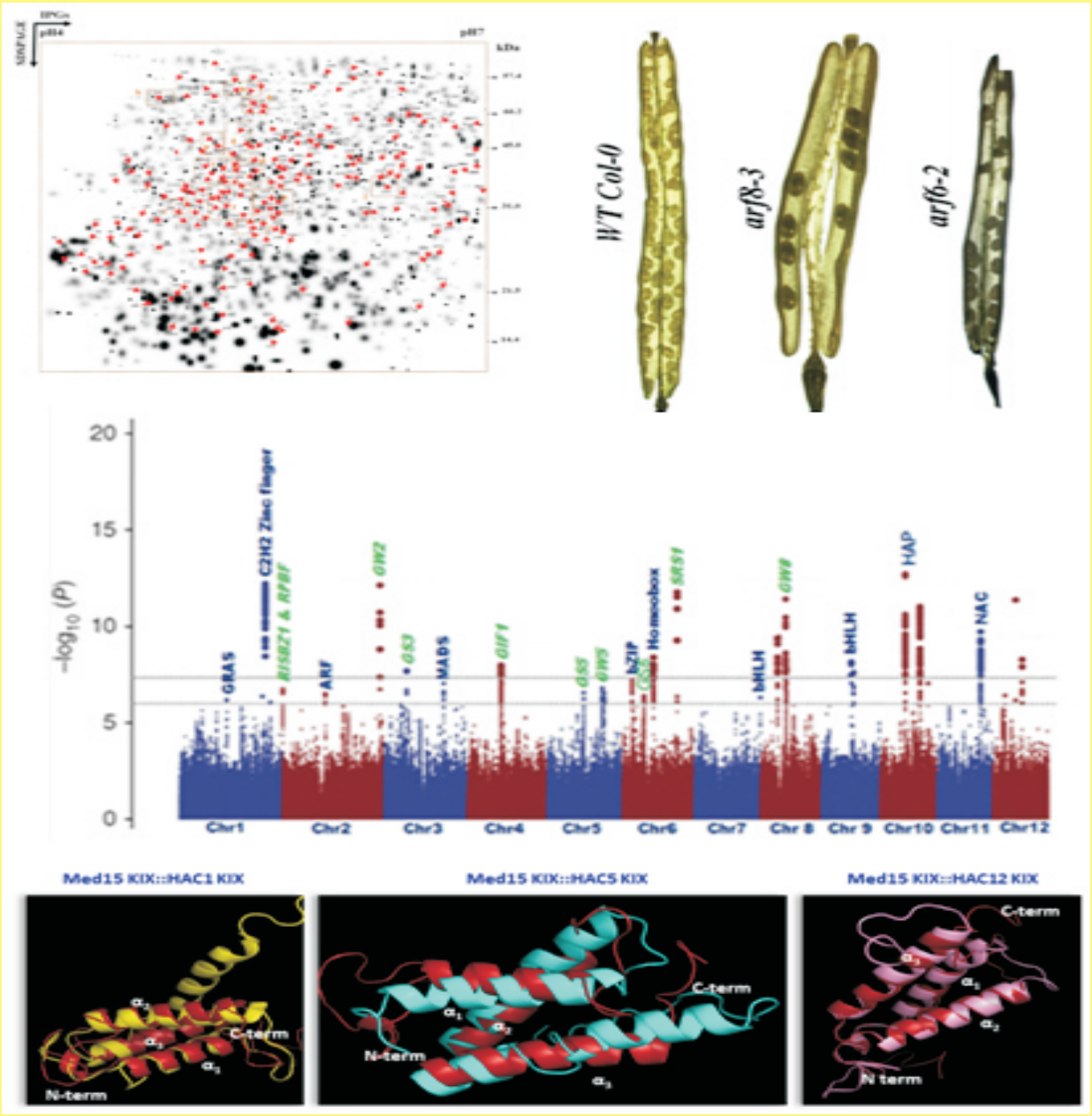
Annual Report
2013-14



National Institute of Plant Genome Research

New Delhi

The cover page depicts the research highlights of the Institute for the year 2013-2014 in the areas of proteomics, genomics, functional genomics and computational biology.

Contents

Mandate

- To undertake, aid, promote, guide and coordinate research of high caliber in basic and applied plant molecular biology;
- To provide and promote effective linkages on a continuing basis between various scientific and research agencies/laboratories and other organizations working in the country on plant genes, development and related areas;
- To utilize molecular biology approaches along with tissue culture and genetic engineering technology to identify important genes and manipulate these for generating transgenic plants with improved agronomic characters and pathogen/stress resistance;
- To take up any fundamental work related to gene regulation and mapping that would aid in achieving the above mandate;
- Development of molecular markers for monitoring important traits;
- Production and testing of transgenic plants;
- Identification of genes that are vital for the survival of the pathogens, and to target them for pathogen combatment;
- To impart advance training modules in plant genetic engineering and genome analysis;
- To undertake collaborative programmes and develop close linkages with international institutes engaged in plant genome research.

Preamble

The National Institute of Plant Genome Research (NIPGR) has been exploring various fundamental and translational aspects of plant biology with the aim to generate better options to improve crop productivity. Past 15 years of existence of NIPGR have been highly productive and the institute has achieved international level standards in its research programmes. In the year 2013-14, NIPGR researchers contributed 132 publications and seven patents were filed/granted. A significant effort has been made to nurture collaborative projects within the Institute and inter-institutional collaborations have also been established.

Advanced versions of chickpea genome and transcriptome have been released and customized genome browser for chickpea has been developed. Four transcription factor genes controlling seed weight in *desi* and *kabuli* chickpea were identified using association/genetic mapping and haplotyping. Forward genetic approach involving genotyping-by-sequencing (GBS), association analysis and genetic mapping also resulted in identification of six regulatory genes which could influence seed traits in rice. Significant progress has been made to develop diverse and extensive genomic resources in foxtail millet along with ongoing efforts in chickpea, tomato and rice.

Climate change and environmental stresses threaten to cause severe losses in agricultural out-put. Class I *OsTcp19* has been shown to impart better post germination growth, seedling establishment and vegetative growth under stress condition. OsAlBa1, a dehydration responsive nuclear protein, was identified from rice and shown to have a role in oxidative stress. In the area of nutritional genomics, RNAi tomato plants, having both α-D-mannosidase and β-D-N-acetyl hexaminidase genes suppressed, showed increased post-harvest storage life up to 45 days. Rice T4 homozygous lines overexpressing AmA1 protein showed enhanced photosynthetic activity with increase in yield and total protein content. Further, through targeted silencing of a key transcriptional regulator *(MYB28)*, low glucosinolate transgenic lines having total seed-glucosinolate content less than internationally acceptable limit have been tested.

Plant growth and development have been found to be orchestrated by interactions between glucose and plant hormones such as cytokinin, auxin and brassinosteroid. The role of various small RNAs, including miRNA, in root development has also been elucidated. In the area of computational biology, automated method for identification, clustering and mapping of the plant terpenome has been designed. Also algorithm that merges local alignment patterns with Hidden Markov Model to accurately identify START domain proteins in plants was developed.

Fine mapping of the major QTL_{AR1} of chickpea against necrotrophic pathogen *Ascochyta rabiei* identified genes which might be responsible for disease resistance. Out of four such genes, two are members of the AT-hook family of plant proteins. Comparative modelling of Old Yellow Enzyme (OYE) family of flavo-proteins provided insights into FMN binding, active site organization and stereo preference of different classes of ArOYEs. The ArOYE6 *(Ar34)* has been shown to play key role in actin polymerization, hyphal tip growth, vesicular motility and plant infection. Further, a novel anti-fungal bacteria has been identified which demonstrates mycophagous property against *Rhizoctoniasolani*, the causal of sheath blight disease of rice. *Arabidopsis* CIPK6 (AtCIPK6) loss-of-function mutant showed reduced susceptibility to bacterial pathogen Pseudomonas syringae (Pst DC3000), while *Arabidopsis* plants overexpressing AtCIPK6 are more susceptible to bacterial infection. Further, efforts have been initiated to understand the cross-talk among signalling components of biotic and abiotic stress.

Other significant ongoing areas of activity include phosphorus utilization, phosphoproteome analysis, and heat tolerance. The expanding research activity of NIPGR is expected to help understand regulatory processes imparting useful traits of the crops. To disseminate the knowledge generated, NIPGR also organized 11th International Symposium on Rice Functional Genomics and its researchers delivered a large number of invited lectures all over India. Several of our students and scientists have been recognized with national awards and fellowship of national science academies. I am also happy to put on record my appreciation for significant contribution of Dr. Senthil K. Muthappa and Dr. Gopaljee Jha, Staff Scientists, Administration and Technical Staff in preparation of the report.

Akhilesh Kumar Tyagi
Professor and Director

Highlights of the Scientific Achievements

Highlights of the Scientific Achievements

The highlights of the scientific achievements of National Institute of Plant Genome Research during 2013-2014 are given below:

A. COMPUTATIONAL BIOLOGY

Isoprenoid diversity and plant stress responses

Important structural and sequence-based signatures have been identified in plant terpene synthase (TPS) enzymes that may have a role to play in generating the diversity of isoprenoid based stress responses in the plant kingdom. These have assisted in the development of an automated method for identification, clustering and mapping of the so-called plant 'terpenome'. A continually updated knowledge resource for plant essential oils has also been developed that enables one to address a multitude of queries for comparing volatile profiles in the plant kingdom. This database is the largest online free repository for essential oil data across the world.

Computational genomics and systems biology

The histone fold motif (HFM) and its diverse roles in the plant kingdom are being investigated through a graph based mathematical approach. Gene history and neo-functionalization of this HFM is being assessed to understand the mechanistic basis of molecular recognition by KIX (a docking site for transcription factors), its binding specificity, target promiscuity, and combinatorial potential. An attempt has also been made to predict the nine amino acid TADs (Trans-activation domains) targets of CBP-like KIX domains in *Arabidopsis thaliana* via machine learning approaches. Preliminary tests of the algorithm have indicated a high false positive rate, which is currently being improved via additional biological filters to the scanning algorithm.

Start domains in plants: epigenetics and evolution

A combined computational and molecular approach has been undertaken for understanding the huge expansion of the Steroidogenic Acute Regulatory protein (StAR)-related lipid transfer (START) domains in plants. Annotation has been streamlined by the development of an algorithm that merges local alignment patterns with hidden markov model profiles. Training and benchmarking of this program resulted in high accuracy and it was consequently used to identify 35 START domains in the recently sequenced chickpea *(Cicer arietinum)* nuclear genome.

B. GENOME ANALYSIS AND MOLECULAR MAPPING

Chickpea genome sequence analysis and its alignment to genetic map

The improved second draft of genome assembly of desi chickpea (*C. arietinum* ICC4958) has been produced using 6698 genetic markers mapped on the high resolution linkage map spanning 1083.93 cM with an average inter-marker distance of 0.16 cM. Total sequence in the draft 2 assembly is 510.6 Mb with 8.6% 'N' instead of 14.5% in draft 1. Moreover, the number of scaffolds has been reduced to 39,334 from 1,81,462 and 316 Mb (62% of assembly) has been anchored. Re-annotation of the chickpea genome using draft 2 assembly is underway. The Chickpea Transcriptome Database (CTDB) has been updated and version 2.0 has been released which provides comprehensive information about the chickpea transcriptome including various tools for transcriptome sequence analysis. A Gene Expression Atlas web page has been added. Genome-wide characterization of auxin-responsive gene families (GH3, Aux/IAA and ARF gene families) was performed in chickpea and 3 legumes. Many putative candidate genes with specific roles in root development and in drought and/or salt stresses were identified and validated. A customized Genome Browser for chickpea (Chickpea Genomic Web Resource (CGWR); http://www.nipgr.res.in/CGWR/home.php) has been developed and integrated with additional interfaces for mapping and scanning of genomic features of interest dedicated to chickpea genome visualization and comparative analysis.

Genomic and transcriptomic resources for gene discovery and molecular mapping in chickpea

SNP identification and genotyping in an intraspecific mapping population (*Cicer arietinum* SBD377 x *C. arietinum* BGD112), segregating for seed weight and seed number, was carried out using Genotyping by Sequencing (GBS) approach. This resulted in identification of 2,678 polymorphic SNPs which were utilized to generate a saturated intraspecific linkage map with an average resolution of 0.38 cM. Integration of phenotyping data helped in identifying QTLs for seed traits which are being analysed. Similarly, GBS analysis of an interspecific mapping population (*C. arietinum* ICC4958 x *C. reticulatum* PI489777) was carried out which resulted in 141,639 SNPs. Genotyping data of 8269 high quality polymorphic SNPs was integrated with the 6,700 marker data generated earlier to obtain a very high resolution genetic linkage map of chickpea. In addition, transcriptome of chickpea nodule at various stages of development was sequenced using the Roche 454 NGS platform which resulted in 1.3 million reads that were assembled, annotated and analysed for identification of nodule specific and differentially expressing genes.

Genetic and molecular dissection of complex seed size/weight quantitative traits in chickpea

For molecular dissection of complex seed size/weight trait and identification of functionally relevant molecular tags regulating 100-seed weight in *desi* and *kabuli* chickpea, a larger set of

trait-specific association panel and bi-parental mapping populations have been generated and analysed through integrated genomics-assisted breeding approach. The integration of cost-effective and less time-consuming pool-based trait association mapping with differential expression profiling, genetic/QTL mapping and high-resolution microsatellite-SNP marker-based haplotyping/LD (linkage disequilibrium) mapping delineated four transcription factor genes (DUF3594, bZIP, DUF1635 and SBP) controlling seed weight in *desi* and *kabuli* chickpea. The identified seed weight-associated functionally relevant molecular tags (novel genes/QTLs, alleles and haplotypes) have potential for marker-assisted genetic enhancement of *desi* and *kabuli* chickpea.

Development of DNA-based molecular markers for robust genotyping purposes in foxtail millet [*Setaria italica* (L.) P. Beauv.]

