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Improper sanitation in storage godowns: A major reason for post-harvest losses

Godowns of several groundnut processing industries were surveyed to know the level of sanitation, infestation of insect-pests and the management practices. It was observed that, many of the groundnut processors/exporters were having very large godowns which were poorly maintained. The raw and processed produce were stored in close proximity which enabled the pests such as, bruchid (*Caryedon serratus*), red-flour beetle (*Tribolium castaneum*) and rice moth (*Corcyra cephalonica*) to migrate. The vents where the fresh produce were fed into decorticator were poorly maintained. A large number of pests were found breeding in the unattended raw produce, used jute bags (Fig. 1) and inside the machinery. The spider webbings, cracks in walls as well as electrical conduits were perfect place for the pests to hide and hibernate. Infestation was also observed in the processed produce stored in jute bags and stacked over plastic planks/dunnage (Fig. 2). The aluminum phosphide 56% was placed directly over the bags at several places and covered by tarpaulin and made airtight by keeping sand

bags. Generally this practice was commonly followed for a period of not more than seven days, with poor results. As the residues of aluminum phosphide was in contact with groundnut produce, which might prove risk of detection during pesticide residue analysis. It is advised to keep the premises, godowns, machinery sanitized at least twice a year before arrival of fresh produce. The webbings and left out materials should be removed from godowns, crevices and opening of conduits must be properly sealed. Disinfestation of old jute bags and godowns must be carried out with deltamethrin 2.5SC @ 0.5 mL/L or malathion 50EC @ 5.0 mL/L. Stacking of bags must be done properly by leaving space all around as well as in between the stacks. The fumigation using aluminum phosphide 56% must be done by keeping the pesticide in small pouches on peripheries as well as interiors of stacks followed by air tight covering for a period of ten days will be sufficient to destroy all stages of pests.



Fig. 1 Bruchid pupation on jute bags



Fig. 2 Red-flour beetle infestation
Inputs: MV Nataraja and Harish G

Drastic reduction in yield potential of groundnut seeds harvested from salinity prone areas

Recently, the productivity of groundnut in salinity prone areas has sharply declined. Due to the ever-increasing oilseed demand, this needs to be addressed as a priority. Preliminary survey and feedback received from extension functionaries and the farmers growing peanuts revealed that poor production coupled with decreasing productivity over time was a common phenomenon in the coastal saline belt of Saurashtra in Gujarat. The peanut productivity in this region decreased over the years and has become almost half of that from the preceding times. The seed replacement rate for the groundnut in these areas is very low (10–12%) and the majority of the farmers re-use their self-grown seed harvested from previous crops. Hence, we investigated whether the re-use of groundnut seed harvested from saline areas could be a probable reason for this abrupt decline in groundnut productivity. Though the effects of salinity on plant growth parameters of groundnut have been well documented but no information was available on re-use of salinity grown seed for germination, growth, yields and yield attributes of peanut under normal as well as saline conditions. Two different types of groundnut seed (seed harvested from crops grown under salinity [SGS] and under normal soil conditions [NS]) of two cultivars (TG 37A and GG 2) were grown

under 0.5, 2, 4 and 6 dSm⁻¹ levels of salinity established for one and half decades. The germination percentage, shoot and root length, number of branches, root and pod weight per plant and finally the pod and haulm yield were significantly reduced with increase in salinity levels for both cultivars and seed types. Relatively shoot length was found to be more prone to the increased salinity levels as compared to root length. This reduction was more pronounced in salinity grown seed as compared to seed grown in normal soil conditions for both the cultivar. However, GG 2 performed better over TG 37A in respect to growth and other yield attributes. Based on the results it can be confirmed that as per our hypothesis there was significant influence of seed types on pod yield of groundnut. Normal seed had significantly higher yield potential than salinity grown seed both under saline and non-saline conditions. A significant pod yield increase (28-86%) was attributed to normal seed over re-use of salinity grown seed under different water salinity levels. Hence from these results it can be inferred that farmers must avoid the re-use of the salinity grown seed and should use the normal seed harvested from non-saline condition to maintain the sustainable higher yield potential of groundnut.



Field experiments for yield potential of salinity grown seeds (SGS) and normal seeds (NS) under different levels of salinity.

