



# DGR

## NEWSLETTER

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### Root lesion nematodes spotted on groundnut in West Midnapore district

The DGR scientists responded to an alert received from West Midnapore district (West Bengal) about some strange affliction in groundnut fields. In this area, the *rabi*-groundnut is sown in December-January after harvesting the low-land *kharif* paddy. While surveying the area in May 2012, DGR scientists noticed the infestation of nematodes in groundnut and the plants exhibited above-ground symptoms like yellowing (chlorosis) in small patches within a field.

In the infested patches the soil population of lesion nematodes was 88/100cc whereas in healthy fields the population was quite small – about 27/100cc. The infested plants showed discoloration on peg and pod speckling – these pods revealed presence of lesion nematodes (*Pratylenchus* spp). Pod lesions were tan to brown in colour with indistinct margin.

There was an abundance of pathogenic fungi (*Aspergillus niger* and *A. flavus*) besides biocontrol agent *Trichoderma* spp in the soil samples drawn from the infested area. Lesion nematodes are known to predispose the plants to fungal pathogens, particularly to the necrotrophic fungi. All concerned have been advised to keep a vigil in the infested area and take appropriate measures not only to arrest further spread of nematodes but also sanitise the fields.

Input: Prasanna Holajjer (Scientist, Nematology)  
and Kuldeep S. Jadon (Scientist, Plant Pathology)



A yellow patch in groundnut field (encircled) showing the plants afflicted with nematodes



Pod speckling caused by lesion nematodes

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### Soil-nutrition status of AICRP-Groundnut centres: an appraisal

On the basis of a compilation of data on soil-analysis of various AICRP-G centres, the following general observations/speculations/interpretations were reached:

- ◆ The soils of as many as eleven centres were characterised as high-bulk density, low average water-holding-capacity (WHC) and low porosity, particularly in centres like Chintamani, Raichur, and Kadiri where the soil is of alfisol type. For improving the soil physical characteristics, application of organic manure is recommended as it increases the porosity thus lowering the bulk density and ultimately resulting in increase in both porosity and average WHC. To correct the problem of acidity at Kanke, Chintamani, and Bhubaneswar centres application of appropriate amounts of lime is advised to increase the soil pH, as cultivation of groundnut on soils having pH >6.0 is not economical.
- ◆ Soils of 12 centres were low in available-N, which could be due to exhaustive cropping cycles year after year or leaching losses of  $\text{NO}_3^-$ . This deficiency in soils can be overcome by application of 125% of the recommended dose of nitrogen (RDN 20-25 kg ha<sup>-1</sup>).
- ◆ At none of the centres were the soils found deficient in phosphorus and hence the application of phosphorus must not exceed the recommended doses.
- ◆ Application of potassium is generally not recommended in most groundnut growing areas, but application of MOP @ 30 kg ha<sup>-1</sup> at certain places like Amreli and Rahuri is recommended owing to low innate potassium levels in soils.
- ◆ The soils at Dharwad, Mainpuri, Raichur, Durgapura, Kanke, and Kadiri were found to be deficient in sulphur and hence application of gypsum (250 kg ha<sup>-1</sup>) would be beneficial.
- ◆ Deficiencies of zinc, iron, and boron could be discerned at all the centres and hence application of these nutrients in appropriate rates is recommended.

### Zone-wise soil fertility status observations for AICRP-G centres

Zone	Centre	Observations recorded
Zone I	Mainpuri, Hanumangarh, Durgapura, and Ludhiana	Application of gypsum to supply S, correction of high soil pH and application of 125% RDN is vital for optimum yield.
Zone II	Junagadh, Amreli, Talod, Udaipur, and Pratapgarh	Higher dose of N- and S-containing fertilisers is necessary for realisation of economic yield.
Zone III	Khargone, Jalgaon, Akola, and Ratnagiri	Correction of high soil pH and higher dose of N and P fertilisers is essential for optimum yield.
Zone IV	Mohanpur, Imphal, Kanke, and Bhubaneswar	Correction of low soil pH by lime application @ 15-20 t ha <sup>-1</sup> and S application would fetch optimum yield.
Zone V	Vridhachalam, Aliyanagar, Tindivanam, Jagital, Kadiri, Tirupati, Dharwad, Raichur, Chintamani, and Latur	Application of higher dose of N fertiliser and gypsum application to correct S status is essential for improved yield.