Developed 5123 intron length polymorphic (ILP) markers and 176 microRNA-based markers in foxtail millet and constructed a physical map. The results demonstrated the applicability of these markers in various genotyping applications, determining phylogenetic relationships and comparative mapping in several important grass species.

A comprehensive Foxtail millet Marker Database was developed (FmMDb; http://www.nipgr.res.in/foxtail.html) encompassing the information of 21,315 simple sequence repeats (SSR), 447 EST-derived SSRs (eSSR) and 5123 ILP markers.

A total of 184 foxtail millet accessions from diverse geographical locations were genotyped using 50 SSR markers representing the nine chromosomes of foxtail millet. The neighbour-joining tree of accessions based on a shared alleles distance matrix indicated a main sub-division of accessions into at least five groups, namely I, II, III, IV & V which included 15, 14, 24, 104 & 27 accessions, respectively. Association analyses accounting for population structure and relative kinship identified eight SSR markers ($p < 0.01$) showing significant association (R^2 = 18 %) with nine agronomic traits.

Transcriptome and epigenome diversity analysis during seed development for discovery of molecular markers and gene regulatory mechanism in chickpea

The transcriptomes of four chickpea genotypes, including two small-seeded desi-type and two large-seeded kabuli-type from the leaf tissue were sequenced. Genic microsatellites have been identified in the four chickpea genotypes and a comparative analysis has identified at least 254 polymorphic microsatellites among them. At least 51 polymorphic microsatellites distinguishing small-seeded desi-type and large-seeded kabuli-type chickpea genotypes, were identified. The identification and analysis of SNPs and InDels among these chickpea genotypes has also been performed.

Understanding transcriptional landscape of chickpea genome

To delineate the transcriptional landscape of chickpea, RNA-seq experimental data on genome-wide scale from vegetative and reproductive organs at different developmental

stages including root, shoot, flower and seed along-with nutrient response and pathogen stress conditions were carried out. A total of 1202.1 million reads of 101 bp were obtained from 38 independent cDNA libraries (12 organ specific, 21 nutrient responsive, and 5 pathogen stress responsive), which when assembled generated 422,362, 564,062, and 213,684 contigs, respectively. The contig length showed little difference between libraries with the median contig length (N50) on an average of 1286 bp to 1700 bp.77-91% reads were successfully mapped back onto the assembled contigs. Ongoing detailed analyses of the data would dissect diverse and overlapping biochemical pathways encompassed by the identified transcripts towards organ development, nutrient response, and pathogen stress adaptation.

C. MOLECULAR MECHANISMS OF ABIOTIC STRESS RESPONSE

Functional analysis of abiotic stress responsive genes from rice *(Oryza sativa L.)*

Stress induced genes belonging to SAP and TCP gene families are being characterised for their ability to confer stress tolerance and understand the mechanistic aspects. Differential dynamics of unspliced/spliced transcript(s) accumulation was observed in stress sensitive/tolerant varieties of rice for Class-I *OsTCP19*. Transgenic *A. thaliana* expressing this gene show better post-germination growth, seedling establishment and vegetative growth in stress condition compared to wild type besides influencing root related traits and trichomes. Protein interaction and target gene expression along with hormone influence analysis reveals that it works possibly in association with ABI4 and ABA signalling. Sub-functionalization in SAP gene family is also becoming more evident.

Molecular regulation of phosphorus (Pi) utilization in rice

Genes were selected for their roles in increasing Pi uptake, regulating its efficient utilization, altering root architecture and cellular signalling. After studying the expression patterns and genotypic difference between tolerant and sensitive rice cultivars, genes were cloned in binary vectors for plant transformation. Transgenic plants have been raised for six such genes and are being grown for obtaining homozygous population for subsequent experimentation.

Unraveling complexity of abiotic stress responses in rice via omics approaches

The selected homobox proteins can bind to specific DNA sequences detected in the promoter regions of several rice genes, which might represent downstream targets. A few proteins interacting with homoebox proteins have also been identified. Functional analysis of homeoboxgenes in transgenics is in progress. The transcriptome analyses of wild halophyte rice, *Porteresia coarctata*, provided insights into the novel factors involved in salinity and submergence tolerance. Genome-wide discovery of DNA polymorphisms in rice cultivars with contrasting drought and salinity stress response has been achieved via genome resequencing, which represents a valuable resource of molecular markers for high-throughput genotyping and molecular breeding for abiotic stress traits in rice.

Functional analysis of OsAlba1, a dehydration-responsive nuclear protein of rice reveals its role in stress adaptation

Screening of the dehydration-responsive nuclear proteome of an indica rice cultivar led us to the identification of an Alba (acetylation lowers binding affinity) protein, designated OsAlba1. It OsAlb1 localizes to the nucleus, and also sparsely to the cytoplasm. Expression analysis indicates that OsAlba1 is responsive to multivariate stress conditions. Functional complementation in the yeast mutant DPop6 established that OsAlba1 also functions in oxidative stress tolerance. The preferential expression of OsAlba1 in the flag leaves implies its role in grain filling. We suggest that OsAlba1 might help in the long-term efforts to develop transgenic crops with improved stress tolerance.

Differential phosphoproteomic analysis of chickpea reveals shared and distinct roles in development and stress tolerance

Phosphorylation plays a critical role in transducing stress signals to bring about coordinated intracellular response. To gain better understanding of dehydration response in plants, a differential phosphoproteome of chickpea was developed. Mass spectrometric analysis led to the identification of 91 putative phosphoproteins, presumably involved in a variety of functions. A critical survey of the phosphorylome revealed a DREPP (developmentally regulated plasma membrane protein) plasma membrane polypeptide family protein, henceforth designated *CaDREPP1*. The *CaDREPP1* transcripts were found to be differentially regulated under dehydration stress. This work provides new insights into the possible phosphorylation events triggered by the conditions of progressive water-deficit in plants.

Genome-wide identification of important gene family members and microRNAs putatively involved in abiotic stress responses in foxtail millet (*Setaria italica L.*)

A total of 225 potential *WD40* genes, 8 *DCL*, 19 AGO and 11 RDR genes were identified in foxtail millet genome and physically mapped onto the nine chromosomes of foxtail millet. *In silico* comparative mapping with sorghum, maize and rice demonstrated the orthologous relationships and chromosomal rearrangements including duplication, inversion and deletion of these genes. Estimation of synonymous and non-synonymous substitution rates revealed its evolutionary significance in terms of gene-duplication and divergence. Expression profiling against abiotic stresses provided novel insights into specific and/or overlapping expression patterns of these genes.

A comprehensive genome-wide *in silico* analysis identified 355 mature miRNAs in foxtail millet. Their secondary structure and corresponding targets were predicted. A Foxtail millet MiRNA Database (FmMiRNADb: http://59.163.192.91/FmMiRNADb/index.html) has also been constructed.

A foxtail millet transcription factors database (FmTFDb: http://59.163.192.91/FmTFDb/index.html) was constructed encompassing 2297 putative TFs in 55 families along with its sequence features, chromosomal locations, tissue-specific gene expression data, Gene Ontology (GO) assignment, and phylogeny.

Molecular and functional characterization of inositol biosynthetic genes in chickpea in perspective of abiotic stress responses

Core inositol biosynthetic genes (MIPS1, MIPS2 and IMP1) were cloned in chickpea and their importance in abiotic stress tolerance, seed germination and seedling establishment has been demonstrated. Recently, inositol monophosphatase like gene (IMPL) was cloned which is presently being biochemically and functionally characterized. The consequence of coexpression of CaMIPS and CaIMP in *A. thaliana* and address the question whether co-expression of both MIPS and IMP results better stress tolerance to the plant are being explored.

MicroRNA mediated regulation of heat stress response in tomato *(Solanum lycopersicum)*

The role of miRNAs regulatory networks during heat stress in tomato is being studied. To begin with, seeds of tomato accessions were obtained, grown for seed multiplication and screened for thermotolerance at seedling stage. Pusa Sadabahar and Pusa120 emerged as tolerant and susceptible accessions, respectively. These accessions will be tested further at reproductive stage for heat tolerance. Subsequently, tissue will be generated from vegetative and meiotic phase of male and female gametophytes for miRNA discovery. Meanwhile, a study is underway to assess the role of heat and/or dehydration responsive miRNAs reported from other plant species, in tomato. Five miRNAs were found to be heat responsive and targets of miR159 and miR398 were validated using 5'-RACE. Genome-wide identification of heat stress transcription factors and small heat stress proteins using HMMER identified 26 HSFs and 54 sHSPs members in tomato. These genes are being analysed as possible miRNA targets and their expression is being assessed in various development stages and stresses.

D. NUTRITIONAL GENOMICS

Molecular cloning, characterization of genes and their uses in increased shelf-life of fruits and vegetables

The α-D-mannosidase and β-D-N-acetyl hexosaminidase are two N-glycan processing enzymes involved in fruit softening. RNAi tomato plants suppressing both α-D-mannosidase and β-D-N-acetylhexosaminidase genes together were developed. RNAi fruits were $\approx$ 2.5-fold firmer than control and showed no signs of deterioration up to 45 days. Furthermore, treatment of tomato plants with geraniol, an acyclic monoterpene is shown to result in induction of senescence due to a substantial alteration in transcriptome. Several geraniol-

responsive genes comprising of various components of signal transduction, cellular metabolism, ROS, ethylene signalling, apoptosis and DNA damage response were identified. Moreover, expression analysis during tomato ripening revealed that geraniol-responsive genes are also associated with the natural organ senescence process.

Genetically modified crops expressing *AmA1* for better nutrition

T5 homozygous lines of the transgenic rice events in two commercial indica rice cultivars expressing AmA1 constitutively and tissue specifically were developed for improved protein quality. The detailed physiological, agro-phenotypic, and biochemical characterization of T4 homozygous lines revealed enhanced photosynthetic activity with increase in yield and 45–65% increase in total protein content in the transgenic seeds. Analysis of the amino acids revealed a significant increase notably in lysine, methionine, and sulfur amino acids. In addition, molecular and physiological evaluations of the selected transgenic sweet potato lines expressing *AmA1* gene under the control of tissue specific promoter showed accumulation of the *AmA1* transcript. A detailed analysis of protein and amino acid content along with the agronomical performance of transgenic sweet potato lines is currently underway besides generation of nutritionally improved cassava. In addition, detailed comparative proteome analysis would be carried out of the transgenic and control lines in both rice and sweet-potato.

Over-expression of OXDC in edible crops to reduce oxalate toxicity

The plant metabolite oxalic acid is increasingly recognized as a food toxin with negative effects on human nutrition. To obtain new generation spinach cultivars with low oxalate, transgenic spinach (T0) expressing OXDC constitutively were developed. The integrity of the transgene was confirmed by PCR using gene-specific primers. There were no visible phenotypic changes in the morphology in the primary transgenic population. T1 plants screened on kanamycin have recently been transferred to green house for production of T2 lines. Further, T2 and T1 lines of transgenic soybean expressing OXDC gene under constitutive promoter and seed specific promoter, respectively were evaluated that showed similar morphological features such as plant height, flowering time, seed setting, seed weight and seed yield when compared to their wild type counterparts.

Study on the functional role of seed storage protein: a comparative proteomics approach

Seed storage proteins are known to be utilized as carbon and nitrogen source for growing seedlings. However, their precise function remains unknown. To elucidate the storage protein-regulated molecular mechanism, a comparative proteomic approach has been applied on tuber life-cycle between wild-type and AmA1 potato. The differential display of proteomes revealed 150 AmA1-responsive protein spots (ARPs), of which 80 ARPS were identified. Metabolome study indicated up-regulation of amino acids paralleling with the proteomics analysis. Further, interrogation of the proteome data identified two significant protein modules and six small correlation groups pointing toward AmA1-regulated

overlapping processes of protein enhancement and cell growth perhaps through a common mechanism of function. For the first time, the molecular mechanism of seed storage protein-regulated functional interaction structure of a cellular network involved in increased protein synthesis, storage reserve accumulation, and enhanced productivity was illustrated.

Tissue specific engineering of glucosinolate content and profiles in indian oilseed mustard *(Brassica juncea)* for higher nutritional value and uncompromised defense response

Through targeted silencing of a key transcriptional regulator (*MYB28*), low glucosinolate *B. juncea* transgenic lines, having total seed-glucosinolate content less than the internationally acceptable limit (30 moles/g dry weight) were recently developed. Agronomical performance of these lines under the containment field conditions is in progress. In addition, to dissect the molecular basis of glucosinolate biosynthesis in *B. juncea,* the functional and biochemical characteristics of multiple homologs of *GSL-ELONG* (GE) encoding MAM protein, an enzyme that catalyze the elongation of methionine side-chain to create a plethora of short-chain (C3, C4, C5) and long-chain (C6, C7, C8, C9) glucosinolates was investigated. Besides, work is underway towards understanding the complex regulatory network of MYB transcription regulators that control the accumulation and profile of glucosinolates in response to various biotic and biotic stress conditions in *B. juncea*.

E. PLANT DEVELOPMENT AND ARCHITECTURE

Analysis of rice genes controlling seed development

Investigations have been carried out to define function of genes showing seed preferential gene expression or association with seed related traits. RNAi induced reduction in transcript of OsMed14 resulted in slow growth and narrow leaves. In case of OsMed26, reduction in pollen viability and seed set was observed on reduction in mRNA levels. Forward genetics approach involving genotyping-by-sequencing (GBS), association analysis, and genetic mapping resulted in identification of six new transcription factor genes influencing seed traits and haplotypes for the same were determined. Efforts are on to understand the mechanism of their action.

Transcription factors and their networks involved in rice seed development

Rice transgenic plants harboring the promoter-reporter constructs of selected NAC genes show seed-specific expression of the reporter from these promoters. Also, experiments show that NAC genes are localized to the nucleus and cause variable levels of transactivation in yeast. Also, rice genome codes for 65 seed storage proteins. There are four classes of these proteins and each class has distinct properties.

