



DGR

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Dr. S. Ayyappan, Secretary DARE & DG ICAR visits DGR (Junagadh, April 13, 2013)

Dr. S. Ayyappan (Secretary, DARE & DG, ICAR) visited Directorate of Groundnut Research (DGR), Junagadh on April 13, 2013. The prominent persons in his entourage were Dr. N.C. Patel (Vice-Chancellor, Junagadh Agricultural University, Junagadh; Dr. Madan Mohan, ADG, Fisheries, ICAR; Dr. G. Syda Rao (Director, CMFRI, Cochin); Dr. T.K.S. Gopal (Director, CIFT, Cochin); Dr. C.J. Dangaria (Director of Research, JAU, Junagadh) and Shri P.L. Darbar (IAS, Commissioner of Fisheries, Gujarat). Prior to visiting DGR, Dr. Ayyappan had launched the harvest of lobsters and sea fish from sea-cage farm, established by CMFRI at Somnath coast.

At DGR, the DGR Director, Dr. J.B. Misra accompanied by the staff extended a warm welcome to Dr. Ayyappan. Later, Dr. Misra made a brief presentation on the current scenario of groundnut in the country and abroad, its production, consumption and export. Besides, he also highlighted the most important issues related to the functioning of DGR. On this day, Dr. Ayyappan launched DGR's new and updated web-site and also released DGR's first bi-lingual Newsletter (in Hindi and English). Dr. Ayyappan then interacted with nearly each and every member of DGR staff to know the constraints and grievances, if any, faced by them in both scientific and administrative spheres. While addressing the gathering, he emphasized that research activities should be output driven and must be also lead to publications in high impact journals. He briefed the scientists about the various platforms being contemplated for supporting crucial research activities cutting across the ICAR research institutes and also bringing in its fold universities and institutions outside ICAR system. For this

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Release of DGR's first bi-lingual Newsletter (in Hindi and English)



Dr. S. Ayyappan, Secretary, DARE & DG, ICAR launches new and updated DGR website

purpose for each platform a Lead Centre will be identified to channelize the funds and monitor the progress. This, however, in no way affect the funding of ICAR units under the XII Plan as a lot of funds to the institutes will be channelized through platforms.

Dr. Ayyappan also stressed on further strengthening of DGR's academic interactions with the institution like Directorate of Oilseed Research, Hyderabad and also ICRISAT, Patancheru, Hyderabad. He expressed his gratification on the improvement in the strength of DGR scientists which has increased from 18 a few years ago to 32 now. He exhorted the scientists to work on such areas which can easily be linked to the development of technologies for enhancing the overall productivity of groundnut in the country. On a proposal made by the DGR Director for establishing three new regional research centers, one each at Anantpur (Andhra Pradesh), West Medinipur (West Bengal) and Bikaner (Rajasthan), Dr. Ayyappan expressed his hope that in XII five year plan necessary funds will be allocated for the same. At the end of 4-hour long interactions, Dr. Misra, Director DGR profusely thanked Dr. Ayyappan for making it possible for him to visit DGR in spite of his crowded schedule and the difficulties of long road journey. Dr. Misra expressed that the visit of DG, ICAR to this remotely placed Directorate would instill a fresh confidence among the scientists and other staff alike and they all would function with a renewed zeal. Amongst the DGR staff, the DG's visit strengthened the sense of belonging to ICAR family which was easily discernible from their expression of euphoria.

**Hon'ble Union Minister for Agriculture and FPI,
Shri Sharad Pawar, reviewed the status of
annual oilseed crops (Hyderabad, 20 April 2013)**

Hon'ble Minister of Agriculture and FPI, Shri Sharad Pawarji, reviewed the status of each of the production of annual oilseed crops also of palm and other secondary sources of vegetable oils in a meeting held at DOR, Hyderabad. The meeting was attended among others by Dr. S. Ayyappan, Director General, ICAR and several senior officers of ICAR. The Minister expressed his concern on the high import bill of over Rs.50,000/- crores on vegetable oils. He felt that increase in the demand of vegetable oils was due not only to the increase in population but also to improvement in the standard of living of the people. Despite increase in MSP of groundnut and sunflower, there was a decline in area under these two crops and it was a matter of great concern. During the deliberation it emerged that for increasing the total edible oil production of the country, it was essential to provide additional impetus to crops like soybean, groundnut, mustard and castor while oil palm expansion could be pursued with infrastructure backing. Shri Pawar also hinted at the possible role of biotechnological interventions for achieving a quantum jump in production of oilseeds in the country.

Dr. S. Ayyappan, DG, ICAR highlighted the nutritive virtues of linseed oil while Dr. S.K. Dutta, DDG (CS) ICAR referred to the potential of tobacco seed oil in the years to come. Mr. Atanu Purkayastha, Joint Secretary, indicated that TMOP was required to play a catalytic role in transfer of technology for achieving much needed self-sufficiency in vegetable oils. The meeting was attended by the Directors and Project directors of Directorate of Groundnut Research (Junagadh, Gujarat), Directorate of Oilseed Research (Hyderabad), Directorate of Rapeseed Mustard (Bharatpur, Rajasthan), and Directorate of Oil Palm Research (Pedavegi, Andhra Pradesh).