नगर राजभाषा कार्यान्वयन समिति (नाराकास)- जूनागढ़ की द्वितीय बैठक

दिनांक २९ अप्रैल, २०१६ को नगर राजभाषा कार्यान्वयन समिति (नाराकास)-जूनागढ़ की द्वितीय बैठक हुई, जिसका आयोजन भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़ में किया गया। इस बैठक में कुल ०७ सदस्य कार्यालयों ने भाग लिया। यह बैठक डॉ. राधाकृष्णन टी. निदेशक, भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़ एवं अध्यक्ष, नगर राजभाषा कार्यान्वयन समिति जूनागढ़ की अध्यक्षता में संपन्न हुई। इसका संचालन डॉ. महेश कुमार महात्मा, सदस्य राजभाषा हिंदी समिति जूनागढ़ एवं वरिष्ठ वैज्ञानिक, भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़ द्वारा किया गया।



इस प्रथम बैठक में डॉ. ए एल सिंह, वरिष्ठम प्रधान वैज्ञानिक, भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़, ए एन भार्गव, वरिष्ठ स्टेशन प्रबंधक, भारतीय रेल जूनागढ़, श्री मुकेश एन साता, प्रशासनिक अधिकारी, यूनाइटेड इंडिया इन्स्योरेंस कंपनी लिमिटेड जूनागढ़, जाहिद ए कुरैशी, सहकर्मि भारतीय जीवन बीमा निगम जूनागढ़, वी एच रोकड़, जन् संपर्क अधिकारी, भारतीय डाक विभाग जूनागढ़, इत्यादि उपस्थित रहे। इन छमाही बैठक का शुभारम्भ माननीय अतिथियों के स्वागत के साथ किया गया साथ ही भाकृअनुप का गन प्रस्तुत किया गया तत्पश्चात अध्यक्ष के कर कमलों द्वारा दीप प्रज्वलित कर उन्हें पुष्प-गुलदस्ते भी भेंट किये गए। अपने स्वागत भाषण में डॉ. महेश कुमार महात्मा, ने सभी सदस्यों का सह हृदय से अभिवादन करते हुआ बैठक में सभी सदस्यों को भाग लेने के लिए स्वागत किया साथ ही इस बैठक के सफल होने की कामना की। इनके प्रश्नात श्री दरवेश कुमार, प्रशासनिक अधिकारी एवं सदस्य सचिव नगर राजभाषा कार्यान्वयन समिति, भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़ को राजभाषा हिंदी पर व्याख्यान देने के लिया आमंत्रित किया गया जिन्होंने काफी सरल भाषा में राजभाषा हिंदी को बहुत अच्छे ढंग से व्यक्त किया तथा जूनागढ़ स्थित विभिन्न सदस्य कार्यालयों की छमाही रिपोर्ट का पॉवर पॉइंट प्रस्तुत किया, जिनकी समिक्षा डॉ. राधाकृष्णन टी अध्यक्ष, नगर राजभाषा कार्यान्वयन समिति जूनागढ़, द्वारा की गयी।

भारतीय जीवन बीमा निगम, जूनागढ़ द्वारा हिंदी में किया गया कार्य, निर्धारित लक्ष्य के अनुरूप एवं बड़ा सराहनीय रहा। विभिन्न पलों के हिंदी में उत्तर को ८३.७९% पाया गया जो निर्धारित लक्ष्य के अनुरूप था। हिंदी और अंग्रेजी में टिप्पणियों की संख्या निर्धारित लक्ष्य से कम थी। जिसे आगामी छमाही बैठक तक सुधरने की अति आवश्यकता है। इस बात पर बल दिया गया की आंतरिक प्रशासनिक बैठक की कार्यवाही पूरी तरह में हिंदी में होनी चाहिए।

भारत संचार निगम, जूनागढ़ द्वारा हिंदी में किया गया पत्राचार का कार्य, निर्धारित लक्ष्य

से बहुत कम (६७%) पाया गया, जिसे आगामी छमाही बैठक के दौरान सुधारने की आवश्यकता है। इस बात पर बल दिया गया की आंतरिक प्रशासनिक बैठक की कार्यवाही पूरी तरह से हिंदी में होनी चाहिए।

भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़ द्वारा हिंदी में किए गए, अधिकांश कार्य निर्धारित लक्ष्य के अनुरूप एवं सराहनीय थे, आंतरिक प्रशासनिक बैठक की कार्यवाही पूरी तरह से हिंदी में होनी चाहिए एवं तकनीकी शब्दों के लिप्यंतरण की भी सलाह दी गई।