Functional characterization of sugar- and auxin-regulated DUF581 domain containing genes encoding expressed proteins of unknown functions in model plant system *A. thaliana*

Sugars regulate almost all phases of plant life cycle from seed germination to senescence. It is well known that sugars regulate many plant responses by cross-talking with different phytohormones. Domain of unknown function 581 (DUF581) containing gene, At5g47060, was fetched from the microarray carried out to understand interaction between sugar and auxin. At5g47060 is positively regulated by both glucose and auxin and has 18 gene family members in *A. thaliana*. Using a combination of bioinformatic and protein-protein interaction tools we identified that DUF581 is involved in protein-protein interaction. Considering its signature sequence similarity with zf-FCS domain, DUF581 was named as FCS Like Zinc-finger (FLZ). Expression of FLZ genes is highly induced during phase-transition and in flower and seed development. The T-DNA insertion mutants of *FLZ* genes showed more profuse growth and increased biomass compared to wild type plants implying its role in controlling growth and development.

To study the interaction between glucose and brassinosteroid (BR) signal transduction pathway in model plant system *A. thaliana*

Glucose affects root gravitropism in such a way that the primary root deviated from straight/vertical growth in increasing concentration of glucose containing medium. Presence of BR along with glucose synergistically induced root growth deviation from vertical. The altered deviation of BR signaling mutants in presence of glucose also confirmed glucose BR interaction in controlling root growth deviation. Effect of increasing concentrations of glucose was observed on pBRI1::BRI1::GFP line. Glucose treatment leads to enhanced accumulation of BRI1 protein in the early endocytic vesicles leading to a pronounced occurrence of BRI1-GFP in endosomes. It has been reported previously that increase in ratio of endosomal to plasma-membrane BRI1 signal can enhance downstream BR signaling events. This could be the possible molecular mechanism/node for glucose BR interaction in *Arabidopsis.*

To study the interaction between glucose and cytokinin signal transduction pathway in model plant system *Arabidopsis thaliana*

Cytokinin (CK) and glucose control a number of common responses in plants. Physiologically, both glucose and CK could regulate root length in light and hypocotyls growth in dark. Wild-type roots cannot elongate in glucose free medium while CK-receptor mutant *ahk4* and type B ARR triple mutant *arr1,10,11* roots could elongate even in the absence of glucose as compared to the WT. These mutant lines also showed more root randomization without and with glucose whereas, Type A ARR mutant *arr3,4,5,6,8,9* showed less root deviation at high glucose concentration as compared to the WT. Both glucose and CK could not alter root length in light in auxin signaling mutant AUXIN *RESPONSE3*/INDOLE-3-ACETIC ACID17 (*AXR3/IAA17*) suggesting that they may involve auxin signaling component as a nodal point. Glucose and CK could also regulate hypocotyl length in dark via integrating at the level of Type A and auxin signaling components *AXR2/IAA7* and *AXR3/IAA17.*

Small RNA mediated regulation of plant architecture

Root growth and architecture are controlled by genetic, epigenetic and environmental factors as well as by small non-coding RNAs. Besides other regulators, the role of various small RNA including miRNAs in root development is extensively investigated. SWP1, a putative component of plant specific co-repressor complex, regulates root growth and architecture. *SWP1* regulates the expression of many miRNAs. In *A. thaliana*, one such *miRNA*, mature *miR167s* are derived from four *MIR167* genes and target *ARF6/ARF8*. We show differential expression pattern of both *MIR167s* and targets. *ARF6/ARF8* functions redundanatly and double mutants show severe defect in growth, architecture and fertility. *miR167* mediated regulation of *ARF6/8* is potentially involved in meristem maintenance and plant architecture.

Protein L -Isoaspartyl Methyltransferase (PIMT) in rice

PROTEIN L-ISOASPARTYL METHYLTRANSFERASE (PIMT) is a widely distributed protein repairing enzyme. Chickpea PIMT plays an important role in seed vigor and longevity. Like other plants, PIMT enzyme is encoded by two divergent genes (*OsPIMT1* and *OsPIMT2*) in rice. Unlike OsPIMT1, OsPIMT2 is found to have 55 aa length extra domain in its N terminal region. Further, OsPIMT1 and OsPIMT2 exhibit similar but distinct enzymatic properties. Based on PIMT activity and protein expression profile, our results clearly suggest that PIMT1 and PIMT2 plays a distinct role in acquisition of desiccation tolerance/longevity, germination vigor and abiotic stress adaptation.

F. PLANT IMMUNITY

Identification and isolation of genes involved in immune response pathway in chickpea and rice

The detrimental effect of pathogen stress on plant performance is caused by deregulation of the immune status. To elucidate the signal transduction mechanism involved in plant–pathogen interaction in disease and immunity, the microarray based differential transcriptome data from a resistant and a susceptible cultivar of chickpea under progressive pathogen stress during vascular wilt was earlier reported. The analyses of the dataset revealed that the expression pattern of hallmark genes were largely quantitative. Further, the study led to the identification of many novel stress regulatory genes, for eg. bHLH, heat shock transcription factor 29, zinc-finger protein, NOT2/NOT3/NOT5 protein, homeodomain transcription factor etc. and their expression dynamics in compatible and incompatible interaction. Three key full-length regulatory genes involved in disease/immune response have been cloned. To understand the role of these immune regulators towards pathogen stress, their functional characterization in model and crop plants is currently ongoing.

Analysis of pathogen stress responsive extracellular matrix (ECM) proteome of chickpea

Plants exposed to pathogen stress mostly rely on the protection of cellular integrity to prevent mechanical damage by changing the cell wall/extracellular matrix (ECM) composition. Immune-responsive ECM proteome in chickpea during vascular wilt was developed by comparative 2-DGE analysis that resolved more than 2900 reproducible protein spots. The quantitative image analysis revealed 1427 differentially expressed protein spots (CaFREP, Fusarium responsive ECM protein). Of the 1427 FREPs, 827 were clearly up-regulated, 355 were down-regulated, and 245 showed a mixed pattern of time-dependent expression. Mass spectrometric analysis followed by database search using the MS-tag sequences lead to identification of 211 proteins presumably involved in a variety of functions, including metabolism, cell defense and rescue, protein folding and degradation, signaling, transport and development. This study might facilitate the targeted alteration of the extracellular matrix to generate bio-markers for effective engineering strategies for crop improvement program.

Development of extracellular matrix (ECM) phosphoproteome map in chickpea

Extracellular matrix (ECM) is evolutionary and inherently bestowed with information that can be both stored and relayed to cell interior via templating processes. Post-translational modifications of proteins, phosphorylation in particular, often serves as “on-and-off” switches in regulation of cellular activity. To investigate the reportier of phosphoproteins in extracellular matrix, a comprehensive ECM phosphoproteome map in chickpea using gel and non-gel based approaches was developed. Mass spectrometric analyses led to the identification of around 400 putative phosphoproteins and 541 phosphopeptides, which correspond to 602 phosphorylation sites. To address the functional distribution of the identified phosphoproteins, functional annotation and mapping was performed that revealed components presumably involved in a variety of cellular functions, viz., protein folding, signaling and gene regulation, transport, development and metabolism, among others. This inventory of ECM phospho-proteins would provide valuable insights into the dynamic regulation of cellular phenotype in plant and an understanding of role of PTMs involved in plant immunity.

Induced immune response of chickpea to a necrotrophic pathogen *Ascochyta rabiei*

Studies of resistance in the legume crop chickpea against its pathogen *Ascochyta rabiei* at a genetic level, point at the existence of two major QTLs, QTL_{AR1} and QTL_{AR2}, both located on the LG IV. On a genetic level, these two QTLs are known to undergo a complementary interaction. To understand the interactions at a molecular level, the regions of the QTLs were sequenced in two varieties of chickpea, one resistant to Ascochyta and the other susceptible and developed polymorphic molecular markers. Fine mapping in the QTL_{AR1} region delineated the cause of resistance to a region of four genes of which two are members of the AT-hook family

of plant proteins. Both these genes showed a differential expression in the resistant and susceptible varieties. Interestingly, two other members of the same family were found to occur in QTL_{AR2}. Fine mapping in this QTL and the molecular interaction of the possible candidate genes with those of QTL_{AR1} is under progress.

Isolation and functional characterization of genes from chickpea blight fungus *Ascochyta rabiei* which are involved in pathogenesis/virulence

Chickpea-*Ascochyta rabiei* interaction provides an efficient model to study the mechanisms by which necrotrophic pathogens establish disease and overcome host defense. Towards the functional characterization of *Ascochyta* genes isolated using SSH strategy, *Ar34* was found to express highly under oxidative stress as well as *in planta. In silico* analyses suggested that it belonged to the Old Yellow Enzyme (OYE) family of flavo-proteins and not many such proteins have been reported from filamentous fungi. Therefore, 424 OYE proteins from 60 different fungi were identified systematically and were classified into three distinct classes including a novel class (Class III). Comparative modelling studies provide insights into the FMN binding, active site organization and stereo preference of different classes of ArOYEs. Functional genomics studies revealed that ArOYE6 (Ar34) interacts with F-actin and plays key role in actin polymerization, hyphal tip growth, vesicular motility and plant infection.

Genome sequencing and comparative genome and transcritome analysis of necrotrophic phytopathogenic fungi

In order to unravel the factors/effectors involved in necrotrophic lifestyle of phytopathogenic fungi, it is aimed to sequence and annotate *A. rabiei* genome and transcriptome. The genome sequencing of *A. rabiei* using Illumina platform provided a total of 748,293,966 high quality sequence reads and 384 scaffolds. Additionally, *de novo* assembly of the transcriptome generated a total of 9883 tentative consensus (TC) transcripts in *A. rabiei.*

Understanding the molecular intricacies of *Rice-Rhizoctonia* interactions

The available genome sequences of two different strains of *R. solani* were mined to identified genes that are specific to AG1-IA, the important rice pathogen. Detailed computational analysis suggests several of them to encode important pathogenicity determinants. Three of them were highly up-regulated during in-planta growth of the pathogen in different genotypes of rice. Functional characterizations of these genes are in progress. During the year, interaction of a novel anti-fungal bacterium with several plant pathogenic fungi have been characterized. It has been demonstrated that it establishes mycophagous interactions with *R. solani.*

Role of CIPK6 in plant immunity

Calcineurin B-like proteins (CBLs) and their interacting kinases CIPKs (CBL-interacting protein kinases) are involved in numerous signaling pathways mediated by alterations in intracellular Ca^{+2} concentration. Importance of CBL-CIPK pathways has been demonstrated in a variety of abiotic stress signaling. However, their role in biotic stress response has not

been demonstrated in *A. thaliana* so far. We observed that an *A. thaliana* CIPK6 (AtCIPK6) loss-of-function mutant *(cipk6-/-)* showed reduced susceptibility to the bacteria *Pseudomonas syringae* (Pst DC3000), while *A. thaliana* plants overexpressing AtCIPK6 is more susceptible to bacterial infection. The *A. thaliana* mutant showed higher growth retardation in presence of bacterial elicitor molecule flg22. All these observations suggested that *A. thaliana* CIPK6 functions as negative regulator of plant immunity.

Post-transcriptional and epigenetic arms of RNA silencing: A defense machinery of naturally tolerant tomato plant against Tomato Leaf Curl New Delhi Virus

We evaluated the distribution of virus-derived short-interfering RNAs (siRNAs) throughout the *Tomato leaf curl New Delhi virus* (ToLCNDV) genome along with DNA methylation patterns in intergenic (IR) and Rep (AC1) regions in two contrasting tomato cultivars. The methylation pattern was correlated by expression analysis of key methyltransferases genes. It is assumed that both viral DNA methylation and siRNA-mediated RNA degradation play an important role in conferring tolerance against ToLCNDV.

Mapping of Mungbean Yellow Mosaic India Virus (MYMIV) resistance loci in Soybean

The recombinant inbred lines consisting of 100 progenies along with parents (susceptible cv. JS-335 × resistant cv. UPSM-535) were preliminarily phenotyped as resistant and susceptible based on the field evaluation in two hot spots. A low-depth whole-genome re-sequencing of the two parents identified 3083987 SNPs (1524431 in JS-335 and 1559556 in UPSM-534) and 562858 InDels (280900 in JS-335 and 281958 in UPSM-534). Using Bulk-Segregant-Analysis, a non-synonymous SNP (18-1861613) associated with MYMIV-resistance at the 149 base-pair (a G/C transversion) in the *LEUCINE-RICH REPEAT RECEPTOR-LIKE PROTEIN KINASE (LRR-RP)* gene (Glyma18g02850) was identified. The G to C transversion causes a codon change of CCC to GCC, resulting in a mis-sense non-synonymous substitution of proline to alanine. The SNP identified in the present study would serve as an important source for the improvement of disease resistance in soybean.

OsMPK7 has a role in imparting disease resistance against *Xanthomonas oryzae* pv. *oryzae* in rice

The role of OsMPK7, a group C MAP kinase in rice was investigated during *Xanthomonas oryzae* pv. *oryzae* (Xoo) infection. *X. oryzae* infection resulted in fast accumulation of OsMPK7 transcript. Transiently expressing OsMPK7 in rice leaves resulted in resistance against Xoo infection. There were reduced cell death when rice roots transiently expressing OsMPK7 were infected with Xoo. OsMKK3 was identified as upstream kinase of OsMPK7 and was able to impart resistance to rice leaves and roots when expressed transiently against *X. oryzae* infection. Taken together the results indicate a OsMKK3-OsMPK7 signaling module imparting defense against *X. oryzae* in rice.

Understanding combined stress tolerance mechanisms of *Arabidopsis* plants to bacterial pathogen infection and drought stress

Combined drought stress and pathogen infection is experimentally challenging. Optimum combined stress protocol was standardized. Later, the impact of drought stress followed by pathogen infection and visa versa on the *A. thaliana* plants was studied, and found that the combined impact of these two stresses on plants vary depending on which stress occurs first. Also, the severity of the initial stress influenced the negative or positive impact of initial stress on the subsequent stress. Molecular basis for these interactions are being studied.