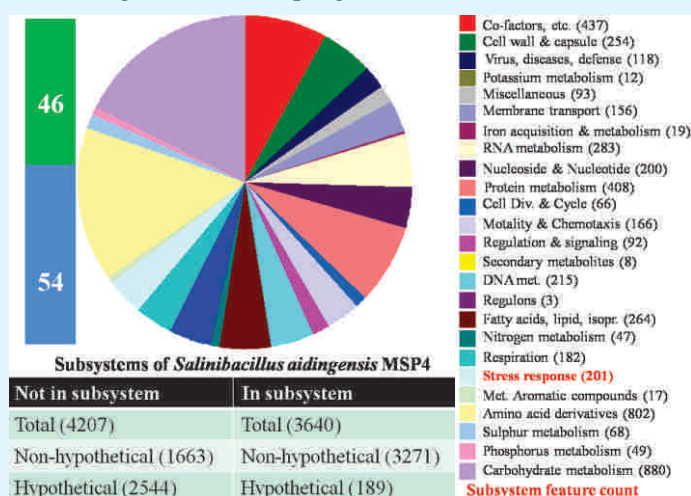


**Hon'ble Union Minister for Agriculture and FPI
Shri Sharad Pawar, reviewing the status of annual
oilseed crops at DOR, Hyderabad**

**DGR Scientists Scale New Heights in Genome
Sequencing And Annotation**

A group of microbiologists lead by Dr. K.K. Pal and Dr. R. Dey have successfully sequenced the whole genomes of a number of extreme halophilic microorganisms including archaea (a novel haloarchaeon), bacteria (seven firmicutes) and a fungus, some of these can tolerate even saturation levels of salts in growth media. These organisms have been isolated from the natural and artificial salt pans of the Rann of Kutch in Gujarat with the funding under NAIP and AMAAS projects on diversity of extreme organisms and isolation of relevant genes and alleles. Recently, draft genome (7,421,686 bp) of one of the obligate halophiles, *Salinibacillus aidingensis* MSP4 which grows optimally at 10% NaCl (in a range of 8-23% NaCl) in growth medium,

has been released by NCBI, a global repository, and assigned an accession number APIS01000000 and subsequent publication of the paper in *Genome Announcements* (Pal et al. 2013). With this accession number, DGR became the first in the world to report the genome sequence of the genus *Salinibacillus* which has been added to the global kitty for further exploration. Exploring the genomes of extreme halophiles will pave way for a comprehensive understanding of the mechanisms of tolerance of salinity i.e. the genes, the biochemical pathways, and the metabolites involved in affording osmotolerance. Further studies on the identification of genes and alleles responsible for the synthesis of biologically active enzymes under such extreme conditions in these organisms, are in progress.

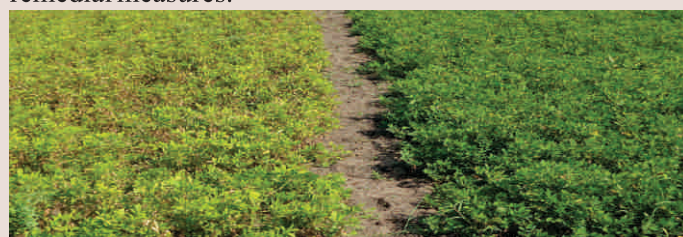


Yellowing in Groundnut- A Nutrient Deficiency Complex

Yellowing in groundnut is wide-spread and is observed across various agro-climatic zones, soil types and in varietal groups. There are generally two types of yellowing in groundnut, viz., yellowing in top leaves which occurs due mainly to the deficiency of iron and other micronutrients and partially due to the sulphur deficiency this is quite common in calcareous soils. The other type occurs due to the deficiency of nitrogen, particularly during 15-50 days after emergence (DAE) on older leaves. Yellowing due to the Fe-deficiency appears right from the stage of germination and continues to occur on younger leaves throughout the crop season with a maximum intensity in the field during 30-70 DAE the peak vegetative growth phase.

Yet another yellowing, suspected to occur due to combined deficiencies of sulphur, nitrogen and iron, appears 70 days onwards till maturity in *Spanish* and 90 days onwards till maturity in *Virginia* cultivars and thus coincides with pod and seed formation stages. Yellowing is observed more often in irrigated crop compared to rain-fed crop which may be due to partial anaerobic conditions caused by irrigation leading to restricted supply of iron and other nutrients and, higher nutrient requirement of irrigated crop due to better growth. Combined foliar spray of ferrous sulphate (0.5%) and citric acid (0.1%) in 85-day old crop (TG 37 A) reduces yellowing to a great extent.

If corrective measures are not taken, depending upon severity, yellowing may cause severe loss of yield. There is need for undertaking systematic research to identify the causes of yellowing in a comprehensive manner for developing efficient preventive as well as the remedial measures.



Yellowing susceptible (left) and tolerant (right) varieties of groundnut
(Inputs: Ram A. Jat and A.L. Singh)

Mealybug: an emerging threat to groundnut crop

During *kharif*-2012, an unidentified species of mealybug was observed in the standing groundnut crop in the DGR fields. The mealybug was later identified as *Solenopsis*/cotton mealybug, *Phenacoccus* sp. nr. *Solenopsis* Tinsley. This is possibly for first time mealybug infestation is being reported in groundnut crop. The males of *Solenopsis* mealybug are winged while the females are wingless. Females, which feed on plant sap, are normally seen in crevices between branches of stem, petiole, and veins and sometimes even found on roots and pods. They inflict both direct and indirect damage to the crop by sucking sap from growing parts of plant and also transmitting the viruses. These bugs while attached to the plants, secrete a powdery wax layer around, and then lay 50-100 eggs in the same protective layer. The crawlers, first instar nymphs are pinkish-red in colour actively disperse on uninfested plant parts. With the changing climatic conditions, the mealy bugs may become a concern for groundnut crop in the years to come.