*Input: Debarati Bhaduri (Scientist, Soil Science) and A.L. Rathmakumar (Principal Scientist & AICRP-G Coordinator)*

### Farmers from Lower Dibang Valley, Arunachal Pradesh visit DGR for an exposure-cum-orientation training

A group of farmers accompanied by two subject matter specialists – Miss Nanang Tamut (Home Science) and Mr. Jimmy Mize (Fisheries) – was imparted a six-day exposure-cum-orientation training on improved groundnut production technologies and value-addition from 24th to 29th March 2012 at DGR. The programme was conceived as a Tribal Sub Project (TSP) and was coordinated by Dr. T. J. Ramesha, Programme Coordinator, KVK, Lower Dibang Valley and Dr. A. L. Rathnakumar, Principal Scientist (Plant Breeding), DGR, Junagadh.

Lectures were delivered by the scientists of DGR on prospects and potential of groundnut cultivation in North East Hills (NEH) region; improved varieties suitable for the region; agronomic practices for sustainable production; pest and diseases management; marketing; and value addition for effective utilisation.

The farmers were imparted hands-on knowledge through visits to fields of DGR and interaction with other progressive farmers of Junagadh. They were also exposed to improved farming practices such as polythene mulching, drip irrigation, fertigation and use of farm implements. In the concluding session certificates were distributed to the participants.



Farmers from NEH region visit DGR for a training

### Meetings

**QRT Meeting** - Several meetings of QRT for the DGR for the period 2007-2011 were held during 2012 to review the progress and performance of the research work at the DGR as well as the AICRP-G. The team consisted of Dr. D. M. Hegde, Ex-PD, DOR (Chairman); Dr. S. N. Nigam, Principal Groundnut Breeder, ICRISAT; Dr S. S. Mchetre, Director of Research, MPKV, Rahuri; Dr. D. V. Singh, Department of Plant Pathology, IARI; Dr. Padma Raju, Director of Research, ANGRAU, Hyderabad; and Dr. Radhakrishnan T. of DGR.

The first sitting of the team was at DGR on 16th and 17th of January 2012 to review the progress of the ongoing programmes and other activities of the DGR. Later, the team visited TNAU, Coimbatore on 15th and 16th February 2012 and reviewed the progress of the AICRPG centres at Vriddhachalam, Aliyarnagar, Bhavanisagar, Kadiri, Jagtial, Raichur, Dharwad, and Chintamani. The next meeting was held on 15th and 16th of March 2012 at the SKRAU, Durgapura, Jaipur to review the AICRP centres at Durgapura, Hanumangarh, Udaipur, Mainpuri, Junagadh, Vyara, Jalgaon, Rahuri, Shirgaon, and Khargone. During the fourth meeting of the team at OUAT, Bhubaneswar, Odisha, on 9th April 2012 reviewed the progress of AICRP centres at CSAU&T; BAU, Kanke; CAU, Imphal; and the newly started centres OUAT, Bhubaneshwar and BCKVV, Mohanpur. The QRT also attended the annual *kharif* groundnut workshop at RRS, Tirupathi from 24th to 26th of April 2012, and reviewed the conduct and other aspects of the workshop. The final sitting of the team was held at DOR, Hyderabad, on 22nd and 23rd June 2012 to discuss and finalise the recommendations and the proceedings.



The QRT with DGR scientists

**IRC Meeting** - The 58th and 59th meetings of Institute Research Committee were held from 30th January to 1st February 2012 and from 14th to 16th May 2012, respectively. Both the meetings were chaired by Dr. J.B. Misra, Director, DGR. During the meetings, project-wise progress of research work was reviewed and the technical programmes for ensuing seasons were finalised. The PIs of various research projects presented the highlights of work done in their respective projects and then proposed the future plans of work. The plans of work were discussed thoroughly and modified wherever required before being approved by the house. The Chairman mentioned that many new scientists had joined the institute and accordingly work plan have to be finalised for the new scientists as well as new projects have to be formulated for the 12th plan. The house discussed the titles for the projects to be taken up during the 12th plan. Other issues like growing labour problem, etc., were also discussed.

**RAC Meeting**— The 14th RAC meeting was held on 13th and 14th April 2012. This meeting was chaired by Dr. J. H. Kulkarni. The other members who attended the meeting were Dr. B.B. Singh, ADG (O&P), Dr. G.S. Jadhav, ex-Director Instruction, MAU, Parbhani, and Dr. A.M. Parakhia, Director (Extension), JAU, Junagadh. Presentations on ongoing research projects were made by the PIs or co-PIs. Each presentation was discussed thoroughly and if required, the work plan was modified keeping in view the remarks of the RAC. In their concluding remarks the Chairman and the members while appreciating the good work that has been done at DGR also pointed out the need for reorienting the research work on certain aspects.