भारतीय रेल जूनागढ़ द्वारा हिन्दी में किये गए कार्य, लक्ष्य के अनुरूप नहीं पाये गए। अतः भविष्य में, निपुणता लाकर कार्य प्रणाली को सुधरने की सलाह दी गई।

नगर राजभाषा कार्यान्वयन समिति (नाराकास)- जूनागढ़ की अगली बैठक सितम्बर महीने में प्रस्तावित है, जिससे पहले हिंदी के प्रचार एवं प्रसार की आवश्यकता जाहिर की गई। इसके अंतर्गत विभिन्न सदस्य-कार्यालयों को कुछ विशिष्ट कार्य दिए गए जो इस प्रकार हैं:-

१. भारत संचार निगम, जूनागढ़: आगामी बैठक से पूर्व हिंदी सुलेखन का आयोजन
२. भारतीय जीवन बीमा निगम, जूनागढ़: हिंदी अनुवाद का आयोजन
३. भारतीय डाकघर विभाग, जूनागढ़: हिंदी निबंध प्रतियोगिता का आयोजन
४. भाकृअनुप- मूंगफली अनुसंधान निर्देशालय, जूनागढ़: हिंदी प्रश्नोत्तरी एवं फिल्म दिखाकर कहानी प्रतियोगिता का आयोजन
५. भारतीय रेल, जूनागढ़: रेल संबंधी संगोष्ठी का आयोजन



अध्यक्ष, डॉ. राधाकृष्णन ने नगर राजभाषा कार्यान्वयन समिति जूनागढ़ को नई ऊंचाईयों तक पहुँचने की दिशा में सभी सदस्य-कार्यालयों के सहयोग की अपेक्षा व्यक्त की। उन्होंने बताया की संस्थान की वेब-साइट rajbhasha.nic.in पर नाराकास-जूनागढ़ का पेज बना दिया गया है जिससे सभी आवश्यक जानकारियों उपलब्ध रहेंगी तथा सभी सदस्य कार्यालय rajbhasha.nic.in ई-मेल से संपर्क कर जानकारियों को प्राप्त कर सकेंगे।

श्री रणवीर सिंह ने अपने धन्यवाद ज्ञापन में सभी महमानों का अभिवादन किया, और विश्वास जताया की नगर राजभाषा कार्यान्वयन समिति जूनागढ़, डॉ. राधाकृष्णन के सानिध्य में नई ऊंचाईयों को हासिल कर सकता है। अंत में डॉ. महेश कुमार महात्मा, ने सभी सदस्यों द्वारा इस बैठक को सफल बनाने के लिया सभी सदस्यों को धन्यवाद दिया।

AICRP-Groundnut Annual Workshop

Annual Group meeting of All India Coordinated Research Project on Groundnut was organized jointly by ICAR-Directorate of Groundnut Research and Junagadh Agricultural University, Junagadh on 18-20th April, 2016.

During the inaugural session, the Chief guest of the AICRP-G workshop, Sh. Babubhai Bokhiria, Hon'ble Minister of Agriculture, Co-op, Animal Husbandry, Fisheries and Cow Protection, Water Resources, Gujarat state in his address welcomed the scientists who had come from far and wide. He



emphasized usage of groundnut as a food item as it is also a pulse cum oilseed crop as the kernels are having very good nutritional properties. He indicated that groundnut flour should be used with other food commodities like wheat for value addition. The Hon'ble Minister at the outset visited the exhibition

of different varieties developed and released for different states, technologies developed by various AICRP-G centres and other related information.

Dr. Radhakrishnan T., Director, ICAR-DGR, Junagadh presented the highlights of Research of AICRP on Groundnut for the period 2014-15 both in *rabi*-summer and *kharif* seasons. Dr. AR Pathak, Vice-Chancellor, JAU stressed the importance of developing climate resilient genotypes, alleviating moisture deficit stress besides improving the productivity and quality. He called upon the researchers to put up sustained efforts in achieving the desired goal. He also highlighted the governments initiatives and support for production of certified seeds through SAUs in Gujarat.

The Crop Improvement session was chaired by Dr. S Acharya, Associate Director of Research, SDAU, Dantiwada, Convened by Dr. Radhakrishnan T, Director. DOR, Junagadh and Co-chaired by Dr. KL Dobariya, Research Scientist (Oilseeds), JAU, Junagadh.