Female mealybugs feeding on groundnut leaves



Groundnut pods infested with mealybugs

(Inputs: Nataraja M.V., Poonam Jasrotia and Harish G.)

Interspecific derivative NRCG CS 319: a source of resistance to *Sclerotium* stem rot

Stem rot caused by *Sclerotium rolfsii*, in groundnut now recognized as a widespread and serious disease of groundnut. Yield losses up to 30% (sometimes even higher) are seen quite often. Considering the severity and wide spread nature of the disease in groundnut growing areas, research was focused on identification of resistant genotypes for further breeding programme. For identifying sources of resistance for breeding programs, several genotypes were evaluated under artificially inoculated conditions in glass house. Less than 20% incidence was seen in an interspecific derivative of Virginia bunch, NRCG

CS 319, developed at DGR, Junagadh while the popular cultivars GG 20 and TG 37A suffered more than 80% incidence. Although this genotype matures in 120 days, gives low yield and pod characters are not desirable the same can be used as a potential donor for incorporating resistance to stem rot in groundnut improvement programme.



**NRCG CS 319
(Resistant)**

**TG 37A and GG 20
(Susceptible)**

(Inputs: P.P. Thirumalaisamy, Narendra Kumar, K.S. Jadon and S.K. Bera)

PBS 12171- a new source of fresh-seed dormancy in Spanish bunch groundnut

The Spanish bunch cultivars generally have early maturity than that of Virginia cultivars. These are predominantly grown in semi-arid areas, where growing season is short. Lack of seed fresh dormancy in the erect bunch varieties is a major problem resulting in serious loss of quality of the produce as the seeds begin to germinate *in situ* if the harvest time coincides with early rains. Hence short period dormancy i.e. for at least 3-4 weeks is required in the Spanish groundnut varieties. An experiment was conducted with freshly harvested pods of PBS 12171. The seeds from these pods were sown immediately in field and were also grown in laboratory in petri dishes in June for two consecutive seasons (2012 and 2013).

To determine the viability of un-germinated seeds of advanced breeding line, PBS 12171 in the field, on the 30th day, the un-germinated seeds were treated with 0.05% ethrel (2-chloroethyl-phosphonic acid) solution to stimulate germination. This genotype showed more than 80 % germination after ethrel treatment which indicated at least 30-day fresh seed dormancy in this genotype. Beside fresh seed dormancy, this advanced breeding line gave a pod yield of 1520 kg/ha with shelling outturn 63%.



Based on these results, this Spanish advanced breeding line (PBS 12171) was identified to be a good source of fresh-seed dormancy for breeding programme aimed at incorporating fresh seed dormancy in Spanish bunch groundnut.

(Inputs: Narendra Kumar, M.C. Dagla and Ajay B.C.)

Storage structures— sustained storage and managing insect pests of groundnut

During post-harvest storage, groundnut is attacked by many insect pests and more than 100 insect species are known to feed on stored groundnuts. The post-harvest loss in groundnut is estimated to be 20-25%. After harvest and drying, the farmers store their produce generally in gunny or fertilizer bags, and fumigate the stored material with aluminum phosphide for controlling storage pests. But the level of protection obtained is rather low. One farm innovator, Shri Kapil Vekaria, from Semasi-Barwada village of Mendada taluka has been using G.I. (Galvanized Iron) sheet barrels for storing groundnut kernels for seed purpose without any significant loss in viability and insect infestation up to 12 months. Air tight G.I. sheet barrels prevent external infestation fully. However, these are not readily available. Not only the mouth of commercially available barrel is too small but they also emit some noxious unpleasant smell even after cleaning. Hence, there is a need for making commercially available G.I. sheet barrel specially designed for storing groundnuts.



Progressive farmer Shri Kapil Vekaria sharing his experience
(Inputs: Murlidhar Meena, Narayanan G. and Harish G.)

Bud Necrosis Disease in Summer Groundnut

Bud necrosis in groundnut is a viral disease caused by *groundnut bud necrosis virus* (GBNV) belonging to genus *Tospo virus* and transmitted to healthy plants by viruliferous thrips. Appearance of chlorotic spots on young leaves is the first diagnostic symptom followed by drying of terminal buds at later stages, a characteristic symptom of GBND. The other symptoms like stunted growth, mottling and distortion of leaves may also be observed.

A survey conducted in the groundnut growing districts of *Saurashtra* region viz., Junagadh, Porbandar, Rajkot, Amreli and Bhavnagar indicated occurrence of GBND up to 15%, the highest being in Jalansar (15%). Incidence of GBND in different *talukas* of *Saurashtra* region of Gujarat (in table)

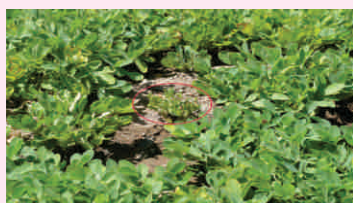
Taluka	GBND incidence (%)
Junagadh	5
Vadal	8
Pipadva	2
Dhoraji	2
Vegdi	5
Jasapar	1
Parbadi	1
Jalansar	15
Makhiyana	5
Amreli	5
Mendarada	10
Talala	4
Madhupur Gir	2
Kodinar	5



Severity of GBND in a farmer's field of Jalansar



Thrips in terminal bud of GBNV infected plant



Plant infected by GBNV

(Inputs: PP Thirumalaisamy, KS Jadon and Harish G)

EVENTS

राष्ट्रीय वैज्ञानिक संगोष्ठी (जूनागढ़, फरवरी 14-15, २०१३)