**Research Advisory Committee and DGR scientists**

### **Training Programmes/Workshops**

#### **Short training programme on 'PPV&FR and DUS testing' (27th-28th January 2012)**

A short training programme on “Protection of Plant Varieties and Farmer's Rights and DUS testing” was held at DGR, Junagadh on 27th and 28th January 2012, which was sponsored by PPV and FRA authority. The chief guest for the training programme was Dr. I.U. Dhruj, ADR, JAU, Junagadh and other dignitaries present were Dr Ravikumar, NIF, Ahmedabad and Dr K.P. Ramesh, NDRI, Bangalore. Seventeen participants attended the training programme. Besides, all the scientists and technical persons of DGR also actively participated in the programme. Lectures were delivered on different PPV&FR and DUS topics like 'Genesis and features of the PPV&FR

Act in India', 'Patenting vis-à-vis PPV&FR in Indian context', 'Role of NIF in the promotion of PPV&FR in India', and 'DUS testing in groundnut'. At the end the training programme could clear several intricate doubts on IPRs in general and PPV&FR in particular.



**PPV&FR and DUS testing training at DGR**

### Workshop on 'IP Awareness' (20th March 2012)

A workshop on 'IP Awareness' was conducted at DGR, Junagadh by a team of experts from the Zonal Technology Management Unit of ICAR at CIRCOT, Mumbai on 20th March 2012. The details about IPR's, patenting and PVP&FR were discussed in the workshop. The workshop was attended by the scientific and technical staff of the directorate.



Experts from CIRCOT Mumbai for the IP awareness workshop

### Workshop on 'Public purchase management for goods, works and consultancy' (16th-20th April 2012)

A workshop on 'Public purchase management for goods, works and consultancy' was held at DGR from 16th to 20th April 2012. The workshop was attended by the scientists and other staff members of DGR and Shri G. C. Prasad, FAO, DGR was the course co-ordinator. Lectures were delivered by experts on public purchase management for goods, works and consultancy with the aim of acquainting indenters become with the purchase rules and regulations.



Director, DGR briefing the gathering  
(Left to right: Sh GC Prasad, FAO; Dr JB Misra, Director and Sh Vishwa Ranjan, CAO)

### Short training programme on PPV&FR and DUS testing (10th-11th May 2012)

A short training programme on "Protection of Plant Varieties & Farmer's Rights, and DUS testing" was held at DGR on 10th and 11th May 2012. The course director for the training was Dr. Radhakrishnan T., Principal Scientist, DGR; Dr. I.U. Dhruj, ADR, JAU, Junagadh was the Chief Guest. There were 20

participants in the training programme. Besides, all the scientists and technical persons of DGR also actively participated in this workshop. Many lectures were delivered on PPV&FR and DUS related topics. Interactive discussions were held on GOI acts for protection of IPRs of plant genetic resources, species and varieties. The participants were exposed to the various aspects of PPV&FR and DUS testing.



Inaugural session of training programme on PPV&FR and DUS testing at DGR

### Workshop on 'GAP and production of Aflatoxin-free groundnuts' (5th June 2012)

A one-day workshop on 'Good Agricultural Practices (GAP) and Production of Aflatoxin-Free Groundnuts' was organised on 5th June, 2012 at DGR, Junagadh. The total number of the participants was 106, which comprised 73 groundnut farmers, 13 representatives of groundnut processing units, and 20 scientists and technical personnel. The course co-ordinator for the training was Dr. P.P. Thirumalaisamy, Scientist, DGR.

Dr. I.U. Dhruj, ADR, JAU, Junagadh and the Chief-Guest at the inaugural session, while expressing his concern on aflatoxin contamination – the main hurdle in enhancing export of groundnut from India – urged the participants to take full advantage of the workshop for production of aflatoxin-free groundnut through adoption of good agricultural practices (GAP), good storage practices (GSP), and good manufacturing practices (GMP).

Dr. J.B. Misra, Director, DGR in his presentation on 'Menace of aflatoxin in groundnut: Some points to ponder' highlighted the effect of aflatoxin on human and animal health, and world regulations on aflatoxin contamination in groundnuts and management practices so as to minimise the aflatoxin contamination.

