Trainings/Workshops

Annual *Kharif* Groundnut Workshop (22-24 April, 2011)

The annual *kharif* groundnut workshop was held at MPUA&T, Udaipur, Rajasthan from 22-24 April, 2011 in which about 100 delegates from 8 AICRP-G centres, 22 regular centres and various Central and State Government agencies have participated. Dr. S.R. Maloo, Director Research, MPAU&T, Udaipur welcomed the gathering. Dr. J.B. Misra, Director, DGR, Junagadh presented the global groundnut scenario and compared the world average yield with the Indian yields. He has pointed out that groundnut varieties do show year-to-year variation in the yield, but there is a slow and steady rise in the overall productivity over the years. Dr Misra has also brought to the notice about the increase in the area and production of groundnut in the states of West Bengal, Odisha and Rajasthan. He underlined the fact that the major bottlenecks in groundnut production are continued use of old varieties like TMV-2 and JL-24 and severe shortage of timely availability of quality seeds of improved varieties. Besides, cutting edge technologies like mirco-irrigation, fertigation and polythene mulching for irrigated groundnut; hydrogel for drought tolerance; and quality control of bio control agents and bio-fertilizers can help in further boosting the yields of groundnut in the country. Director DGR stressed on the mechanization for reducing the cost of cultivation and emphasized that the old and obsolete varieties should be de-notified. Further he is of opinion that exploring the possibility of development of suitable compound or complex fertilizers and addressing climatic change are the grey areas to be addressed through the AICRP system.

Dr. B.B. Singh, ADG (O&P), ICAR and the Chief Guest, in his address mentioned that since technology transfer in groundnut is rather slow, the complete package module should be adopted in addition to integrated crop module approach to address the bottlenecks in both *kharif* rainfed and irrigated groundnut. He stressed about the development of photo- and thermo-insensitive varieties through wide hybridization and emphasized upon the evaluation of interspecific derivatives for resistance/tolerance to various biotic and abiotic stresses for further use in crop improvement programme.

The Hon'ble Vice Chancellor, Dr. S.S. Chahal, MPUA&T, Udaipur in his presidential address indicated that after green revolution, due to the availability of irrigation facilities in the states of Punjab and Haryana, the groundnut crop has been marginalized. He has also mentioned

about the yield gap that exists between India and China and urged the scientists to bridge the gap by developing suitable varieties and crop management technologies. Dr Chahal underlined that in India stabilization of yield in *kharif* is one of the major issue. He opined that increasing the seed replacement rate through enhancing the quality seed production, development of stress tolerant varieties and quality issues are the major research focus that has to be addressed in near future. He added that research on climatic change should be initiated for sustainable groundnut production and urged the scientists to develop suitable post-harvest management practices to reduce the losses and diversify uses of groundnut.

The session ended with the vote of thanks by Dr. P.K. Gupta, Zonal Director Research, Udaipur.

***Kharif* Groundnut Workshop at MPUA&T, Udaipur (22-24 April 2011)**

National Workshop of Stakeholders in Groundnut (15th December 2011)

Groundnut breeders, pathologists, entomologists and agronomists of AICRP-G centres, representatives of State govts., BARC scientist, KVK's, progressive farmers and other experts from seed companies, processors and exporters and scientists from DGR, Junagadh participated in the workshop to prioritize researchable issues for groundnut for 12th Five Year Plan Period at DGR, Junagadh on 15th December 2011.

Dr. R. Dey, Senior Scientist, DGR welcomed the participants and introduced the theme of the meeting. The function was inaugurated by Dr. C. J. Dangaria, Director of Research, JAU, Junagadh. Dr. Dangaria said that there is a need to identify technologies to improve production and productivity of groundnut so that farmers can get better remuneration. The appropriate strategies should be developed such as high yielding varieties, varieties resistant to both biotic and abiotic stresses, idiotype for maximum input-use-efficiency, value addition, etc. There is also need for biotechnological approaches for improving productivity.

Dr. J.B. Misra, Director, DGR conveyed the purpose of the workshop to all the stakeholders and asked them to mention the constraints they were facing during production, processing and export, which in turn would help in identifying the future researchable issues.

In his remarks, Mr. Suresh Ramrakhiani, CEO, IOPEPC mentioned the interaction gap between industries and scientists. He mentioned that there is a need to understand each other's needs to make groundnut a profitable crop.

Mr. Khushwant Jain, Hon. Treasurer, IOPEPC presented the perspective on groundnut from the industrial point of view. He mentioned the requirements of exporters such as Aflatoxin free groundnut, high oleic acid groundnut which have higher export potential because of increased shelf-life, Bruchid resistant varieties, large-sized Virginia type groundnut. He also mentioned that some of the varieties such as Kadiri (K-6) and TAG-24 are susceptible to mould development in storage conditions. He asked the scientists to work on these areas so that Indian groundnut fetches more premiums in international market.