भाभा परमाणु अनुसंधान केन्द्र स्थित, हिन्दी विज्ञान साहित्य परिषद, द्वारा 'कृषि, खाद्य एवं स्वास्थ्य संवर्धन में नाभिकीय प्रौद्योगिकी की भूमिका' पर दो दिवसीय 'संगोष्ठी' का आयोजन दिनांक 14-15 फरवरी 2013 को जूनागढ़ कृषि विश्वविद्यालय, जूनागढ़ में किया गया। इस कार्यक्रम का आयोजन मूँगफली अनुसंधान निदेशालय, जूनागढ़; जूनागढ़ कृषि विश्वविद्यालय, जूनागढ़ तथा भाभा परमाणु अनुसंधान केन्द्र, मुंबई ने संयुक्त रूप से किया। इस कार्यक्रम का शुभारंभ अतिथियों द्वारा दीप प्रज्ज्वलन के साथ हुआ। तत्पश्चात डॉ नरेंद्र कुमार गोंटिया, प्रधानाचार्य, कृषि अभियांत्रिकी एवं प्रौद्योगिकी महाविद्यालय, जे.ए.यू., जूनागढ़ ने स्वागत अभिभाषण दिया जिसमें उन्होंने वैज्ञानिक लेखों को हिन्दी में प्रकाशित करने के आवश्यकता पर ध्यान आकर्षित किया। डॉ जितेन्द्र भूषण मिश्र, निदेशक, मूँगफली अनुसंधान निदेशालय, जूनागढ़ ने अपने अभिभाषण में हिन्दी व अँग्रेजी भाषाओं के वैश्विक स्तर पर होने वाले उपयोग के बारे में विस्तार पूर्वक बताया। डॉ मिश्र ने हिन्दी भाषा को वैज्ञानिकों में और प्रभावी रूप से प्रयोग करने की आवश्यकता पर बल दिया तथा इस प्रकार की हिन्दी में होने वाली वैज्ञानिक संगोष्ठियों के आयोजन के महत्व को भी समझाया। इस कार्यक्रम में जो अन्य विशिष्ट अतिथि उपस्थित थे उनमें डॉ एन.सी. पटेल, कुलपति, जे.ए.यू., जूनागढ़; डॉ देवानंद शर्मा, अध्यक्ष, हिन्दी विज्ञान साहित्य परिषद, भाभा परमाणु अनुसंधान केन्द्र, मुंबई; तथा डॉ कृष्ण

बी. सैनिस, निदेशक, जैव-चिकित्सा वर्ग, भाभा परमाणु अनुसंधान केन्द्र, मुंबई प्रमुख हैं। इस दो दिवसीय संगोष्ठी के दौरान कुल १४ वार्ताएं दो तकनीकी सत्र के दौरान हुईं जिनमें 'कृषि, खाद्य व स्वास्थ्य संवर्धन में नाभिकीय प्रौद्योगिकी की भूमिका' पर विस्तार पूर्वक चर्चा हुई। मूँगफली अनुसंधान निदेशालय, जूनागढ़ के वरिष्ठ वैज्ञानिक डॉ ज्ञान प्रकाश मिश्र ने 'मूँगफली संशोधन में विकिरण के प्रयोग' विषय पर अपनी वार्ता दी। डॉ मिश्र ने मूँगफली में विकिरण के प्रयोग से उत्पन्न प्रजनन की संभावनाओं व सफलताओं के बारे में विस्तार पूर्वक बताया। इस संगोष्ठी में एक विज्ञान प्रश्नमंच प्रतियोगिता भी आयोजित की गई जिसमें जूनागढ़ के विभिन्न महाविद्यालयों से कुल १५० छात्रों ने भाग लिया जिनमें से ८ छात्रों को पुरस्कृत किया गया। इस संगोष्ठी के दौरान मूँगफली अनुसंधान निदेशालय के कर्मियों के बच्चों एवं जे.ए.यू. के छात्रों ने प्रतिभागियों के मनोरंजन हेतु एक रंगारंग सांस्कृतिक कार्यक्रम का आयोजन भी किया जिसे सभी ने काफी सराहा। श्री जयप्रकाश त्रिपाठी, सचिव, हिन्दी विज्ञान साहित्य परिषद, भाभा परमाणु अनुसंधान केन्द्र, मुंबई, ने इस कार्यक्रम का संयोजन व संचालन कुशलता पूर्वक किया।



राष्ट्रीय वैज्ञानिक संगोष्ठी का उद्घाटन सत्र

सांस्कृतिक कार्यक्रम के दौरान कु. श्री बेरा गणेश वन्दना करती हुयी



डीजीआर वैज्ञानिक स्मृति चिन्ह प्राप्त करते हुए

Annual meeting of groundnut researchers held at Junagadh (15-17 April 2013)

The annual meeting of groundnut researchers was organized jointly by DGR and JAU, Junagadh from 15-17 April, 2013. In his welcome address, Dr. C.J. Dangaria, Director Research, JAU, Junagadh highlighted the situation of oilseeds in general and groundnut in particular in Gujarat. He informed that groundnut being the major oilseed crop of Gujarat occupied about 18.0 lakh ha every year. He indicated that the soil borne diseases had emerged as the major problem in groundnut cultivation, while the aflatoxin contamination has been hampering the export from India.