G. EMERGING AREAS

Understanding the importance of Med15, a Mediator subunit, in plants

Med15 is an important subunit in the Tail module of Mediator complex. It has been reported to be targeted by many transcription factors in fungi and metazoans, suggesting its importance as a node for processing distinct transcriptional signals. Bioinformatic analyses indicate presence of Med15 in dicot model plant *A. thaliana* and monocot model plant rice. Yeast two hybrid screening to find the proteins interacting with Med15 in these two plants was performed. Our study suggests that activation domains of transcription factors like NAC and Myb target the KIX domain of Med15 in plants. The reagents are being made to understand the structural details and functional relevance of these interactions in rice and *A. thaliana.*

Mediator subunit *AtMed15* of *Arabidopsis* causes flocculation in yeast

The *Med15* gene was initially identified in yeast as a positive regulator of the genes encoding proteins that are involved in galactose metabolism, and hence originally called *Gal11.* Other than a couple of recent reports, not much is known about the function of Med15 in plants. It is to be known if *Arabidopsis* Med15 functioned in same way as Gal11 in yeast. Surprisingly, expression of *Arabidopsis Med15* cDNA in *Saccharomyces cervisiae* could not complement the function of *Gal11* in yeast for drug resistance and galactose metabolism, but drastically changed the morphology of the cells. The yeast cells harbouring *AtMed15* showed robust flocculation in liquid medium, and enhanced adhesiveness on solid medium. Moreover, there was significant increase in ethanol production by these yeast cells providing possibility of biotechnological applications. The *AtMed15* induced flocculation in yeast is constitutive as flocculation is observed throughout the cell growth, and is not affected by wide fluctuation of pH and temperature. Possibilities are being explored to see if *AtMed15* driven flocculation is suitable for exploitation in bioreactors as the cells are self-immobilized in flocs/pellets.

Molecular and functional characterization of Δ7-sterol-C-5-desaturase to explore its importance in plants

The Δ7-sterol-C-5-desaturase is an enzyme involved in ergosterol biosynthesis in yeast. In *A. thaliana,* it is known to be involved in phytosterol and brassinosteroid biosynthesis pathway. Generatation of tomato transgenic plants with Δ7-sterol-C-5-desaturase from *F. velutipes* to

introduce multiple beneficial traits like drought tolerance, increased iron content, essential fatty acids and pathogen tolerance is being aimed. To do this, RNAi and overexpression tomato transgenic lines using *Δ*7-sterol-C-5-desaturase have been developed. Molecular and biochemical analysis is under progress to gain insights into *Δ*7-sterol-C-5-desaturase function in tomato.

Characterization of miRNA generating complex in rice

During the biogenisis of miRNA, the miRNA generating complex sequentially process the primary transcript (pri-miRNA) of the *MIR* gene first to precursor-miRNA (pre-miRNA) and subsequently to mature-miRNA (miRNA). The miRNA generating complex consist of DCL1 (Dicer-like 1) and HYL1/DRB1 (dsRNA binding protein along with a scaffolding protein SE (Serrate). It was identified that *Arabidopsis* MAP kinase, AtMPK3 interacts and phosphorylates AtDRB1. In rice it was observed that OsMPK3 interacts and phosphorylates OsDRB1-1, OsDRB1-2 and OsDRB1-4. Microarray anaysis of miRNA in *atmpk3* mutant displays the upregulation of specifically a few miRNAs. All these results from two different model plants establishes the conserved regulatory mechanism involving MAP kinase pathway operating in both the plant species.

Dissecting the heterotrimeric G-protein signaling in polyploid *Brassica* crops

The research is focused towards investigating the structural, biochemical and functional evolution of heterotrimeric G-proteins signaling from economically important *Brassica* crops. We observe multiplicity of G-protein subunit genes across *Brassica* species, because of which the diploid *Brassica* progenitor species have a possibility of 12-15 G*αβγ* combinations; whereas the complex *B. juncea* genome encodes a total of 112 G*αβγ* heterotrimeric combinations, one of the largest G-protein repertoire identified from plant species, after soybean. The in-depth analysis on physical interaction coupled with co-expression pattern of the multiple G-protein subunit genes suggested that tissue-and condition-specific functional combinations of G*αβγ* heterotrimer may exist in polyploid *Brassica* crops, to control diverse growth and development processes. The yeast two hybrid protocols to screen novel interacting partner of G-proteins from different organs of *B. juncea,* have recently been deployed.

Publications and Patents

Publications

2014

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131. Wankhede DP, Misra M, Singh P and Sinha AK (2013) Rice mitogen activated protein kinase kinase and mitogen activated protein kinase interaction network revealed by *in-silico* docking and yeast two-hybrid approaches. **PLoS One** 8: e65011.

132. Yadav G, Anand S and Mohanty D (2013) Prediction of inter domain interactions in modular polyketide synthases by docking and correlated mutation analysis. **J. Biomol. Struct. Dyn.** 31: 17-29.

Patents

1. Chakraborty N, Chakraborty S, Jaiswal DK Mishra P, Subba P and Rathi D (2014) A method of producing stress tolerant plants [Indian Patent Application No. 8/DEL/2014].

2. Chakraborty N, Chakraborty S, Datta A, Wardhan V, and Kishwer J (2013) Polynucleotide encoding CaTLP1 protein and uses thereof [PCT Application No. PCT/IN2013/000302].

3. Chakraborty N, Chakraborty S, Verma J K, Gayali S, Dass S, Kumar A and Parveen S (2013) A method of producing stress tolerant rice plant [Indian Patent Application No. 3759/DEL/2013].

4. Chattopadhyay D, Yadav RK and Shukla RK (2013) Chimeric construct of Mungbean yellow mosaic India virus (MYMIV) and its uses thereof [US Patent No.8,435,732].

5. Datta A, Chakraborty N, Chakraborty S, Kamthan M and Kamthan A (2013) Polynucleotide associated ergosterol biosynthesis and uses thereof [Complete Indian Patent Application No.3671/DEL/2012]).

6. Datta A, Chakraborty S, Chakraborty N, Meli SV and Ghosh S (2013) Polynucleotide sequence of fruit softening associated *β*-D-*N*-acetylhexosaminidase and its uses for enhancing fruit shelf life [Singaporean patent No.167504].

7. Thakur JK, Dahiya P and Bhat DS (2013) Recombinant Microorganism and uses thereof [Complete Indian Patent Application No.3699/DEL/2012].

Technology/Products Developed/Transferred

- Low glucosinolate Indian *B. juncea* line(s), having total seed-glucosinolate content less than the internationally acceptable limit (30 µmoles/g seed DW) are currently being analyzed for their agronomical performance under the containment field conditions.

Activities of the Institute

Honours / Awards

Prof. Akhilesh K. Tyagi

- Professor S.K. Sinha Memorial Lecture Award 2013 by the Indian Society for the Plant Physiology (ISPP) during the National Conference of Plant Physiology held at Directorate of Groundnut Research, Junagadh, Gujarat, December 14, 2013.

Dr. Subhra Chakraborty

- An Inspiring Women Engineer/Scientist for the year 2014 – India's most inspiring women Engineer/Scientist by Engineering Watch.

Dr. Debasis Chattopadhyay

- Elected fellow of West Bengal Academy of Science and Technology, November 28, 2013.

Dr. Alok Krishna Sinha

- Dr. B.C. Deb Memorial Award from The Indian Science Congress Association, Kolkata in the year 2013.
- National Bioscience Award for Career Development, 2013 from Department of Biotechnology, Govt. of India.

Dr. Gitanjali Yadav

- Women Excellence Award (2013) by Science and Engineering Research Board (SERB), Department of Science & Technology, Govt. of India.

Dr. Mukesh Jain

- Annual Eminence Award 2014 in 'Agriculture' from Rawal Institutions, Faridabad.
- NASI-Scopus Young Scientist Award 2012 in 'Agriculture' from Elsevier.

Dr. Saloni Mathur

- Women Excellence Award (2013) by Science and Engineering Research Board (SERB), Department of Science & Technology, Govt. of India.

Dr. Jitender Giri

- NASI-Young Scientist Platinum Jubilee Award, 2013 by NASI, Allahabad.

Dr. Pinky Agarwal

- Women Excellence Award (2013) by Science and Engineering Research Board (SERB), Department of Science & Technology, Govt. of India.

International Visits

Prof. Asis Datta

- Visited Dhaka, Bangladesh to deliver a lecture in the International Conference on Biotechnology, CARES, May 25-26, 2013.

Dr. Debasis Chattopadhyay

- Visited Spain with DBT-Industry delegation for Academia-Industry collaboration, May 19-24, 2013.

Dr. Alok Krishna Sinha

- Visited the laboratory of Prof. Dierk Scheel's at Leibniz Institute for Plant Biochemistry, Halle Germany under DAAD Sandwich program, during June 20, 2013 to July 03, 2013.

Dr. Sabhyata Bhatia

- Visited Perth, Australia, to attend second international review meeting of the project proposal under Australian-Indian Strategic Research Fund (AISRF) scheme, August 30, 2013 to September 01, 2013.

Dr. Gitanjali Yadav

- Visited Keck Graduate Institute, Claremont, CA, USA, January 12-13, 2014.
- Visited Lawrence Livermore National Laboratory (LLNL), CA, USA, January 09-10, 2014.
- Visited Hawaii, USA to attended Pacific Symposium on Biocomputing 2014, January 3–7, 2014.

Dr. Mukesh Jain

- Visited Perth, Australia, to attend second international review meeting of the project proposal under Australian-Indian Strategic Research Fund (AISRF) scheme, August 29, 2013 to September 03, 2013.

Dr. Naveen C. Bisht

- Visited Max Planck Institute of Chemical Ecology, Jena, Germany as Max Planck India Fellow (2012), jointly funded by The Max Plank Society (Germany) and the Department of Science & Technology, Govt. of India, November 21, 2013 to December 24, 2013.

Invited Lectures

Prof. Akhilesh K. Tyagi

- University of Delhi South Campus on the occasion of "Fascination of Plants Day" organized by INSA and IUBS, May 2013.
- ICGEB, New Delhi, December 2013.
- Botany Department, University of Calcutta, February 2014.

Prof. Asis Datta

- Delivered lecture as key-note speaker at IIT-Guwahati- TECHNICHE, Assam, August 29, 2013.
- Delivered lecture as Chief Guest & Inaugural Address at International Conference on Plant Biotechnology, Molecular Medicine and Human Health, University of Delhi, South Campus, October 18, 2013.
- Delivered key-note address at 16th AICCG Meeting, Kerala University, Trivandrum October 22, 2013.
- Delivered lecture as Chief Guest in Indo-Japanese Joint Workshop by University of Hyderabad, December 16, 2013.
- Delivered lecture in 101st Session of Indian Science Congress, University of Jammu, Jammu, February 02, 2014.
- Delivered talk as Special invitee in Symposium on "Vistas of Life Sciences, Now and Beyond", School of Life Sciences, Jawaharlal Nehru University, during February 13-15, 2014.
- Delivered lecture as Chief Guest in Workshop Inauguration at Bose Institute, Kolkata, February 18, 2014.
- Delivered Valedictory lecture in the 19th Refresher Course at Academic Staff College (ASC), Jawaharlal Nehru University, March 7, 2014.
- Delivered Foundation Day Lecture at Kalyani University, March 30, 2014.
- Inaugurated and delivered inaugural lecture at the Lucknow Science Congress, March 26, 2014.

Dr. Niranjan Chakraborty

- Delivered talk in the Indo-French seminar on "Recent Trends in Proteomics" at Bangalore, April 06-08, 2013.
- Delivered lecture in the Indo-Netherlands discussion meeting on "Next-generation breeding for abiotic stress tolerance to increase food security" at University of Delhi, South Campus, New Delhi, May 22, 2013.

- ❖ Delivered lecture in the 86rd Orientation Course at Academic Staff College (ASC), Jawaharlal Nehru University, New Delhi, October 23, 2013.
- ❖ Delivered lecture in the 87th Orientation Course at Academic Staff College (ASC), Jawaharlal Nehru University, New Delhi, November 22, 2013.
- ❖ Delivered talk in the "5th Annual Meeting of the Proteomic Society of India" at Indian Institute of Sciences, Bangalore, November 28-30, 2013.
- ❖ Delivered talk in the 82nd meeting of the Society of Biological Chemists (India) at University of Hyderabad, Hyderabad, December 02-05, 2013.
- ❖ Delivered lecture in the 88th Orientation Course at Academic Staff College (ASC), Jawaharlal Nehru University, New Delhi, January 21, 2014.
- ❖ Delivered talk in the Indo-US symposium on "Mass Spectrometry based metabolomics in disease biology" at Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvanathapuram, January 23-24, 2014.
- ❖ Delivered talk in the workshop on "Recent Advances on Chemical Biology" at Manipur University, Imphal, March 24-26, 2014.

Dr. Subhra Chakraborty

- ❖ Delivered Fellowship Award lecture on the Foundation day and AGM, NAAS, New Delhi, June 4, 2013.
- ❖ Delivered lecture in the "INSPIRE Science Internship Camp" at Maharana Pratap College of Allied Sciences, Gwalior, August 7, 2013.
- ❖ Delivered lecture in the workshop on Proteomics, Biomarkers and Diagnostics: From Basic Research to Biomedical Applications at Regional Centre for Biotechnology, Gurgaon, October 21-25, 2013.
- ❖ Delivered a talk in the "International Conference on Biotechnology", GGSIP University, New Delhi, October 22-25, 2013.
- ❖ Delivered a talk in the 5th Annual meeting of the Proteomics Society of India, IISc, Bangalore, November 28-30, 2013.
- ❖ Delivered lecture in the 88th Orientation Course at Academic Staff College, Jawaharlal Nehru University, New Delhi, January 20, 2014.
- ❖ Delivered lecture in the workshop on Metabolomics at AB SCIEX Centre of Excellence, New Delhi, January 29, 2014.
- ❖ Delivered lecture in the 89th Orientation Course at Academic Staff College, Jawaharlal Nehru University, New Delhi, February 17, 2014.
- ❖ Delivered lecture in the National Conference on "The Science of Omics for Agricultural Productivity: Future perspectives", G.B. Pant University of Agriculture and Technology, Pantnagar, March 3-5, 2014.
- ❖ Delivered lecture in the Sensitization Workshop of DISHA-Women Societal Research Fellowship, Miranda House, New Delhi, March 07, 2014.