Representatives of state govts., AICRP-G/BARC scientist and KVKs presented the scenarios of area, production and productivity of groundnut of their respective states and also mentioned the major constraints.

National Workshop of Stakeholders in Groundnut (15th December 2011)

Summer Groundnut Production Technology (4th to 8th July 2011)

A five-day training programme "Summer Groundnut Production Technology" was organized at DGR during 4th to 8th July 2011 for the extension functionaries of SIMA, Lucknow. Twenty-two trainees participated in the training programme.

Director DGR giving certificate to trainee

Training-cum-exposure programme (29th July 2011)

A one-day training-cum-exposure programme was organized for Farmers' Advisory Committee Members from Perambalur, Tamil Nadu on 29th July 2011 at DGR Junagadh. Twenty-two members participated in the programme.

Trainee farmers from Perambalur, Tamil Nadu visiting progressive farmers field in Junagadh

Training-cum-exposure visit (6th to 10th September 2011)

A programme for training-cum-exposure visit on "Seed Production and Certification in Groundnut" was organized at DGR during 6th to 10th September 2011 for seed producers from Odisha. Thirty-two seed producers attended the training programme.

Seed producers from Odisha in DGR field

Model Training Course (12th to 19th October 2011)

A Model Training Course on "Improved Technologies for Sustainable Production of Groundnut" was organized at DGR during 12th to 19th October 2011 for the officers of various state agriculture departments. Seventeen officers including 5 from Andhra Pradesh, 1 from Arunachal Pradesh, 1 from Chhattisgadh, 3 from Gujarat, 3 from Karnataka, 2 from Odisha and 2 from Rajasthan attended the training programme.

Officers from state agriculture departments at DGR field

Orientation cum training programme (17th to 19th October 2011)

A three day training programme on maintenance, evaluation of germplasm and pre-breeding in groundnut has been organized at DGR, Junagadh from 17th to 19th October 2011 for the benefit of newly joined scientist of DGR and AICRP-G. There were 10 participants, three from RRS, Vridhachalam and 7 from DGR, Junagadh.

The content of the training programme included sytematics and botany of groundnut, hybridization techniques, utilization of wild *Arachis* species and pre-breeding, improved agro-production and protection technologies, bio-fertilizers, nutrient management and farm implements. The participants were also exposed to the statistical software like MStat-C and windows Stat for analysis of Plant Breeding data. Visit to Gene Bank, DGR and JAU experimental plots, and laboratories (Biotechnology and Microbiology) were also arranged.

Inauguration of orientation cum training programme

Training programme for application of polythene mulch technology (8th and 9th December 2011)

A training programme on "Application of polythene mulch technology in groundnut production" was organized on 8th and 9th December 2011 at DGR Junagadh. The training was sponsored under Integrated Scheme of Oilseeds, Pulses, Oilpalm and Maize (ISOPOM) by Ministry of Agriculture, Department of Agriculture & Cooperation, Govt. of India. The purpose of training is to enhance the awareness among the extension workers of major groundnut growing states on the potential polythene mulch in enhancing productivity of groundnut. In all, there were 20 participants from six states.

The chief guest for the training was Dr. A. M. Parakhiya, Director, Extension, JAU, Junagadh. At the inaugural session, Dr. Parakhia expressed his concern over replacement of area under groundnut in Gujarat state by Bt cotton and by some other crops in the other groundnut growing states. He hoped that for attaining high productivity, application of polythene mulch may play a crucial; role, and thus help to enhance domestic groundnut production to meet the ever growing demand of edible oil in the country.

Dr. J. B. Misra, Director, DGR, Junagadh, in his introductory remarks, informed the participants that how the productivity of groundnut in China had increased dramatically in the last decades due to application of polythene mulch.

Dr. N. K. Jain, Principal Scientist and Course Director outlined the schedule of the training. All the trainees were provided soft copies of various lectures on a CD besides a hand-operated hole making device (for making holes in the polythene sheet for sowing). At the end a

post training evaluation was conducted which indicated significant improvement in the knowledge of the participants.

SMS from different states learning the polythene mulch technology at DGR

Training for SHG members at Goa (4th and 5th November 2011)

The training on "Groundnut Processing for Self Employment" was organized by KVK, Goa, for imparting vocational training on value addition in groundnut for self-help group members. Ms. S. Chauhan (T7-8, DGR, Junagadh) demonstrated different groundnut preparations to approximately 70 participants from different villages of Goa i.e. *Barafi*, *Sing bhujiya*, Groundnut flakes and Groundnut *Chhole*. She also explained the preparation methods for other groundnut based preparations viz., Groundnut butter, Groundnut Milk, *Sago Khir*, *VADA, Peda*, Salted Groundnut, *Chicki*, Groundnut hot and sour soup and Groundnut *annarsa*.