Dr. AL Rathnakumar, Co-ordinator of AICRP-G and Principal Scientist, ICAR-DGR presented the results of crop improvement trials conducted during *rabi*-summer 2014-15 and *kharif* 2015; details of entries, locations, check varieties used and the mean performances of entries in different zones and locations within a zone in IYT-1, entries promoted in IVTII to AVT and entries proposed for identification at IVT both for *kharif* and *rabi*-summer seasons separately.

XVIII Meeting of Research Advisory Committee

The 18th meeting of the Research Advisory Committee was held at ICAR-DGR, Junagadh from 27-28 April, 2016. The meeting was chaired by Dr. Padma Raju, Ex VC, ANGRAU, Hyderabad, Dr. SN Nigam, Ex. Principal Groundnut Breeder in ICRISAT, Hyderabad, Dr. SR Bhat, Ex. Principal Scientist at NRCPB, New Delhi, Dr. IU Dhruj, Associate Director of Research, JAU, Junagadh, Dr. KP Patel, Dean Faculty of Agriculture, Anand Agricultural University, Anand, Radhakrishnan T. Director, ICAR-DGR, Junagadh and Dr. SK Bera, Principal Scientist, DGR was the member secretary of 18th RAC meeting.

Presentations on ongoing projects were delivered by the PIs or Co-PIs which were discussed meticulously and the work plan was customized as per the remarks of the research advisory committee. In their concluding remarks, Chairman and the members of the RAC appreciated the research work that has been done at DGR and pointed out the need for improvements/ modifications on certain areas.



Participation of ICAR-DGR at Krishi Mahotsav in JAU, Junagadh



Directorate of Groundnut Research put up a stall on the improved groundnut production technologies readily available to the groundnut farmers of *Saurashtra* region. The *Krishi Mahotsav* was inaugurated by the Hon. Chief Minister of Gujarat. The stall was arranged with promising groundnut varieties and important pests and diseases symptoms along with improved agronomic practices including PGPR. Further, to showcase the germplasm collections available with ICAR-DGR, an array of seed material ranging from bold kernels to small ones were displayed. The relevant literature in Gujarati language were also distributed to the visiting farmers including farm women and the technologies and know-hows available with ICAR-DGR were presented in lucid language. The two days programme was managed by scientists and technical officers of different sections.

स्वच्छता पखवाड़ा

Swachhta Pakhwara was celebrated from 16-31 May, 2016. To celebrate Swachhta Pakhwara in the villages, a swachhta drive was organised in three villages of Mitapur, Alidra and Khadpipli in Junagadh District adopted under Mera Gaon Mera Gaurav programme. The staff of DGR and villagers participated in the programme to make it a success.



International Day of Yoga

ICAR-DGR celebrated International Day of Yoga. The rehearsal for yoga session as per Common Yoga Protocol was organized on 20th June 2016 as per expert advice and training



of Ms Charuben Sudra from Patanjali Yogpeeth branch, Junagadh, Gujarat followed by Physical Yoga Session on 21st June, 2016 by the employees at 6:00 AM. A workshop on meditation was organized as per instructions of Ms. Brahm Kumari Beenaben from Brahm Kumari's branch, Junagadh, Gujarat. Dr. Ram Dutta, Principal Scientist & Nodal Officer, International Day of Yoga at ICAR-DGR, Junagadh coordinated the event.

Institute Seminars

Speaker	Date	Topic
Mr. Rohan Tosh, Cintelligence Ser Pvt Ltd.	23 rd April, 2016	Patent and publication
Dr. D Bhaduri, Scientist (Soil Science)	23 rd May, 2016	Characterization of soil fertility status using GIS tools for location-specific nutrient management in groundnut

Awards

Ms. Sneha M. Dodia, SRF, Biotechnology bagged the **best oral research paper presentation** in 3rd International Conference on Agriculture, Horticulture & Plant Science held at New Delhi, 25-26th June, 2016.



Transfers

Dr. Koushik Chakraborty, Scientist (Plant Physiology) was relieved from this Directorate on 28th May, 2016 upon transfer to ICAR-National Rice Research Institute, Cuttak.

Dr. Debarati Bhaduri, Scientist (Soil Science) was relieved from this Directorate on 28th May, 2016 upon transfer to ICAR-National Rice Research Institute, Cuttak.

Superannuations

Sh. GJ Solanki, Senior Technical Assistant, retired from his services on 31st May, 2016.