The inaugural session was followed by interaction among the expert scientists, groundnut growers and representatives of groundnut processing units. After that lectures on 'GAP and technologies to produce aflatoxin-free groundnuts' were delivered by different experts. An exhibition was also arranged on GAP in groundnut cultivation. The workshop served as a platform for sensitising the issue of aflatoxin to groundnut growers, processors and traders.



**Inaugural session of training programme (a);  
Participants taking keen interest in the DGR technologies (b)**

### Institute Seminars

Date	Topic	Speaker
3rd January 2012	'Jaiwik krishi for sustainable horticulture'	Professor R. K. Pathak, ex-Director CISII, Lucknow
9 <sup>th</sup> January, 2012	'An acre of land and an inspiration from animals'	Dr. M. J. Modayil, Member, ASRB
19th April 2012	'Bioactive natural products for crop and human health'	Dr. Suresh Walia, Professor, Division of Agricultural Chemicals, IARI, New Delhi
19th May 2012	'Marker-aided selection'	Dr. G.P. Mishra, Senior Scientist, DGR
21 <sup>st</sup> May 2012	'Aflatoxin contamination in groundnuts: Some points to ponder'	Dr. J.B. Misra, Director, DGR, Junagadh

### Distinguished Visitors



**Dr. M.J. Modayil, Member, ASRB, New Delhi visited DGR on 9th January 2012**



**Dr. Dilip Kumar Arora, Director, NBAIM, Mau visited DGR on 9th January 2012**

### Annual *Kharif* Groundnut Workshop at Tirupati

The Annual *kharif* groundnut workshop (April 22-24, 2012) was held at Regional Agricultural Research Station (RARS) of Acharya NG Ranga Agricultural University (ANGRAU), Tirupati, Andhra Pradesh. About 100 delegates from 22 AICRP-G centres and from various Central and State Government agencies participated in the workshop. After a welcome address by Dr. T. Giridhara Krishna, Associate Director Research, RARS I his speech, Dr. J. B. Misra, Director, DGR, Junagadh highlighted the salient achievement made AICRP-G during the XI five year plan period and pointed out the major research needs for the XII plan period. He informed that as many as 18 varieties were released during the eleventh plan period and over 4000 germplasm accessions and 40 wild cultivars were maintained. He indicated that enhancing input use efficiency through micro irrigation, nano-technology, fresh seed-dormancy, low-temperature tolerance, eco-friendly pest management practices, biodegradable mulches, host-parasite interactions, morpho-physiological traits associated with drought tolerance and climate change were some of the proposed key areas to be addressed through AICRP-G during XII five year plan.

Among others who presented their views at the workshop include Dr. S. F. D'Souza, BARC; Dr. D. M. Hegde, Chairman, QRT; Dr. S. N. Nigam, ICRISAT; Dr. N. V. Naidu, S.V.A.C., Tirupati; Dr. D. Sreenivasalu, CVS, Tirupati; Dr. A. Padma Raju, Member QRT; Dr. D. V. Singh, Member QRT and Dr. P. V. Reddy, RARS, Tirupati. Dr. R. Sudhakar Rao, Director of Research, ANGRAU was the President of this workshop.



