.in>

Designed & Printed by: Anson Advertising & Marketing, Pune. Tel.: 24213244 Fax: 24210013 Email: [ansonorama@gmail.com](mailto:ansonorama@gmail.com)