In his address, Dr. J.B. Misra, Director, DGR, Junagadh highlighted the ongoing groundnut research work and also stated that with a worth of nearly Rs. 6000 crores, the groundnut export had touched an all-time high during previous year. To enhance the productivity of groundnut and prolong the viability of seeds, the major issues included crop rotation, crop management, seed encapsulation, IPM, nano-technology etc. He emphasized that efficient soil-water management was central for enhancing the groundnut yields with the available varieties. There was an express need for developing more effective technology for management of soil borne pathogens with enhanced application of bio-control agents.

Dr. S. N. Nigam, former Principal Groundnut Breeder, ICRISAT, Patancheru mentioned that groundnut was at a cross-road as it had lost its ground from 8.6 mha to 4.2 mha during the preceding years. He urges the scientist to re-look and find approaches to restoring the lost ground in terms of both area and production.

The Vice-Chancellor of JAU, Junagadh, Dr. N.C. Patel, mentioned that in Gujarat 85% of the groundnut area lies in five districts of Saurashtra region. He lauded the achievements of JAU, Junagadh in releasing a number of groundnut varieties for general cultivation. He stressed the need for making efforts to break the yield barriers through a combined approach of conventional and non-conventional methods for development of short duration varieties to fit in to the different cropping systems besides the need for popularizing micro-irrigation system to save irrigation water as well as to increase the fertilizer use efficiency. Use of bio-degradable mulch and new storage techniques also held promise. Dr. K.L. Dobaria, Principal Groundnut Breeder, JAU thanked the participants for their interactive participation.



Inaugural session

Delegates at the annual AICRP-G meeting

(Inputs: A.L. Rathnakumar)

AICRP-G scientist-farmers interaction (Junagadh, April 16, 2013)

During the annual meeting of groundnut researchers at Junagadh Agricultural University, Junagadh on 16th April, a scientist (AICRP-G)-farmers' interaction session was organized to understand the needs of farmers from different parts of Gujarat viz. Rajkot, Junagadh, Amreli, Porbandar, etc. This session was chaired by Dr. N.C. Patel (Vice Chancellor, JAU) and other dignitaries present included Dr. J.B. Misra (Director, DGR), Dr. S.N. Nigam (Ex-Groundnut Breeder, ICRISAT) and Dr. C.J. Dangaria (JAU). In his opening remarks Dr. Patel briefed the participant on the overall groundnut scenario of Gujarat. For subsequent discussion, Dr. Patel, Dr. Misra and Dr. Nigam jointly flagged the issues like availability of seed of high yielding groundnut varieties; ongoing groundnut research activities in India; methods to harvest the leftover groundnut (10-20%) from the field and new technologies (including water conservation technologies) available in different parts of India.

The representatives of various AICRP-G centers expressed their views on the current status of groundnut in respective regions. During the scientist-farmer interaction the following general points surfaced:

- Availability of biofertilizers in the villages is very poor.
- Farmers continue to use DAP, in place of recommendation for ammonium sulphate.
- The menace of stem-rot disease has now become widespread across the country.
- Most of the farmers store their own seed in air-tight containers as kernels.
- Aflatoxin contamination has become a major non-tariff export barrier.
- There is a need for 'stay green' trait in groundnut to enhance the fodder productivity.

Responding to storage practices, Dr. Nigam urged the farmers to use banana or neem leaves in the base and side walls of the storage containers before filling the groundnut seeds and then after filling, finally put a layer of rice on the top of the container. This method helps in retaining seed viability and also lowering the insect pest infestation especially in salinity affected coastal areas of Gujarat.

Dr. C.J. Dangaria, Director of Research, JAU told the gathering that there has been a shift in the oil consumption pattern in Gujarat. Cotton seed oil, due to its availability at a cheaper price has replaced groundnut oil to a very large extent. Over the decades, yet another notable shift observed is that of preference for semi-spreading or bunch type over the spreading groundnut.

Dr. Misra informed that, in the past few decades there has been slight improvement in both national productivity and export of groundnut even though there has been a decrease in the total cropped area. The direct consumption of groundnut in India has been growing which

in fact is giving more remuneration to the farmers. Gujarat being a milk surplus state, fodder requirement is quite high. Since groundnut haulms form a very nutritious fodder it gives additional price to the farmers. Regarding salinity problems, especially in the coastal areas, Dr. Misra told the farmers that use of biodegradable polythene mulch along with potassium fertilizers to overcome the problem to some extent. He further stressed on the need of in-depth research on best soil-and-water management practices for fetching the best possible yields.

The important actionable points which emerged during the interaction meet are as follows:

1. Soil-borne diseases are now becoming more common in most parts of groundnut growing areas.
2. In the states like Andhra Pradesh and Karnataka extent of mechanization in groundnut crop is very low and needs popularization.
3. There is an urgent need for developing and popularizing varieties tolerant to both biotic and abiotic stresses.
4. Scientifically proven customized seed storage structures are required especially for the coastal belt of India.
5. New and improved strains of *Rhizobium* are required for various groundnut growing regions.
6. Strengthening of extension activities especially in the states like Andhra Pradesh and Karnataka are required for improvement in overall productivity of India.
7. Soil and water management, especially in rainfed crop, needs immediate attention.
8. Varietal replacement rate in nearly all the states is very low which needs a structured strategy.
9. Production of breeder seed even in farmers' fields may be permitted under the supervision breeders concerned
10. Groundnut farmers from low-productivity states may be facilitated to visit the progressing farmers in the high productivity states

(Compilation: G.P. Mishra, R.A. Jat and A.L. Rathnakumar)

FGI Expo-Agro summit-2013 (Vadodara, 03-05 January 2013)

The DGR participated in the three day (3-5 January, flagship event 'FGI Expo 2013' at Vadodara. The expo was organized by the Federation of Gujarat Industries (FGI) and was inaugurated by Shri Saurabh Patel, Minister for Energy and Petrochemicals, Mines and Minerals, Cottage Industries, Salt Industries, Printing, Stationary, Planning, Tourism, Civil Aviation, Labour and Employment. A large number of public and private MSMEs participated in this

Expo which served as a precursor to the Vibrant Gujarat Global Investors Summit 2013, with specific thrust on the fast moving agro sector in Gujarat. Thousands of farmers from different parts of the country visited this Expo.