**Inauguration of Annual *Kharif* Groundnut Workshop**

### Participation in Conferences/Workshops/Seminars/Symposia/Trainings

Name	Programme	Venue	Date
Dr. K.K. Pal, Dr. Thirumalaisamy P. P., Mr. Harish G., Mr. Ajoy Saha, Dr. Narendra Kumar, Dr. Ajay B.C., and Dr. Manesh Dagla	Training programme 'Protection of Plant Varieties and Farmer's Rights, and DUS testing'	DGR, Junagadh	27th and 28th January 2012
Dr. Radhakrishnan T.	Training programme on 'Harnessing Intellectual Property for Strategic Competitive and Collaborative Advantage'	IIM, Ahmedabad	9th to 11th February 2012
Dr. N.K. Jain	Sensitisation-cum-Training workshop' for the PME Cell in-charge of HYPM	CIFE, Mumbai	2nd February 2012
Dr. Chuni Lal	RFD orientation meeting	Krishi Bhavan, New Delhi	21st February 2012
Dr. H.N. Meena	National Training on 'Carbon Sequestration and Carbon Trading'	ICRISAT, Andhra Pradesh	6th to 17th February 2012
Mr. Nataraja M.V.	CAFT training on 'Precision Farming and Insect Pest Management'	TNAU, TN	8th to 28th February 2012
Mr. Nataraja M.V.	SAU-ICAR-CII regional industry meet	AAU, Anand	16th April 2012
Dr. P.P. Thirumalaisamy, Dr. Prasanna Holajjer, Mr. Nataraja M.V. and Dr. Kuldeep S. Jadon	Workshop on IP Awareness	DGR, Junagadh	20th March 2012
Dr. Kuldeep S. Jadon and Dr. P.P. Thirumalaisamy	Global conference on 'Plant Pathology for Food Security'	MPUA&T, Udaipur	10th to 13th January 2012
Dr. P.P. Thirumalaisamy	Indo-Korean conference	Avinashilingam University, Coimbatore, TN	9th and 10th February 2012
Dr. Ajoy Saha	Workshop on 'Health Benefitting Phytochemicals from Vegetables, Fruits and non-food Crops'	IARI, New Delhi	21st to 23rd March 2012
Dr. K. Chakraborty and Dr. K.A. Kalariya	Zonal seminar on 'Physiological and Molecular Interventions on Sustainable Crop Productivity under Changing Climatic Conditions'	DMAPR, Anand	17th January 2012
Dr. Narayanan G. and Dr. Ajoy Saha	Farmers' seminar at KVK Junagadh by Ambuja Cement Foundation	Kodinar, Gujarat	6th January 2012
Dr. Narayanan G. and Dr. Ajoy Saha	ZTM-BPD (West Zone) annual Meeting-cum-Workshop	CIRCOT, Mumbai	13th and 14th January 2012

## Our New Colleagues



**Dr. Ranjeet Singh Yadav** joined as Senior Scientist (Soil Science) on 10th April 2012. Before joining DGR he was working as Asstt. Research Scientist, (Soil Science) at SD Agricultural University, Sardar Krishi Nagar, Dantiwada.



**Dr. Ramavatar Jat** joined as Senior Scientist (Agronomy) on 7th May 2012. Before joining DGR he was working as Visiting Scientist (Crop Modelling) at ICRISAT, Hyderabad on deputation and as Asstt. Prof. (Agronomy) at Navsari Agricultural University, Navsari.



**Dr. Gyan Prakash Mishra** joined as Senior Scientist (Plant Breeding) on 16th May 2012. Before joining DGR he was working as Scientist 'C' at Defence Institute of High Altitude Research (DIHAR), DRDO, Leh-Ladakh, J&K.



**Dr. Anita Mann** joined as Senior Scientist (Plant Physiology) on 12th June 2012. Before joining DGR she was working as Associate Prof. (Biotechnology) and coordinator at NIILM University Kaithal, Haryana.



**Shri Darvesh Kumar** joined DGR as Administrative Officer on 29th June 2012. Before joining DGR he was working as SI in Delhi Police.

The DGR welcomes the new entrants and wishes them a successful career.

## Visits

The recipient of ICAR Punjabrao Deshmukh Outstanding Woman Scientist Award-2010, Dr. S. Audilakshmi (Principal Scientist, Plant Breeding, Directorate of Sorghum Research, Hyderabad) visited DGR on 7th April 2012. In compliance of ICAR post-award obligations, she was here to motivate women scientists and female RA's/SRF's and research scholars of this directorate.

## Promotions

### Technical persons-

Name	Promoted from	Promoted to
Sh KH Koradia	T4	T5
Sh JG Kalaria	T4	T5
Sh GJ Solanki	T3	T4
Sh AM Vakharia	T4	T5
Sh PB Garchar	T4	T5
Sh CB Patel	T4	T5

## Laurels in sports

Dr. K. Chakraborty, Scientist, Plant Physiology and Mr. G. C. Prasad, FAO won **Silver Medal** in Badminton at Zonal Sports Meet held at CAZRI, Jodhpur from 13th to 17th February 2012.



**DGR sports team for Zonal Sports Meet at CAZRI, Jodhpur**

## Awards

K. A. Kalariya, A. L. Singh, K. Chakraborty, P. V. Zala and C. B. Patel jointly received the '**Best poster presentation award**' in Zonal seminar on '*Physiological and molecular interventions on sustainable crop productivity under changing climatic conditions*' held at DMAPR, Anand, on 17th January, 2012.



**Dr. S. Audilakshmi (Directorate of Sorghum Research, Hyderabad) in an interactive session**

Editors : **Rinku Dey, G. P. Mishra and J. B. Misra**

Photo Credit : **A. M. Vakhariya**

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