- ❖ Delivered lecture in the National Symposium on “National Symposium on Advances in Plant Molecular Biology and Biotechnology”, IISER, Pune, March 10-12, 2014.
- ❖ Delivered lecture in the Science Academies' sponsored workshop on Recent Advances in Chemical Ecology, Manipur University, Imphal, March 24-26, 2014.

Dr. Alok Krishna Sinha

- ❖ Delivered lecture on a topic entitled “Role of mitogen activated protein kinase in combating biotic stress in plants” at XII International conference on vector and vector borne diseases”, organized by Department of Zoology, Mohanlal Sukhadia University, Udaipur, September 16-18, 2013.
- ❖ Delivered lecture on a topic entitled “Understanding rice MAP Kinases: Roles in various biotic and abiotic stress responses” at 11th International Symposium on Rice Functional Genomics at New Delhi, India, November 20-23, 2013.
- ❖ Delivered lecture on a topic entitled “Versatility of Mitogen Activated Protein Kinase (MAPK) Cascade in Rice” on 17th December at Indo-Japanese workshop on “signal sensing and transduction in photosynthetic organisms from cyanobacteria to land plants” held at University of Hyderabad, December 16- 18, 2013.
- ❖ Delivered lecture on a topic entitled “Plant Biotechnology: Recent Developments” in a workshop organized by The Delhi Public School Society, Dwarka, February 09, 2014.
- ❖ Delivered lecture on a topic entitled “Multitude role of Mitogen Activated Protein Kinase (MAPK) Cascade in Rice” at national workshop on Genomics in Crop improvement at MD University, Rohtak, February 28, 2014.
- ❖ Delivered lecture on a topic entitled “Understanding rice MAP Kinases: Roles in various biotic and abiotic stress responses”at National Conference on “The Science of Omics for Agricultural Productivity: Future Perspectives” at G B Pant University of Agriculture and Technology, March 4-6, 2014.

Dr. Sabhyata Bhatia

- ❖ Delivered lecture on “Chickpea Genomic Resources” at the second International Project Meeting of “Genomic Approaches for Stress Tolerant Chickpea” under AISRF Grand Challenge in Australia, August 30, 2013 to September 01, 2013.

Dr. Manoj Prasad

- ❖ Delivered lecture on “Post-transcriptional & epigenetic arms of RNA silencing: a defense machinery in a naturally tolerant tomato plant against Tomato leaf curl New Delhi virus” in the International symposium on Indraprastha International Conference on Biotechnology (IICB-2013) at Guru Gobind Singh Indraprastha University, New Delhi, October 22-25, 2013.

- ❖ Delivered lecture on “Role of molecular phylogeny in estimating the archaeobotany of foxtail millet” at International Conclave on Understanding Life of the Bygone Eras: Emerging Trends at Birbal Sahni Institute of Palaeobotany, Lucknow, Uttar Pradesh, November 14-15, 2013.
- ❖ Delivered lecture on “Foxtail Millet No More an Orphan Crop” at 101th Indian Science Congress Association at University of Jammu, Jammu & Kashmir, February 4-5, 2014.
- ❖ Delivered lecture on “Foxtail Millet No More an Orphan Crop” at International Conference on Trends in Plant Science Research at Department of Botany, University of Calcutta, Kolkata, West Bengal, February 15-16, 2014.
- ❖ Delivered lecture on “Recent Advances in Crop Genomics for Ensuring Food Security” at National Workshop on Genomics in Crop Improvement at Maharshi Dayanand University, Rohtak, Haryana, February 27-28, 2014.
- ❖ Delivered lecture on “Foxtail millet: A model crop for genetic and genomic studies in bio-energy grasses” at National Conference on Science of Omics for Agricultural Productivity: Future Perspective at G B Pant University of Agricultural and Technical, Pantnagar, Uttarakhand, March 4-6, 2014.

Dr. Jitendra K. Thakur

- ❖ Delivered lecture in National Symposium on “Biotechnology in India: a Panoramic View”, organized by Department of Biotechnology, Goa University, February 25-26, 2014.
- ❖ Delivered lecture in National Conference on Current and Emerging Trends in Life Sciences, organized by Parvatibai Chowgule College of Arts and Science, Margao, Goa, March 18-19, 2014.

Dr. Gitanjali Yadav

- ❖ Delivered lecture on "Applications of Genomics to Crop Improvement & Agri-biotechnology" at Academic Staff College, JNU, New Delhi, April 05, 2013.
- ❖ Delivered lecture on “Leafy: The Master Regulator of Floral Transition” at International Institute of Information Technology, Hyderabad, April 17, 2013.
- ❖ Delivered Public Lecture on "Plant Genomics” at Jabalpur, September 21, 2013.
- ❖ Delivered lecture on "Systems Biology and Network Theory” KGI, Claremont, CA, USA, January 13, 2014.

Dr. Mukesh Jain

- ❖ Delivered lecture on Next generation genomics approaches for prioritization of Indian bioresources. In: Brain Storming session on "Prioritizing Research Areas on Bioinformatics for Documentation of Himalayan Bioresources and Discovery of Novel Molecules" and Co-chaired the session "Bioinformatics for Documentation of Himalayan Bioresources and Discovery of Novel Molecules" at GBPUAT, Pantnagar, July 12-13, 2013.

- ❖ Delivered lecture on Genome and transcriptome landscape in chickpea: A rich resource for functional and applied genomics at NABI, Mohali, Punjab, September 7, 2013.
- ❖ Delivered lecture on NGS: A revolutionary tool for functional and applied genomics in plants. In: NGS-IGIB 2013 at CSIR-IGIB, Mathura Road Campus, New Delhi, November 9-13, 2013.
- ❖ Delivered lecture on Next generation sequencing: A turbo for functional and applied genomics in crop plants. In: 2013 Next Gen Genomics & Bioinformatics Technologies (NGBT) Conference at CSIR-IGIB, Delhi, November 14-16, 2013.
- ❖ Delivered lecture on Next generation sequencing data analysis for identification of important genes and functional markers in crop plants. In: Workshop on Use of Bioinformatics in Crop Biotechnology at Meerut University, Meerut, UP, January 6-8, 2014.
- ❖ Delivered lecture on Next generation sequencing – Applications and implications in plants and clinic. In: National-level Training Program on Bioinformatics for Medical Research at IIT, New Delhi, February 13, 2014.
- ❖ Delivered lecture on Genome and transcriptome landscape: A blueprint for functional and translational genomics for crop improvement. In: National Workshop on Genomics in Crop Improvement at M. D. University, Rohtak, Haryana, February 27-28, 2014.

Dr. Ananda K. Sarkar

- ❖ Delivered lecture on Understanding the regulation of stem cells and patterning of lateral organs in plants at G B Pant University of Agriculture & Technology, March 05, 2014.

Dr. Gopaljee Jha

- ❖ Delivered lecture at Department of Agricultural Biotechnology and Molecular Biology, Rajendra Agricultural University, Pusa Samastipur, Bihar, February 2014.

Dr. Swarup K. Parida

- ❖ Delivered lecture on “Challenges and Prospects of Allele Mining in Genomics-assisted Breeding for Crop Improvement” at Indian Agricultural Statistics Research Institute, New Delhi, March 13, 2014.

Participation in National/International Conference/Workshops

Prof. Akhilesh K. Tyagi

- Delivered a talk in the International Consultation on "Molecular Genetics: Science-Technology-Regulation" at the M.S. Swaminathan Research Foundation, Chennai, April 29, 2013.
- Chaired a session and delivered a talk in the Symposium on "Emerging Trends in Plant Biotechnology" organized by Madurai Kamraj University, July 2013.
- Delivered a lecture in the Indraprastha International Conference on Biotechnology (IICB-2013) at IP University, Dwarka, October 22-25, 2013.
- Delivered lecture and Chaired the International Symposium on Rice Functional Genomics at New Delhi, November 20 – 23, 2013.
- Delivered a Plenary Lecture at Asian Congress on Biotechnology organized by IIT, Delhi at India Habitat Centre, New Delhi, December 16, 2013.

Prof. Asis Datta

- International Consultation on "Molecular Genetics: Science-Technology-Regulation", Chennai, April 29, 2013.
- Statutory Meeting of the ISCA, Kolkata, May 5, 2013.
- CSIR-NBRI Diamond Jubilee Celebration, Lucknow, May 17, 2013.
- Meeting of Expert group on Centre for Advance Research in Diabetes, MDRF, Siruseri Centre, Chennai, June 20, 2013.
- Meeting on a dialogue jointly between NASI and ICAR, in the NASC Complex, New Delhi, June 25, 2013.
- Meeting of CSIR Award for S&T Innovations for Rural Development, September 12, 2013.
- Meeting of the 6th Agriculture Leadership Summit 2013, Hotel Taj Palace, New Delhi, September 19-20, 2013.
- 75th meeting of the Board of Governors of IIT, Guwahati, September 26, 2013.
- Meeting of the Selection Committee of CSIR- IHBT, Palampur, October 3-5, 2013.
- Statutory Meeting of the Council of ISCA held at University of Jammu, Jammu, October 4, 2013.
- Inauguration of workshop on Biotechnology, CSIR-NCL, Pune, October 7, 2013.
- CSIR-NBRI Selection Committees meeting, October 17, 2013.
- 7th meeting of the Council of the (NITs), October 18, 2013.

- TWAS Regional Office Meeting, Bangalore, November 21-23 2013.
- Tenth Convention of the Biotech Research Society, Pune, November 24-25, 2013.
- 83rd Annual Session and Symposium on "Space for Human Welfare" at Goa University, Goa, December 5-7, 2013.
- Scientific Committee meeting at First Plant Proteomics Workshop, Department of Botany, University of Delhi, December 26-30, 2013.
- 2nd International Conference on Agricultural & Horticulture, February 03-05, 2014.
- 76th BOG meeting of IIT, Guwahati, February 26, 2014.
- 5th Management of Board of Governors of Academy of Scientific and Innovative Research (AcSIR), Chennai, March 24, 2014.

Dr. Niranjan Chakraborty

- Participated as an expert in the Indo-French seminar on "Recent Trends in Proteomics" at Bangalore, April 6-8, 2013.
- Participated in the Indo-US symposium on "Mass Spectrometry based metabolomics in disease biology" at Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvanathapuram, January 23-24, 2014.
- Participated in the workshop on "Recent Advances on Chemical Biology" at Manipur University, Imphal, March 24-26, 2014.

Dr. Subhra Chakraborty

- Attended the discussion meeting on Proteomics, CCMB, Hyderabad, July 13, 2013.
- Attended the opening program of the "Centenary Celebration" of Department of Botany, University of Calcutta, Kolkata, September 14-16, 2014.
- Attended the INSA-AASSA joint workshop on Women in Science, Education and Research, INSA, New Delhi, September 24, 2013.
- Attended the South Asia Bio-safety Conference and the workshops on "The Scientist as Public Communicator" and "Understanding Test Protocols–Design, Reporting and Data Interpretation", New Delhi, September 18-20, 2013.
- Attended the Proteomics Society (India) Meeting, IISc, Bangalore, November 27-30, 2013.
- Participated in the "International Conference on Biotechnology", GGS IP University, New Delhi, October 22-25, 2013.
- Participated in the workshop on Proteomics, Biomarkers and Diagnostics: From Basic Research to Biomedical Applications at Regional Centre for Biotechnology, Gurgaon, October 21-25, 2013.
- Attended the Annual meeting of the Proteomics Society of India, IISc, Bangalore, November 28-30, 2013.

- Participated in the workshop on Metabolomics at AB SCIEX Centre of Excellence, New Delhi, January 29, 2014.
- Participated in the National Conference on "The Science of Omics for Agricultural Productivity: Future perspectives", G.B. Pant University of Agriculture and Technology, Pantnagar, March 3-5, 2014.
- Participated in the Sensitization Workshop of DISHA-Women Societal Research Fellowship, Miranda House, New Delhi, March 07, 2014.
- Attended the meeting on India's most inspiring women Engineer/Scientist by Engineering Watch, New Delhi, March 08, 2014.
- Participated in the National Symposium on "National Symposium on Advances in Plant Molecular Biology and Biotechnology", IISER, Pune, March 10-12, 2014.
- Participated in the Science Academies' sponsored workshop on Recent Advances in Chemical Ecology, Manipur University, Imphal, March 24-26, 2014.

Dr. Debasis Chattopadhyay

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

Dr. Alok Krishna Sinha

- Participated in "XII International conference on vector and vector borne diseases", organized by Department of Zoology, Mohanlal Sukhadia University, Udaipur, September 16-18, 2013.
- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.
- Participated in Indo-Japanese workshop on "Signal sensing and transduction in photosynthetic organisms from cyanobacteria to land plants" at University of Hyderabad, December 16-18, 2013.
- Participated in National Workshop on Genomics in Crop improvement at MD University, Rohtak, February 28, 2014.
- Participated in National Conference on "The Science of Omics for Agricultural Productivity: Future Perspectives" at G B Pant University of Agriculture and Technology, March 4-6, 2014.

Dr. Sabhyata Bhatia

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

Dr. Manoj Prasad

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

Dr. Jitendra K. Thakur

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.
- Participated in the National Symposium on "Biotechnology in India: a Panoramic View", organized by Department of Biotechnology, Goa University, Goa, February 25-26, 2014.
- Participated in 25thBTISnet Annual Coordinators Meeting held at NIO, Goa, February 27-28, 2014.
- Participated in National Conference on Current and Emerging Trends in Life Sciences, organized by Parvatibai Chowgule College of Arts and Science, Margao, Goa, March 18-19, 2014.