DGRs participation in FGI Expo-Agro summit-2013

Agriculture Fair & Technology Week (Kodinar, 7-11 January 2013)

The DGR made its presence felt at an 'Agriculture Fair and Technology week' which was organized by the Agriculture Technology Management Agency (ATMA) of Junagadh at KVK, Kodinar. The experts from DGR highlighted the potential of new technologies to farming communities by giving talks and also through ongoing live demonstrations. The programme was inaugurated by the local MP, Shri Dinubhai Solanki. Dr. N.C. Patel, VC, JAU also graced the dais. Several senior government officials and representatives of Corporate and NGOs sectors were also present and exhibition stalls were arranged by horticulture department, district water development unit and NGOs such as *Jan Seva Trust*, *Aga Khan Rural Support Programme*, GHCL Foundation etc.

The Director, DGR, Dr. J.B. Misra, spoke about the need for establishing a Groundnut Seed Producing Company as a cooperative society of farmers with a technical backstopping from KVK, DGR and JAU. In this five-day activity of providing knowledge empowerment, about 8000 farmers including farm women, fishermen and rural youth were benefitted.



Inaugural session



Farmers taking keen interest in DGR technologies

MEETINGS

DGR-JAU-ICRISAT joint annual project review meeting (Junagadh, 18 April 2013)

The DGR-JAU-ICRISAT joint annual review meeting for the project titled *“Enhancing production and quality of groundnut oil in drought prone environments through varietal technology to boost the income of small and marginal groundnut farmers in India”* was held at DGR, Junagadh. The ICRISAT was represented by Drs. H.D. Upadhyay, P. Janila, M.K. Pandey; the DGR was represented by Drs. Radhakrishnan T., S.K. Bera, K. Chakraborty, S.K. Bishi; while Drs. K.L. Dobaria and P.M. Vagharia represented the JAU; Drs. N. Manivannan, K. Ganesamurthy represented TNAU; Dr. P.V. Kenchanagoudar represented UAS, Bangalore and Dr. R.P. Vasanthi represented ANGRAU, RARS Tirupati.

The meeting was chaired by Dr. A.L. Singh, Principal Scientist DGR. In his opening remarks, while highlighting the importance of this project, Dr Singh hoped that this project will yield some fruitful results. The Principal investigator of the project, Dr. H.D. Upadhyay, informed the participants that for the development of breeding lines in groundnut across the world, a very narrow genetic base was used which is one of the major reasons for poor genetic diversity in groundnut varieties. The work-done report of each center and the plan of work for next one year were finalized.



Standing (left to right): Dr. Gyan P. Mishra; Mr. Sush Kumar Bhat; Mr. Abhay Kumar; Dr. P. M. Vagharia; Mrs. Dr. Koushik Chakraborty; Dr. N. Manivannan; Dr. S. K. Bera; Dr. Manish K. Pandey; Dr. P. V. Kenchanagoudar; Dr. K. L. Dobaria; Dr. J. R. Dobaria; Mr. Sahil Patel
Sitting (left to right): Dr. P. Janila; Dr. K. Ganesamurthy; Dr. H. D. Upadhyay; Dr. A. L. Singh; Dr. Radhakrishnan T.; Dr. R. P. Vasanthi

Institute Research Committee (IRC) meeting

The 60th and 61st meetings of IRC were held from 21-23 January and 5-7 June 2013, respectively. Both the meetings were chaired by Dr. J.B. Misra, Director, DGR. During the meetings the progress of research activities undertaken under various core funded projects were reviewed and the future plans of work for each project were finalized. The research projects for the 12th plan were finalized during these meetings. The PIs of different projects presented the highlights under the respective projects and the proposed technical programme. The house approved the activities to be undertaken after thorough discussions keeping in view the priority and availability of resources. The meetings ended with vote of thanks to the Chair by the Secretary.

Institute Management Committee (IMC) meeting (March 02, 2013)

The 13th meeting of IMC of DGR was held on 2nd March 2013. The meeting was chaired by Director, DGR Dr. J.B. Misra. Among the members present were Dr. K.L. Dobaria, Research Scientist (Groundnut), JAU, Junagadh; Dr. A. Henry, Project Coordinator (NNRPL), CAZRI, Jodhpur; Dr. T. Radhakrishnan, Principal Scientist, DGR, Junagadh; Shri J.B. Gunde, Progressive Farmer, Kolhapur, Maharashtra; Ms. Hirbaiben I. Lobi, Progressive Farmer, Talala. Shri Darvesh Kumar, Administrative Officer, participated as the Member Secretary and presented the ATR on the proceedings of 11th IMC meeting. During the meeting the participants were briefed about the preparedness for XII Five Year Plan. The committee expressed its satisfaction on the Action Taken Report presented by the Institute. During the meeting committee discussed a number of proposals put up to the committee for consideration related to procurement of equipments, repair and construction works, construction of vehicle shed, ad-hoc appointments, etc. Considering the need of DGR, the committee approved most of the proposals to Council.

