DGR NEWSLETTER

Vol. XIII No. 1-2 JANUARY - JUNE 2014

DGR in the nation's service

The Directorate of Groundnut Research (earlier National Research Centre for Groundnut) was established on 1st October, 1979 at Junagadh, in the Saurashtra region of Gujarat having more than 30% of groundnut area of the country, with its mandates: to conduct basic and strategic research to enhance productivity and quality of groundnut, act as a national repository of working collection of germplasm and information on groundnut, offer consultancy and training, establish relevant institutional linkages, and to provide logistic support and coordination mechanism for generation of location specific technologies through all India coordinated research project on groundnut (AICRPG). In 1992, the AICRPG with its 5 main and 17 supporting centers were brought under DGR.

The major thrust areas of DGR are: genetic enhancement of groundnut for improving productivity and quality, development of varieties possessing resistance to biotic and abiotic stresses, integrated multi-disciplinary approaches for management of water, nutrients, soil-borne fungal diseases, development of groundnut based cropping systems and economically viable efficient input-use production technologies and suitable strategies for preventing post-harvest spoilage of produce by storage pests especially the bruchid beetle.

Through AICRP-G, this directorate has released 53 high-yielding varieties with in-built resistance/tolerance of major biotic and abiotic stresses for different agro-climatic regions, identified several production technologies, consortia of bio-fertilizers (Rhizobia and PGPR), bio-control agent and optimized components of IPM for major diseases and pests. Some of the promising groundnut varieties are Girnar 2, Girnar 3, TG 37A, GG 7, TPG 41, TG 51, and Utkarsh. Development of transgenic groundnut for resistance to PBND & PSND, drought & salinity and fungal diseases is in progress. DGR is also producing about 15,000 q breeder seed and conducting about 900 FLDs annually through AICRP-G to make the availability of quality seeds and transfer of production technologies to the farmers.

Recent strategies and work plan

Enhancing groundnut maturity through

- Management practices in short duration groundnut varieties (seed priming, biodegradable mulch, nutrient management, hormonal use and irrigation scheduling)
- Release of groundnut variety through exclusive AVT trials on advanced breeding lines for maturity in 90 days
- Development of early duration varieties through breeding

Increasing productivity through

- Development of high yielding varieties
- Integrated crop management practices (Nutrient, weed and water management and IPM)
- Development of efficient microbial inoculants for better nutrition and mitigation of biotic and abiotic stresses

Contents

- Expansion of groundnut cultivation in river-beds, potato-fallows, rice-fallows, widely spaced plantation crops
- Transfer of technology
- Identification of approaches for speedy transfer of technology
- Capacity building of extension agencies (subject-matter specialists of KVK and ATMA) of major groundnut growing states through training and FLDs on improved technologies
- Promotion of new groundnut cultivation technologies through young, educated progressive farmers who are willing to do experiment with innovations

Incidence of thrips and leafhoppers in summer groundnut in Saurashtra

Thrips and leafhoppers may cause yield losses up to 40% and 22%, respectively, in groundnut, especially when infestation occurs during the vegetative stage. The infestation symptoms of thrips and leafhopper include curling of young leaves and terminal buds, and yellowing of leaves from tip extending downwards, respectively. To assess the situation of insect-pests infestation in Saurashtra region of Gujarat, a survey was conducted during summer 2014 a few some farmers' fields of Junagadh, Jamnagar, Rajkot, Amreli and Gir-Somnath. The thrips and leafhoppers caused severe foliar damage in *talukas* listed below:

Taluka	Foliar damage (%)	
	Thrips	Leafhoppers
Junagadh	12.5	8.8
Manavadar	10.0	5.0
Mendarada	6.7	13.3
Visavadar	5.0	10.0
Dhoraji	22.5	17.5
Jam Kandorana	5.0	15.0
Bagasara	10.0	15.0
Amreli	10.0	10.0
Vadiya	15.0	5.0
Talala	5.0	8.3
Kodinar-Una	7.0	7.0
Kalavad	5.0	5.0

Since the crop was already in flowering stage, for the effective management of thrips and leafhoppers, the farmers were advised to go for one or two foliar applications (at 15 days interval) of Dimethoate 30 EC (1000 ml/ha) or Monocrotophos 36 SL (1200 ml/ha) or imidacloprid 17.8 SL (150 ml/ha). It is also suggested to apply pesticides during the morning or evening hours of the day for more effectiveness.

Thrips infestation

Leafhopper

(Inputs: Nataraja M.V., Jadon K.S. and Prasanna Holajjer)

Outbreak of red hairy caterpillar in Cuddalore, Tamil Nadu

A survey by a team of scientists from RRS, Vridhachalam during *kharif*-2012 & 2013 in twelve villages (Pudhukooraipettai, Arasakuzhi, Ponnalagaram, Chinnavadavadi, Periyavadavadi, Erumbanur, Poovanur, Pudhuvennaikuzhi, Mathur, Srimushnam, Agragaram, Melpuliangudi) of Cuddalore district (Tamil Nadu) revealed severe outbreak of red hairy caterpillar (RHC) –*Amsacta albistrica* with more pronounced effect in Chinnavadavadi village of Vridhachalam block (15 km away from the Regional Research Station (RRS), Vridhachalam). Nearly 200 acres sown with VRI-2 variety was found severely devastated by the RHC and population density to the tune of 25 larvae/plant was recorded. The incidence of other defoliators (*Spdoptera litura*, *Helicovera armigera*, *Approaerema modicella* and *Anarsia eppiphias*) was also noticed. The level of defoliator's damage at vegetative stage ranged from 25-30%. The scientists visited the infested fields and explained about the preventive, non-chemical methods to the local farmers of infested area. Poison baiting method was also demonstrated in RHC infested farmers field at Chinnavadavadi. The scientists also insisted about the collective community action only after having clear understanding of the pest's life cycle, which are not only prerequisite, but are effective only when carried out on a large scale.

Severely infested groundnut crop

Entire shoot tip eaten up by the RHC larvae

(Inputs: Indira Gandhi P. and M. Chandrasekaran, TNAU, RRS, Vridhachalam, Tamil Nadu)

An entomopathogenic fungus *Nomuraea rileyi*, infecting *Spodoptera litura*

For the assessment of real-time pest situation in groundnut, a survey was conducted in Gondal, Doraji Jamkandora, Kalavad, Mendrada, Sasan Gir and Talala talukas of Saurashtra region of Gujarat during *kharif* 2013. The standing groundnut crop was found infested with *Spodoptera litura.* Interestingly, 30-40% of *S. litura* larvae were found infected with a whitish fungus which later turned greenish-grey when brought to the laboratory. The fungus was later identified as