Dr. Gitanjali Yadav

- Participated in one day symposium on Computational Natural Sciences and Bioinformatics (CCNSB), at International Institute of Information Technology, Hyderabad, April 17, 2013.
- Chief Guest and key Speaker at JIGYASA–A Science Popularization Program Series of Mahakoshal Vigyan Parishad, at Jabalpur, September 21, 2013.
- Participated in the Continuous Education Program (CEP) on "From Functional Genomics to Systems Biology", at Defence Institute of Physiology and Allied Sciences (DIPAS), New Delhi, September 23-27, 2013.
- Attended Pacific Symposium on Biocomputing, PSB- 2014: Big Island of Hawaii, USA, January 03–07, 2014.

Dr. Mukesh Jain

- Participated in Brain Storming session on "Prioritizing Research Areas on Bioinformatics for Documentation of Himalayan Bioresources and Discovery of Novel Molecules" at GBPUAT, Pantnagar, India, July 12-13, 2013.
- Participated in Indraprastha International Conference on Biotechnology (IICB 2013) at GGS Indraprastha University, New Delhi, India, October 22-25, 2013.
- Participated in NGS-IGIB 2013 at CSIR-IGIB, Mathura Road Campus, New Delhi, India, November 9-13, 2013.
- Participated in 2013 NextGen Genomics & Bioinformatics Technologies (NGBT) Conference at CSIR-IGIB, Delhi, India, November 14-16, 2013.
- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

- Participated in the workshop on Use of Bioinformatics in Crop Biotechnology at Meerut University, Meerut, UP, January 6-8, 2014.
- Participated in the National-level *'Training Program on Bioinformatics for Medical Research'* at IIT, New Delhi, February 10-21, 2014.
- Participated in the National Workshop on Genomics in Crop Improvement at M. D. University, Rohtak, Haryana, February 27-28, 2014.

Dr. Naveen C. Bisht

- Participated in "International Symposium on Plant Signaling and Behavior 2014", at Department of Botany, University of Delhi, Delhi, India, March 7-10, 2014.

Dr. Ananda K. Sarkar

- Participated in 3rd Ramalingaswami fellows conclave meeting, organized by NCCS & DBT at Pune, September 12-14, 2013.
- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.
- Delivered lecture in the workshop on "Science of omics for agricultural productivity: future perspectives" at G B Pant University of Agriculture & Technology, Pantnagar, March 05, 2014.

Dr. Gopaljee Jha

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.
- Participated in 4th International Conference on Bacterial Blight of Rice at CCMB, Hyderabad, December 02-04, 2013.

Dr. Saloni Mathur

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

Dr. Senthil Kumar Muthappa

- Participated in the Ramalingaswami Fellows conclave meeting of DBT, Pune, September 12-14, 2013.
- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.
- Participated in the Young Investigators meeting of India BioScience, Hyderabad, February 8-12, 2014.

Dr. Pinky Agarwal

- Participated in "11th International Symposium on Rice Functional Genomics (ISRFG)" at New Delhi, India, November 20-23, 2013.

Visitors to the Institute

- A Malaysian Delegation led by **Dr. Mohd. Nazir Bin Basiran,** Director General, Institute of Agro-Biotechnology, Ministry of Science, Technology and Innovation, Malaysia visited NIPGR on August 20, 2013 to exchange briefings on biotech potential of collaboration as well as transfer of knowledge and technology to Malaysia. The other members of the delegation were **Dr. Lai Kok Song,** Sr. Research Officer; **Dr. Chan Pick Kuen,** Sr. Research Officer of above Institute.

- **Prof. Mesbahuddin Ahmad,** President, Bangladesh Academy of Sciences (BAS) & Former Vice Chancellor of National University, Bangladesh; **Prof. Mesbahuddin Ahmed,** General Secretary, BAS & Former Vice Chancellor, Jagannath University, Bangladesh; **Prof. Zeba Islam,** Professor in Biochemistry & Molecular Biology Department, University of Dhaka; **Prof. Haseena Khan,** Department of Biochemistry and Molecular Biology, University of Dhaka visited NIPGR on September 19, 2013 to discuss possible areas of collaboration and exchange of views.

- **Prof. Peter Coaldrake,** VC, Queensland University of Technology (QUT) and **Prof. Sheel Nuna,** Director-South Asia, QUT, Australia visited NIPGR on November 4, 2013 for cooperative educational exchange in areas of academic interest.

- **Dr. Roger Beachy,** Director, National Institute of Food and Agriculture, USDA visited NIPGR on December 11, 2013 to discuss some scientific issues with Prof. AkhileshTyagi, Director, NIPGR.

Study Tours at the Institute

The students from the following Universities/Colleges/School(s) visited NIPGR to familiarize themselves with the frontier research being carried out at NIPGR and interacted with the faculty.

- Class-XII students of Tagore International School, Vasant Vihar on May 9, 2013.
- B. Tech. (Biotechnology) and B. Tech. (Bioinformatics) students from Tamil Nadu Agricultural University, Coimbatore on September 26 -27, 2013.
- Students from Hans Raj College, University of Delhi on October 10, 2013.
- M.Sc. (Biotechnology) students from University of Burdwan West Bengal on November 29, 2013.
- B.Sc. (Biotechnology & Genetics) students from Seshadripuram First Grade College, Bangalore on January 2, 2014.
- Botany (H) students from Gargi College, University of Delhi on February 11, 2014.
- M.Sc. (Biotechnology) students from Sambalpur University, Orissa on March 5, 2014.
- B.Sc. (Life Science) students from Hans Raj College, University of Delhi on March 12, 2014.

Symposia/Workshop/Special Lectures Organized

Annual Student Research Symposium – SciEfflux-2013 (August 2-3, 2013)

The Institute organized a two day Student Research Symposium during August 2-3, 2013. On this occasion, the 2nd and 4th year students of the Institute delivered their presentations related to theme & progress of their research followed by a cultural event "RAINBOW".

Inauguration of Annual Student Research Symposium – SciEfflux-2013

Students performing in the cultural event "RAINBOW"

11th International Symposium on Rice Functional Genomics on Sustaining Food & Nutritional Security (November 20-23, 2013)

The 11th International Symposium on Rice Functional Genomics (ISRFG11) on the theme entitled "Sustaining Food & Nutritional Security" was held at the hotel "The Grand", Vasant Kunj, New Delhi during November 20 – 23, 2013. This much awaited event was organized jointly by the National Institute of Plant Genome Research, New Delhi and the University of Delhi South Campus under the auspices of Department of Biotechnology, Govt. of India. It was held under the Chairmanship of Prof. Akhilesh K. Tyagi, Director, NIPGR and Co-Chairmanship of Prof. Jitender P. Khurana, UDSC.

The first ISRFG was held in Shanghai, China, in the year 2003. It has been a regular annual event ever since and has helped rice researchers enormously to exchange ideas and develop international collaborations. Holding these symposia in various countries on rotational basis annually in Tucson (2004), Manila (2005), Montpellier (2006), Tsukuba (2007), Jeju (2008), Manila (2009), Bento Goncalves (2010), Taipei (2011) and Chiang Mai (2012) has also served the purpose of enlarging the resource base and bringing greater awareness to scientific community.

Prof. Jitender P. Khurana, UDSC; Prof. Dinesh Singh, VC, University of Delhi; Prof. Qifa Zhang, Huazhong Agricultural University, China; Dr. M.S. Swaminathan, MSSRF, Chennai; Dr. Manju Sharma, former Secretary, DBT and Prof. Akhilesh Tyagi, Director, NIPGR

About 460 registered participants, including 86 speakers from different institutions/ universities, coming from varied genre of rice research, representing around 15 countries, actively participated in the four-day Symposium. There were more than 100 participants from abroad. The Symposium started with the Keynote Address by the Father of Green Revolution in India, Dr. M.S. Swaminathan, who gave an insightful presentation of his views on food and nutritional security. There were Plenary lectures, Concurrent Sessions, Panel Discussion, Poster Sessions and other opportunities to interact. The oral presentations covered areas like Abiotic Stress, Architecture & Development, Biotic Stress, Comparative & Evolutionary Genomics, Epigenomics, Food & Nutrition, Informatics & Systems, Molecular Breeding, Small RNA, and Translational Genomics. The Panel Discussion on the Role of Rice Functional Genomics in Sustaining Food & Nutritional Security was co-chaired by Prof. K Vijay Raghavan, Secretary, DBT, Government of India, and Dr. Swapan K Datta, DDG, ICAR. Besides, a cultural evening, presenting Indian folk dance and music, was also organized to provide a glimpse of our rich cultural heritage to the participants.

Various strategies were highlighted in relation to the world hunger and issues related to Indian scenario. It provided a big platform to the budding researchers in India. It gave an opportunity for them to acquaint themselves with the research endeavours and interact with the international rice research fraternity. The Symposium also highlighted the areas of research that must be explored further to make a world which is more secure and sustainable in food and nutritional requirements.

Foundation Day (December 10th, 2013)

The Institute celebrated its 15th Foundation Day by organizing “J. C. Bose Memorial Lecture” on Tuesday, December 10th, 2013. On this occasion, Professor Anil K. Gupta, Indian Institute of Management, Ahmedabad, delivered the lecture on “Crucible of crop diversity: Partnership with farmer breeders and innovators”. Besides, researchers/students of the Institute were facilitated with medals/mementos for the best scores in Ph.D. course work and for best presentation in Students Research Symposium 2013. The invited guests from nearby institutions as well as staff and students of the Institute attended the function.

Professor Anil K. Gupta, lighting a Lamp on the occasion of 15th Foundation Day of NIPGR

Musical presentation by the Sarod Maestro Pandit Biswajit Roy Chowdhury on the occasion of 15th Foundation Day of NIPGR

National Workshop on "National workshop and hands on training about plant gene repository and plant gene database handling", (February 20-22, 2014)

The National Plant Gene Repository (NAPGER) at NIPGR organized the "National Workshop and Hands on Training on Plant Gene Repository and Plant Gene Database Handling" during February 20-22, 2014. The main goal of the workshop was to familiarize the participants with the advances in Plant Gene Repositories, Plant Gene Databases resources and technologies available in the field. A total of 10 participants including Faculty, Scientists, and students from Universities/Government Departments/Colleges/Research Institutions joined the workshop and the training program. The sessions of the workshop included lectures in the area followed by hands on practical sessions. Dr. Subhra Chakraborty, the Co-ordinator, NAPGER gave an overview and importance of plant gene database and gene repository in plant research and sustainable agriculture. The valedictory session included distribution of certificates by Prof. Akhilesh K. Tyagi, Director, NIPGR and an interaction of the Director with all the participants. The participants gave a very positive feed-back on the workshop. The workshop organizing team extend their thanks to NIPGR administrative support for making the event successful. It is hoped to continue such workshops and training program and improve upon the effort in future.

Participants during the Workshop

Monthly Seminar Series (2013-2014)

The Institute organized the "Monthly Seminar Series" (initiated in the year 2009) in the year 2013-14 by inviting renowned scientists to present their work, for the benefit of the students and young researchers of the Institute. Dr. Gitanjali Yadav and Dr. Ananda Kumar Sarkar, Scientists of the Institute, have been entrusted with the work to organize the activities of the Seminar Series. The Seminar Series includes the inaugural lecture, by the new faculty member(s) of the Institute and lecture by the invited speaker.

During the period under report, the following lectures were organized at the Institute as part of "Monthly Seminar Series:

Name of the scientist/invited speaker	Lecture	Date
Dr. Narendra Tuteja, International Center for Genetic Engineering and Biotechnology, New Dehli	New emerging power of a DNA/RNA helicase in developing environmental stress tolerant transgenic crops without yield penalty	July 29, 2013
Dr. Brande Wulff, John Innes Centre, Norwich, UK	Cloning disease resistance genes for crop improvement	August 23, 2013
Dr. Senjuti Sinharoy, Postdoctoral Fellow, Samuel Roberts Noble Foundation, USA	Reverse and forward genetic approaches to dissect symbiotic nitrogen fixation in legumes	September 25, 2013
Dr. Aashish Ranjan, Postdoctoral Fellow, University of California, Davis, USA	Analyzing plant structure and function in the age of omics	November 15, 2013
Dr. Shyam Masakapalli, Research Officer, Department of Biology & Biochemistry, University of Bath, UK	Metabolic systems biology – flux analysis of plant metabolic networks	December 06, 2013
Dr. Ranjan Swarup, University of Nottingham, UK	Characterization of Auxin Influx Carrier in *Arabidopsis thaliana*	December 30, 2013
Dr. Jagadis Gupta Kapuganti, University of Oxford, UK	Pathways and emerging roles of nitric oxide in plants	January 27, 2014
Dr. Saikat Bhattacharjee, Regional Center for Biotechnology, DBT, India	Effector-triggered immunity: Disturbances in associations of negative and positive	March 31, 2014

Academic Courses and Training Programmes

Ph. D. Programme

As in the previous years, the response for admission to Institute's Ph. D. programme was very encouraging this year also. The candidates are selected after a national level test/interview conducted by NIPGR. Only CSIR/UGC/DBT-JRF/ICMR Fellowship awardees are eligible to apply. The selected scholars are first required to do course work, which is followed by research work on different areas on Plant Genomics in various laboratories. A total number of 169 students have registered for the Programme leading to Ph. D. degree to JNU since the Academic year 2001-2002, and out of these, 51 students have been awarded with Ph. D. degree, & the rest are at various stages of their Ph. D. work.