Entrepreneurs-DGR workshop

An interaction workshop of entrepreneurs and DGR scientists was conducted on 5th January 2013 for DGR technology developed for commercial production of cellulase from groundnut shell. Thirty entrepreneurs interacted with the Dr. K.K. Pal and Dr R. Dey to get familiar with the technology and various technical and infrastructural requirements for the taking up a pilot project.

TRAININGS

Short-training programme on 'PPV&FR and DUS testing' (Junagadh, 18-19 March, 2013)

More than 100 farmers from different districts of Gujarat participated in this two-day training programme. The programme was implemented under the leadership of Dr. Radhakrishnan T.

In his opening remarks Director DGR requested the farmers to derive maximum benefit from this training. Dr. I.U. Dhruj, Additional Director, JAU and the Chief Guest during the inaugural session made a presentation on 'Kesar Mango—a test case of geographical indication from Gujarat' elaborating on how the mango variety 'Kesar' of Saurashtra region got the GI recognition and thus farmers started fetching premium price for their 'Kesar' mango. Dr. Ravikumar R.K. from NIF, Ahmedabad talked about 'Role of National Innovation Foundation India in promoting PPVFR' citing many examples of farmers from different parts of India getting their innovations patented and fetching good monetary returns. He urged the farmers to get those innovations protected expeditiously. Lectures on PPV&FR and DUS related topics were also delivered.



Training – cum – awareness programme on PPVFR

Training programmes for tribal farmers under tribal sub-plan (Junagadh, January-June 2013)

As an activity under tribal sub-plan (TSP), during January to June, 2013, four batches of tribal farmers were imparted training on improving groundnut productivity by technical intervention under. From

Gujarat, 30 farmers from Tapi (15-17 January); 35 from Bharuch (31 January to 02 February); and 36 from Junagadh (05-07 February), besides 35 from Khargone district of Madhya Pradesh (20 to 22 March, 2013) underwent the training. The topics covered included improved agronomic practices, polythene mulch technology, soil management practices management of major diseases and pests, application of micro-nutrients, post-harvest management (drying and storage), seed production technology, management of aflatoxin contamination, mechanization and the prospects of value-addition and marketing (opportunities and challenges). The trainings were coordinated by Dr. Narayanan G., Mr. Murlidhar Meena and Mr. Natraja M.V. In their feedback, the trainee-farmers rated these trainings as very informative and of practical use.





DGR Technology demonstration to the farmers of (a) Tapi (Gujarat) (b) Baruch(Gujarat) (c) Junagadh (Gujarat) and (d) Khargone (MP) during their training at DGR

PARTICIPATION IN CONFERENCE/ WORKSHOP/ SEMINAR/ SYMPOSIA/ TRAINING PROGRAMMES

Poonam Jasrotia	Refresher course on ' <i>Agricultural Research Management</i> ' during January 7-19, 2013 at NAARM, Hyderabad.
	National Workshop on ' <i>Foresight and Future Pathways of Agricultural Research through Youth in India</i> ' during March 1-2, 2013 at NASC Complex, New Delhi.
G.P. Mishra and Narayanan G.	Capacity Building Workshop on ' <i>Development of Digital Knowledge Repository of Oilseed Crops</i> ' during January 24-25, 2013 at ICRISAT, Patancheru, Andhra Pradesh'
G.P. Mishra, K. Chakraborty and Debarati Bhaduri	<i>100th Indian Science Congress</i> ' during January 4-7, 2013 at Kolkata.
M.K. Mahatma and Ajoy Saha	<i>'Chemist Conclave'</i> during January 14-15, 2013 at IARI, New Delhi.
Debarati Bhaduri	Training on ' <i>Remote sensing and GIS applications in natural resource management</i> ' during February 12 to March 4 2013, at NBSS&LUP, Nagpur.
Nataraja M.V.	IV th International Insect Science Congress on ' <i>Exploring the Incredible Insect World</i> ' during February 14-17, 2013 at Bengaluru.
Narendra Kumar	<i>'FGI Expo-Agro Summit-2013'</i> during January 03-05, 2013 at Vadodara, Gujarat.
Harish G.	<i>'International Conference on Insect Sciences'</i> during February 14-17, 2013 at UAS, Bangalore.
G.P. Mishra	Training – cum – awareness programme on ' <i>Protection of plant varieties and farmers' rights</i> ' during March 18-19, 2013 at DGR, Junagadh.
M.D. Meena	Training programme on ' <i>Data analysis using SAS</i> ' at MPAUT during January 14-20, 2013, Udaipur
सभी वैज्ञानिक	मूँगफली अनुसंधान निदेशालय, जूनागढ़; जूनागढ़ कृषि विश्वविद्यालय, जूनागढ़ तथा भाभा परमाणु अनुसंधान केन्द्र, मुंबई द्वारा संयुक्त रूप से जूनागढ़ में आयोजित 'कृषि, खाद्य एवं स्वास्थ्य संवर्धन में नाभिकीय प्रौद्योगिकी की भूमिका' पर दो दिवसीय 'संगोष्ठी'(दिनांक 14-15 फरवरी, 2013)