Ms. S. Chauhan (T 7-8, DGR) imparting training to SHG workers at KVK, ICAR Research Complex for Goa

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 subproject 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

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.

PVP&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

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

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)

Workshop on 'Improved Practices for Production of Aflatoxin-Free Groundnuts' (7th September, 2012)

A one-day workshop 'Improved Practices for Production of Aflatoxin-Free Groundnuts' was organized on 7th September, 2012 at Krishi Vigyan Kendra (KVK), Kodinar. The total number of the participants was 99, which comprised of 82 groundnut farmers and 17 scientists/technical personnel. Mr. Dalsukh Vaghasea, Area Programme Manager, Ambuja Cement Foundation, informed the delegates about the importance of groundnut cultivation in the scenario of increasing price of cooking oil and demands for groundnut oil cakes as cattle feed in the markets. Kumari Kanchan Maurya, Project Coordinator, IOPEPC, Mumbai while expressing her concern on aflatoxin contamination in groundnut and increasing red alert received from EU countries, urged the participants to take full advantage of the workshop for production of aflatoxin-free groundnut through adoption of good agricultural, manufacturing and storage practices. Mr. Rupesh Jimudhiya, representative of IOPEPC requested the farmers to practice improved practices for production of aflatoxin-free groundnuts and to become lead in groundnut production and export in the world.

This was followed by a presentation of Dr. Kuldeep Singh Jadon, Scientist, DGR on 'Menace of Aflatoxin in Groundnut: Some Critical Control Points'. After the inaugural session lectures on 'Improved Practices for Production of Aflatoxin-Free Groundnuts' were delivered by different experts in Guajarati. The delegates interacted with scientists and cleared their doubts. The workshop served as platform for sensitizing the issue of aflatoxin to the groundnut growers, processors and traders.

Interaction of DGR scientist with the farmers of Kodinar for Aflatoxin-free groundnut production

Improved Practices for Production of Aflatoxin-Free Groundnuts: A workshop at KVK, Bikaner on 30th November, 2012

A one-day workshop 'Improved Practices for Production of Aflatoxin-Free Groundnuts' was jointly organized by DGR, KVK -Bikaner, APEDA and IOPEPC on 30th November, 2012 at Krishi Vigyan Kendra (KVK), Bikaner. Mr. Sunil Kumar, Secretary APEDA addressed the delegates about importance of groundnut cultivation as major oilseed crop in export and to mitigate the major threat aflatoxin contamination in export. Dr. I. J. Gulati, Prof., RAU, Bikaner addressed the delegates about importance of improved practices in management of aflatoxin contamination in groundnut and urged to adopt more organic farming to reduce the risk. This was followed by a presentation of scientists from DGR, Dr. Kuldeep Singh Jadon, Dr. H. N. Meena, Mr. Harish G. and Dr. Prasanna Holajjer on highlighting the effect of aflatoxin on human and animal health, world regulation on aflatoxin contamination in groundnuts, and some critical control measures to prevent growth of the fungi and subsequent aflatoxin contamination in groundnut at pre-harvest, harvesting and post-harvest delivery chain of groundnut growers-processors-traders-exporters.

Groundnut growers listening lecture by the expert

Training on 'Technological interventions for improving groundnut productivity in the tribal belts of Gujarat" (24-26 December, 2012)

The three day training programme entitled 'Technological interventions for improving groundnut productivity in the tribal belts of Gujarat' held at this Directorate from 24th to 26th December, 2012. Fourty-four tribal farmers from Navsari district of Gujarat participated in this training programme. The programme was inaugurated on 24th December by Director DGR, Dr. J.B. Mishra with inaugural speech. Lecture on Improved agronomic practices for groundnut cultivation, Major groundnut pests and diseases with their management, Minimizing aflatoxin contamination, Micro-nutrients and Bio-fertilizer application and its benefits in Groundnut, Value addition, Mechanisation and market opportunity along with challenges in Groundnut crop were delivered by experts from Directorate and Junagadh Agricultural University, Junagadh. On 26th December post-training assessment was conducted which revealed that all the farmers are fully satisfied with the course content, quality of reading material provided and lodging and boarding facilities. At last training was concluded by Mr Murlidhar Meena, training co-ordinator with the certificate distribution to the participants.

Groundnut farmers from the tribal belts of Gujarat