Students enrolled for Ph.D programme 2013-14

Sl. No.	Name of the Student	Name of the Supervisor / Joint Supervisor
1.	Ms. Divya Mishra	Dr. Niranjan Chakraborty
2.	Ms. Pooja Choudhary	Dr. Subhra Chakraborty
3.	Mr. Rajkamal Choudhary	Dr. Debasis Chattopadhyay
4.	Ms. Deepanjali Verma	Dr. Alok Krishna Sinha
5.	Mr. Prakash Kumar Bhagat	Dr. Alok Krishna Sinha
6.	Mr. Manish Tiwari	Dr. Sabhyata Bhatia
7.	Ms. Shreya Saha	Dr. Praveen Verma
8.	Mr. Amish Kumar	Dr. Gitanjali Yadav
9.	Mr. Mohan Sharma	Dr. Ashverya Laxmi
10.	Mr. Anil Kumar Pole	Dr. Mukesh Jain
11.	Mr. Pawan Kumar	Dr. Naveen C. Bisht
12.	Mr. Pramod Kumar	Dr. Ananda K. Sarkar
13.	Ms. Isha Tyagi	Dr. Gopaljee Jha
14.	Mr. Srayan Ghosh	Dr. Gopaljee Jha
15.	Mr. Sombir	Dr. Saloni Mathur
16.	Ms. Urooj Fatima	Dr. Senthil K. Muthappa
17.	Ms. Aarzoo Qamar	Dr. Senthil K. Muthappa
18.	Ms. Swati Sharma	Dr. Jitender Giri
19.	Mr. Shouvik Das	Dr. Swarup K. Parida
20.	Ms. Akanksha Panwar	Dr. Pinky Agrawal

Ph. D. Degrees awarded to NIPGR Scholars

The Jawaharlal Nehru University, New Delhi, awarded the degree of Doctoral of Philosophy to the following scholars of the Institute during the year under report:

Sl.No.	Name of the Student	Thesis Title	Name of the Supervisor
1.	Ms. Harmeet Kaur	Molecular analysis, biochemical study and physiological significance of L-*myo*-inositol 1-phosphate synthase from drought tolerant leguminous plant	Dr. Manoj Majee
2.	Ms. Pratigya Subba	Identification of dehydration-responsive phospho-proteins in chickpea *(Cicer arietinum)*L.	Dr. Niranjan Chakraborty
3.	Mr. Santosh Kumar	Role of microsatellites in plant gene regulation	Dr. Sabhyata Bhatia
4.	Ms. Sonika Gupta	Study on water-deficit stress responsive secretome of chickpea *(Cicer arietinum* L.).	Dr. Niranjan Chakraborty
5.	Ms. Eman Abd El-Rashed Abd El-Kader Mahmmed Elagamey	Study of disease responsive extra-cellular matrix proteome/ phosphoproteome during vascular wilt and development of wilt resistant crop	Dr. Subhra Chakraborty
6.	Ms. Vishmita Sethi	Investigation of overlapping functions of ZBF1/ MYC2 in MAPK and light signaling pathways in *Arabidopsis* seedling development	Dr. Alok Krishna Sinha
7.	Mr. Mohammad Irfan	Molecular and regulatory mechanism of N-glycan processing enzymes e.g. α-D-mannosidase and β-D-n-acetylhexosaminidase during fruit ripening	Prof. Asis Datta
8.	Mr. Upendra Kumar Singh	Cloning and functional characterization of ripening specific geraniol inducible genes	Prof. Asis Datta

Research Scholars other than Ph.D. students associated with NIPGR

Research Associates

Abira Chaudhary
Aiswarya Baruah
Ansuman Roy
Arvind Kumar
Ayushi Kamthan
Chandrabhan Yadav
Debaleena B. Chattopadhyaya
Divya S. Bhat
Gunjan Kumari
Gunjan Pandey
Gunjan Roy
Kamal Kumar
Kunal Singh
Lalit Agrawal
Maneesha S. Saxena
Malini Nagulapalli
Meenu
Mohammad Irfan
Papri Nag
Pradipto Mukhopadhyay
Pratigya Subba
Rajesh Ghangal
Rehna Augustine
Renu Kumari
Santosh Kumar
Sarika Gupta
Saurabh Badoni
Sourabh Saxena
Subhasis Samanta
Suchismita Das
Supriya
Swati Puranik
Tapan Kumar Mohanta
Tirthankar Bandopadhyay
Toshiba Haider
Upendra K. Singh
Vigya Kesari
Vinay Kumar
Yash Paul Khajuria

Project Fellows

A. Paul
Aarti Gupta
Abhishek Mazumder
Akhilesh Mishra
Alok Patel
Amit Kumar
Anil Kumar
Apoorva Bhatnagar
Astha Agarwal
B. V. Suresh
Chevala V.V.S. Narayana
Deepa Kumari Ruhela
Pratima Sharma
Priyanka Ghorai
Priyanka Verma
Protiti Maiti
Purnima Singh
Raghavendra Sharma
Rajeev Kumar
Rajesh K. Gazara
Ramila Yadav
Ranjita Sinha
Rashmi Gaur
Richa Pasrija

Deepak Bajaj
Dinesh Kr. Jaiswal
Gargi Pal
Gopal Mishra
Ishita Chandel
Jitendra K. Verma
Juhi Kumari
Jyoti Agarwal
Kanhu Moharana
Karishma
Kumari Veena Sinha
Meenakshi Sharma
Mohit Verma
Navjyoti Sahoo
Nidhi Maheswari
Nitesh Bandhiwal
Pooja Chowdhury
Poonam Mishra
Pramila Yadav
Pranav Pankaj Sahu
Sabiha Praveen
Shilpi Nidhi
Shubhendu Shekhar
Shweta Goyal
Shweta Singh
Sneha Tiwari
Sombir
Srinivas Nimmarajula
Sudip Ghosh
Suresh
Sushmita Biswas
Suvakanta Barik
Tanima Shree
Thakkar Bijal
Vanika Garg
Vikas Srivastava
Vikash Singh
Vikramjit Mondal
Yusuf Khan

Training Programme

The Institute accepts students from different Universities/Institutes as trainees and provides them facilities and guidance. A list of students from various universities/institutions trained by faculty of the Institute is given below:

1.	Ankur Nagar	Amity Institute of Virology & Immunology, Amity University, Noida, Uttar Pradesh
2.	Annvi Dhaka	University of Rajasthan, Jaipur
3.	Anuradha Kumari	Maulana Azad National Institute of Technology, Bhopal
4.	Ashok	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh
5.	Astha Agarwal	Jamia Hamdard University, New Delhi
6.	C. Rathipriya	Bharathidassan University, Tiruchirapalli
7.	Chnadana Konidala	Sree Vidyanikethan Engineering College, Tirupathi, Andhra Pradesh
8.	Kanika Gupta	Banasthali Vidyapith, Rajasthan
9.	Lisharanee Parida,	Orissa University of Agriculture and Technology, Bhubaneswar, Odisha
10.	Mudraboiena Harshitha	National Institute of Technology Raipur, Chattisgarh
11.	Namo Dubey	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh
12.	Nikita Sharma	Amity University, Haryana
13.	Pallavi	Under SRFP Program of IASc, Pantnagar
14.	Pooja Srivastava	Amity University, Noida, Uttar Pradesh
15.	Pradeep Kumar	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh
16.	Priyanka Dubey	Veer Bahadur Singh Purvanchal University, Jaunpur, Uttar Pradesh
17.	Priyanka Kumari	Banasthali Vidyapith, Rajasthan
18.	Puneet Singh Bisht	Jamia Millia Islamia University, New Delhi
19.	Rohit Khandelwal	University of Rajasthan, Jaipur
20.	Sajita	Jamia Millia Islamia University, New Delhi
21.	Samrat Ganguly	Haldia Institute of Technology, West Bengal
22.	Satish Kumar	Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh
23.	Saurabh Pant	Under SRFP Program of IASc, Pantnagar
24.	Shuvhi Gupta	Banasthali Vidyapith, Rajasthan
25.	Sudipta Bhattacharya	Amity University, Noida
26.	Sugandha Singhal	Banasthali Vidyapith, Rajasthan
27.	Tanmayee Rath	Orissa University of Agriculture & Technology, Bhubaneswar, Odisha
28.	Upma Singh	University of Rajasthan, Jaipur

Other activities at NIPGR

NIPGR Sub-DIC Facility (DISC)

The Distributed Information Sub Centre (DISC) at the NIPGR was established in 2007 and aims to serve as a support structure for all IT related issues at the institute, in addition to providing computational facilities, bioinformatics related services to the researchers in various laboratories at the Institute. The major objectives of the center are to develop software, database and other tools required for creating infrastructure in the field of (a) plant genomics, proteomics and plant molecular biology and to conduct training programs to make users aware of available facilities in plant computational (b) biology and its applications. The center specializes in comparative genomics and stress biology of plants. Major activities of the center during the current year included algorithm development, database construction and online web server designing both research areas, as well as training of researchers under short and long term programs, at both individual and group levels. At the individual level, two students were trained for six months in Bioinformatics in the laboratory, whereas at the group level, lectures and hands-on demonstrations were imparted by DISC staff in the area of computational biology at conferences and workshops organized by various universities in and outside Delhi. The DISC facility has an in-house reference manager, an essential oil database, a server for analysis of plant-sugar interactions, and a large collection of commercial and public domain software covering a wide range of applications like sequence and structure analysis, molecular modeling and simulations, structure prediction and drug design. In the area of complex network analysis, the facility has developed an automated method for inducing and analyzing the effects of perturbations in complex systems defined by networks.

National Plant Gene Repository (NAPGER)

In India, different R&D institutions and Universities besides The National Institute of Plant Genome Research (NIPGR) are intensely involved in plant genomics research. Recently completed work of rice, tomato, potato and chickpea genome sequences, on-going effort on sequencing other crop along with different EST, RNA-Seq-based projects are giving out many novel and important genes and promoters. However, the large sets of these items are scattered in various laboratories all over the country. It is thus a difficult task to find the components one wants from various individual sources. Therefore, proper cataloging, documentation, storage, maintenance and distribution of various gene libraries, clones, and promoters are pre-requisites, which would help functional and application genomics, the next steps in gene revolution. Further, these efforts are also important in the new era of patent regime. Towards this, the Department of Biotechnology has set up National Plant Gene Repository (NAPGER) at National Institute of Plant Genome Research to serve as National facility. NAPGER has come in to existence during 2008. The activities of NAPGER are (1)

storage and distribution of genes, promoters and ESTs in form of DNA clone, library, etc. and (2) to develop a database for all stocks and other information. During the first phase setting up the infrastructure, procurement of instruments, recruitment of project staffs, formulation of guidelines for procurement of materials and their distribution to public and private sector have been successfully done. The research protocols to be followed in NAPGER have been developed and the recruited manpower had been trained. Identification of potential Indian laboratories involved in genomics research and development of the NAPGER web page has been completed. The web enabled database and information regarding NAPGER is available online at http://www.nipgr.res.in/facilities/facilities_napger.php. Further, the facility had been advertised and made online and all researchers have been encouraged to utilize this facility. NAPGER is fully functional and the deposited stocks are now been regularly maintained and ready for distribution. A National workshop had been organized on "National workshop and hands on training about plant gene repository and plant gene database handling" in February 2014. We regard this as an occasion to promote fellowship among researchers, to enhance their professional understanding through interaction, to establish communication for better research orientation in the field.

INSPIRE FACULTY AWARD

Project title : Epigenomics of stress adaptation in plants

Awardee : Rohini Garg

Research scholar : Romika Kumari

Various abiotic stresses are the major constraints on the productivity of chickpea. To understand the molecular mechanisms of abiotic stress response, it was required to identify the stress-responsive genes in chickpea. A genome-wide transcriptome analysis of desiccation, salinity and cold stress-responsive genes was carried out in chickpea. Differential expression analysis identified more than 11,640 chickpea transcripts including several 3,536 previously unannotated gene loci responsive to these stresses. The highest number of genes were differentially expressed in response to salinity (5,321) followed by cold (4,145) and desiccation (4,078) stresses in root. A total of 611, 984, and 465 genes were regulated in both roots and shoots under desiccation, salinity, and cold stress, respectively. Among these, 80 genes exhibited response to all the three stresses and 277 genes were responsive to any two stresses and the remaining 1,266 (301, 670, and 295 under desiccation, salinity, and cold stresses, respectively) genes were responsive to a specific stress condition only. Altered expression of a significantly large (43 %) fraction of genes was found belonging to various transcription factors (TF) families also under abiotic stress conditions in chickpea. Overall, extensive transcriptional reprogramming of genes involved in transcription regulation, energy metabolism, photosynthesis, hormonal responses, and secondary metabolite biosynthesis and osmoprotectant metabolism under stress conditions was observed. In addition, genes involved in post-translational modifications, RNA metabolic processes and epigenetic regulation were also significantly highlighted. The comprehensive transcriptome analyses presented in this study revealed several potential key regulators of

plant response to abiotic stresses. DNA methyltransferases in legumes have also been characterized (genome-wide identification, classification, structural modeling and comprehensive gene expression profiling). These MTases could be classified in MET, CMT, DRM and DNMT2 subfamilies based on their domain organization. Structural comparison of all the MTases in plants with known MTases in mammalian and plant systems assigned structural features in context of biological functions of these proteins. The structure analysis clearly specified regions crucial for protein-protein interactions and nucleosome binding in various domains of CMT and MET proteins. In addition, structural model of DRM suggested that circular permutation of motifs does not have any effect on overall structure of DNA methyltransferase domain. These results provide valuable insights into role of various domains in molecular recognition and should facilitate mechanistic understanding of their function in mediating specific methylation patterns. Further, the comprehensive gene expression analyses of DNA methyltransferases in legumes provided evidence of their role in various developmental processes throughout the plant life cycle and response to various abiotic stresses. Elucidating the epigenomic regulation of stress responses at whole genome level in chickpea is currently in process.

Construction Activities at the Institute

The construction works of buildings under Phase-II has been taken up by the Institute in previous years comprising Laboratory Block (15 labs) of approximately 6500 sq. mtr. area and residential Block-28 units of approximately 3269 sq. mtr. area. The dwelling units have been completed/taken over and allotted to the staff members of NIPGR. The work of Laboratory Block comprising of three storey building having two tissue culture labs & 13 general labs is also completed, and the buildings & installations are under process of taking over by the Institute.