DGR Seminars

Speakers	Date	Title of seminar
Prasanna Holajjer	January 11, 2013	'Entomopathogenic nematodes for insect pest management in groundnut'
Nataraja MV	January 11, 2013	'Mealybug - emerging pest of groundnut'
M.K. Mahatma	March 5, 2013	'Characterization of Spanish peanut germplasm (<i>Arachis hypogaea</i> L.) for sugar profiling and oil quality'
M.D. Meena	March 5, 2013	'Dynamics of oilseeds and edible oil sector in India- An impact analysis of trade liberalization'
Thirumalaisamy P.P.	March 8, 2013	'Sclerotium stem-rot in groundnut: The biology, ecology, management and its future perspectives'
K.S. Jadon	March 8, 2013	'Integrated approach for groundnut disease management'
Harish G.	March 8, 2013	'Host insect interaction in groundnut'
K. Chakraborty	March 16, 2013	'Oxidative stress, antioxidants and their role in stress tolerance in plants' and 'Changes in antioxidant enzyme activities and oxidative stress in groundnut under water deficit stress'
R. Nakar	March 16, 2013	'Physiological efficiencies in mini-core germplasm accessions'
D. Bhaduri	March 25, 2013	'GIS: A potential tool for soil resource management'
K.K. Pal	March 25, 2013	'Whole Genome Sequencing: Myth to Reality' and 'Draft Genome Sequence of a haloarchaeon 3A1_DGR and <i>Salinibacillus aidingensis</i> MSP4'
Narendra Kumar	March 26, 2013	'Breeding for foliar disease resistance in groundnut'
Manesh Dagla	March 26, 2013	'Genetic improvement of confectionery traits in groundnut'
Chuni Lal	March 26, 2013	'Food Security v/s Plant Breeding: A Global Perspective'
N.K. Jain	March 26, 2013	'Evaluation of Allwin top drip special through fertigation in groundnut (<i>Arachis hypogaea</i> L.)'
Radhakrishnan T.	April 11, 2013	'Marker diversity and toxigenicity in the <i>Aspergillus flavus</i> collected from different parts of Gujarat'
G.P. Mishra	April 11, 2013	'Validation of markers linked with the foliar diseases like rust and late leaf spot in peanut (<i>Arachis hypogaea</i> L.)'

Participation in Zonal Sports Meet

A contingent of 36 from DGR officials including Dr. N.K. Jain, Principal Scientist as *Chief De Mission* participated in the ICAR West Zone Sports Meet held at National Research Centre for Camel (NRCC), Bikaner during 27th February to 2nd March, 2013. DGR entered the tournaments of chess, carom, *kabaddi*, volleyball, badminton, table tennis, football, cycle racing and throws (discus, shot put and javelin). Dr. N.V. Patil, Director, NRCC, Bikaner presided over the inaugural function while the Divisional Commissioner of Bikaner Shri Anand Kumar was present as the chief guest. DGR teams reached the semifinals in football, volleyball (Shooting) and badminton (single and double). Smt. M.N. Vaghasia won the silver medal in chess.



DGR contingent in the inaugural session



DGRs participation in the sports meet

Scientist on deputation



Dr. P.P. Thirumalaisamy, Scientist, Plant Pathology at Wuhan, China to attend 'International Training Workshop for Groundnut Soil-borne Diseases', 7-10 June 2013.

PERSONNEL

Promotions

Name	Promoted from	Promoted to
Dr. S.M. Chauhan	T7-8	T9
Dr. D.L. Parmar	T7-8	T9
Dr. M.V. Gedia	T6	T7-8
Sh. C.G. Makwana	Financial upgradation under ACP scheme	

Superannuation



Dr. Sheela M. Chauhan, Technical Officer (T-9) superannuated on May 31, 2013 after serving this institute for 33 years.

Our new colleagues



Dr. Sakkira Begum R., joined on 10th April, 2013 as Scientist, Plant Breeding after completion of 97th Foundation Training Course at NAARM, Hyderabad from 01 January, 2013 to 01 April, 2013.



Dr. Ram Dutta, joined on 10th June, 2013 as Principal Scientist, Plant Pathology. Before joining DGR he was working as Senior Scientist at ICAR Research Complex for North Eastern Hill Region, Umiam, Meghalaya.

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

AWARDS / HONOURS / RECOGNITION



DGR becomes an ISO 9001: 2008 certified institution

- **Dr. N.K. Jain (Principal Scientist)** elected as 'Councilor' from Gujarat for Indian Society of Agronomy for the biennium 2013-14.



Dr. Radhakrishnan T. (Principal Scientist) received 'Award of Excellence in Plant Biotechnology' by the Society for Applied Biotechnology during International Conference on Biotechnology, Bioinformatics and Bioengineering at Tirupati, Andhra Pradesh, India on 29 June 2013.



Dr Koushik Chakraborty (Scientist) received 'Young Scientist Award-2012' on the occasion of centenary year of Indian Science Congress at Kolkata



Dr. G.P. Mishra (Senior Scientist) received 'PranVohra Award-2012' on the occasion of centenary year of Indian Science Congress at Kolkata

- **Drs. AL Singh, K.K. Pal, N.K. Jain, R. Dey, R.S. Yadav, M.K. Mahatma, G.P. Mishra, R.A. Jat, Anita Man and Poonam Jasrotia** recognized 'PG Teaching and MSc/ PhD Guide' by Junagadh Agricultural University, Junagadh, Gujarat.

Laurels in sports

- **Ms. Madhuben Vagharia**, Assistant, secured the first position in the Women Chess Competition under 'Khel Mahakumbh-2012' organized by the Sports Authority of Gujarat from 11-13 February, 2013 at Junagadh district.



Distinguished Visitors



Dr. Atanu Purkayastha, Joint Secretary (TMOP) visits DGR on 21 March 2013



Dr. S. Ayyappan, Secretary DARE & DG ICAR visits DGR on 13 April, 2013

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