It is expected that the Laboratory Block building will be commissioned during August, 2014.

Residential Block

New Laboratory Block

Grant-in-Aid Schemes

Sl. No.	Investigator / Co-Investigator	Title of the Scheme	Funded by
1.	Prof. Akhilesh K. Tyagi	Functional analysis of gene regulatory networks during flower and seed development in rice	DBT Govt. of India
2.	Prof. Akhilesh K. Tyagi	Association and genetic mapping of loci for seed size/weight in rice of Seed Biology	DBT Govt. of India
3.	Prof. Akhilesh K. Tyagi	J. C. Bose Fellowship	DST Govt. of India
4.	Prof. Asis Datta	Role of N-acetylglucosamine catabolic pathway in pathogens of human and plant	CSIR Govt. of India
5.	Prof. Asis Datta	Biotechnological approaches to improve nutritional and post-harvest quality, drought tolerance and pathogen resistance in edible crops	DBT Govt. of India
6.	Dr. Niranjan Chakraborty	Functional genomics of water deficit stress in chickpea of Next Generation Challenge Programme on Chickpea Genomics	DBT Govt. of India
7.	Dr. Niranjan Chakraborty	Molecular cloning & characterization of CaTLP1 dehydration responsive tubby like protien from chickpea	DBT Govt. of India
8.	Dr. Niranjan Chakraborty	Proteomic analysis of dehydration responsive endomembrane Fraction of Rice *(oryze sativa D.)*	CSIR Govt. of India
9.	Dr. Niranjan Chakraborty	Functional Proteomic Studies in North East Rice (Oryza sativa L.) for Dehydration Tolerance	DBT Govt. of India
10.	Dr. Subhra Chakraborty	National Plant Gene Repository at NIPGR	DBT Govt. of India
11.	Dr. Subhra Chakraborty	Analysis of diseases-responsive subcellular phosphoproteome in crop plants	DBT Govt. of India
12.	Dr. Subhra Chakraborty	Functional genomics of Seed development & nutrition of Next Generation Challenge Programme on Chickpea Genomics	DBT Govt. of India
13.	Dr. Subhra Chakraborty	Comparative metapolite profiling of transgenic and non-transgenic potato expressing AmA1 protein	DBT Govt. of India
14.	Dr. Debasis Chattopadhyay	Mechanism of genetic interaction between CIPK6 and CIPK25 in root development under National Bioscience Award for career Development 2010	DBT Govt. of India

15.	Dr. Debasis Chattopadhyay	Regulation of root development by auxin and cytokinin mediated signaling of Root Development and Nutrition	DBT Govt. of India
16.	Dr. Alok Krishna Sinha	Study of the role of Mitogen Activated Protein Kinase (MAPK) during rice root development of Root Development and Nutrition	DBT Govt. of India
17.	Dr. Alok Krishna Sinha	Investigation of cross talk between light and MAP kinase signaling pathways in *Arabidopsis thaliana*	DST Govt. of India
18.	Dr. Sabhyata Bhatia	Chickpea genome sequence analysis and its alignment to genetic map of Next Generation Challenge Programme on Chickpea Genomics	DBT Govt. of India
19.	Dr. Sabhyata Bhatia	Functional genomics of nodulation in chickpea root of Root Development and Nutrition	DBT Govt. of India
20.	Dr. Sabhyata Bhatia	Indo- Australian project Genomic Approaches for Stress Tolerant Chickpea	DST Govt. of India
21.	Dr. Praveen Verma	Isolation and functional characterization of genes from necrotrophic chickpea-blight fungus *Ascochyta rabiei* which are involved in pathogenesis during compatible interactions	DBT Govt. of India
22.	Dr. Praveen Verma	Analysis of chickpea response to *Ascochyta* infection and generation of ORFeome for target gene of Next Generation Challenge Programme on Chickpea Genomics	DBT Govt. of India
23.	Dr. Manoj Prasad	Mapping of Mungbean yellow Mosaic Virus resistance loci in soybean	DBT Govt. of India
24.	Dr. Jitendra K. Thakur	Functional Study of Mediator Complex, a Transcriptional Co-activator, in Plant Growth and Development	DBT Govt. of India
25.	Dr. Jitendra K. Thakur	Elucidation of Protein level interactions to Define Arrangement of subunits in the Plant Mediator Complex	DBT Govt. of India
26.	Dr. Jitendra K. Thakur	DNA methylation and histone (H3K9Ac and H3K27me3) markings during seed development in two rice varieties with contrasting seed size/weight of Seed Biology	DBT Govt. of India
27.	Dr. Gitanjali Yadav	*In Silico* bioprospecting by analysis of plant stress response pathways	DBT Govt. of India
28.	Dr. Gitanjali Yadav (Scientist Incharge)	Establishment of Distributed Information Sub-Centre (DISC)	DBT Govt. of India
29.	Dr. Gitanjali Yadav	START domains in Plants: Epigenetics & Evolution under Women Excellence Award Scheme	DST Govt. of India

30.	Dr. Ashverya Laxmi	To Study the role of glucose and its interaction with hormones in controlling *Arabidopsis thaliana* root directional responses of Root Development and Nutrition	DBT Govt. of India
31.	Dr. Ashverya Laxmi	To study the interaction between cytokinin and sugar signal transduction pathway in model plant system *Arabidopsis thaliana*	DBT Govt. of India
32.	Dr. Manoj Majee	Molecular and biochemical study of Protein L-Isoasparty1Methyltransferase (PIMT) and its biological role in seed vigor, viability and stress tolerance in rice	DBT Govt. of India
33.	Dr. Mukesh Jain	Role of Homeobox Genes in Abiotic Stress Responses in Rice	DST Govt. of India
34.	Dr. Mukesh Jain	Functional genomics approaches in understanding the regulation of flowering and synthesis, and accumulation of apocarotenoids in saffron crocus (Crocus sativus L.)	DBT Govt. of India
35.	Dr. Mukesh Jain	Transcriptome and epigenome diversity analysis during seed development for discovery of molecular markers and gene regulatory mechanism in chickpea of Seed Biology	DBT Govt. of India
36.	Dr. Naveen C. Bisht	Development of low Glucosinolate Brassica Juncea transgenic lines using RNAi based down-regulation of glucosinolate pathway genes	DBT Govt. of India
37.	Dr. Naveen C. Bisht	Tissue specific engineering of glucosinolate content and profiles in Indian oilseed mustard (Brasica juncea) for higher nutritional value and uncompromised defense response	DBT Govt. of India
38.	Dr. Ananda K. Sarkar	Ramalingaswami Fellowship	DBT Govt. of India
39.	Dr. Ananda K. Sarkar	Molecular characterization of variation in root system architecture among selected Indica rice varieties of Root Development and Nutrition	DBT Govt. of India
40.	Dr. Gopaljee Jha	Gold nanoparticles based simple, quick and onsite early diagnostic kit for apple scab disease	DBT Govt. of India
41.	Dr. Senthil K. Muthappa	Ramalingaswai Fellowship	DBT Govt. of India
42.	Dr. Jitender Giri	Identification of genes involved in regulation of phosphate utilization by root under water-deficit stress in rice of Root Development and Nutrition	DBT Govt. of India

43.	Dr. Swarup K. Parida	Association and genetic mapping of loci for seed size/weight in chickpea of Seed Biology	DBT Govt. of India
44.	Dr. Pinky Agarwal	Transcriptome and small RNA diversity analysis of developing seed contrasting rice varieties of Seed Biology	DBT Govt. of India
45.	Dr. Doel Ray Principal Investigator DBT Bio-Care Scheme	Analysis of dehydration-responsive proteome, and cloning and functional characterization of novel elements in rice	DBT Govt. of India
46.	Dr. Shilpi Nidhi DST- Women Scientist-A	Role of Amino Acids in Morphogenesis of Candida Albicans	DST Govt. of India
47.	Dr. Hussain Ara DST- Women Scientist-A	Functional Characterization of mitogen activated protein kinase-3 (OsMPK3) in rice	DST Govt. of India
48.	Dr. Rohini Garg INSPIRE Faculty Fellow	Epigenomics and stress Adaptation in Plant	DST Govt. of India
49.	Dr. Rohini Garg	G-Quadruplexes: Prevalence, function relvance and epigentic regulation in plants	DBT Govt. of India

Committees of the Institute

Society

Shri Sudini Jaipal Reddy
Hon'ble Minister of Science & Technology and Earth Sciences
Ministry of Science & Technology and Earth Sciences, Government of India, New Delhi
(President)
(October 28, 2012 to till date)

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Secretary
Department of Biotechnology
Government of India
New Delhi

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Vice Chancellor
Jawaharlal Nehru University
New Delhi

Prof. A.K. Sharma
University of Calcutta,
Kolkata

Dr. S. Ayyappan
Director General
Indian Council for Agricultural Research
New Delhi

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Former Member
Planning Commission, New Delhi

Prof. R. B. Singh
Former Director, IARI
President, NAAS, New Delhi

Prof. Avadhesha Surolia
Former Director
National Institute of Immunology
New Delhi

Dr. Rakesh Tuli
Former Executive Director
NABI, Mohali

Ms. Anuradha Mitra
Financial Adviser
Department of Biotechnology
Ministry of Science and Technology
Government of India
New Delhi

Dr. K. S. Charak
Adviser,
Department of Biotechnology
Ministry of Science & Technology
Government of India
New Delhi

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Executive Director
Regional Centre for Biotechnology
Gurgaon, Haryana

Prof. H. Devaraj
Vice-Chairman
University Grants Commission
New Delhi

Prof. Akhilesh Kumar Tyagi
Director, NIPGR
(Member-Secretary)

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Government of India
New Delhi
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New Delhi

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University of Calcutta
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Director General
Indian Council for Agricultural Research
New Delhi

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Former Director, IARI
President, NAAS, New Delhi

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New Delhi

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Vice-Chairman
University Grants Commission
New Delhi

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Director, NIPGR
(Member-Secretary)

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University of Calcutta
Kolkata (Chairman)

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Vice Chancellor
Jawaharlal Nehru University
New Delhi (Co-Chairman)

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University of Agricultural Sciences
Hebbal GKVK, Bangalore

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Department of Plant Biotechnology
School of Biotechnology
Madurai Kamaraj University, Madurai

Dr. K. C. Bansal
Director
National Bureau of Plant Genetic Resources
PUSA, New Delhi

Dr. (Mrs.) Usha Barwale
Maharashtra Hybrid Seeds Co. Ltd.
Mumbai

Dr. Imran Siddiqui
Centre for Cellular & Molecular Biology
(CCMB), Hyderabad

Dr. Kuldeep Singh
Senior Molecular Geneticist & Director
Punjab Agricultural University
Ludhiana

Dr. Usha VijyaRaghavan
Professor, Department of Microbiology &
Cell Biology, Indian Institute of Science
Bangalore

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Advisor
Department of Biotechnology
Ministry of Science & Technology
Govt. of India, New Delhi

Prof. Akhilesh Kumar Tyagi
Director, NIPGR
(Member-Secretary)

Academic Committee

Prof. Akhilesh Kumar Tyagi
Director, NIPGR
(Chairman)

Prof. Neera Bhalla Sarin
School of Life Science
Jawaharlal Nehru University
New Delhi
(Up to December 17, 2013)

Dr. Ashwani Pareek
School of Life Science
Jawaharlal Nehru University
New Delhi
(Up to December 17, 2013)

Dr. C.S. Nautiyal
Director
NBRI, Lucknow (outside expert)
(Up to December 17, 2013)

Dr. V. Siva Reddy
ICGEB, JNU Campus
New Delhi (outside expert)
(Up to December 17, 2013)

Prof. Supriya Chakraborty
School of Life Sciences
Jawaharlal Nehru University
New Delhi
(December 18, 2013, to till date)

Dr. Rohini Muthuswamy
School of Life Sciences
Jawaharlal Nehru University
New Delhi
(December 18, 2013, to till date)

Dr. Raj K. Bhatnagar
ICGEB, JNU Campus
New Delhi
(December 18, 2013, to till date)

Prof. Indranil Dasgupta
Department of Plant Molecular Biology
University of Delhi, South Campus
New Delhi
(December 18, 2013, to till date)

Dr. Niranjan Chakraborty
National Institute of Plant Genome Research
New Delhi

Dr. Sabhyata Bhatia
National Institute of Plant Genome Research
New Delhi

Dr. S. Chandrasekaran
Coordinator (Evaluation)
Jawaharlal Nehru University
New Delhi
(Special Invitee)

Finance Committee

Prof. Krishnaswamy VijayRaghavan
Secretary
Department of Biotechnology
Government of India
New Delhi
(Chairman)

Ms. Anuradha Mitra
Financial Adviser
Department of Biotechnology
Ministry of Science and Technology
Government of India
New Delhi

Dr. Satish K. Gupta
National Institute of Immunology
New Delhi

Shri K. M. Kutty
Deputy Secretary
Department of Biotechnology
New Delhi
(Up to June 06, 2013)

Shri N.S. Padmanabham
Senior Manager
National Institute of Immunology
New Delhi

Ms. Kusum Lata Sharma
Deputy Secretary
Department of Biotechnology
Government of India
New Delhi
(June 07, 2013, to till date)

Prof. Akhilesh Kumar Tyagi
Director, NIPGR
New Delhi

Shri Sandeep Datta
Manager, NIPGR
(Non-Member Secretary)

Building Committee

Dr. Dinakar M. Salunke
Executive Director
Regional Centre for Biotechnology
Gurgaon, Haryana
(Chairman)

Prof. Jitendra P. Khurana
Professor & Coordinator (UGC-SAP)
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New Delhi

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School of Life Sciences
Jawaharlal Nehru University
New Delhi

Ms. Anuradha Mitra
Financial Adviser
Department of Biotechnology
Ministry of Science and Technology
Government of India
New Delhi

M/s. S. D. Sharma & Associates
Institute's Architect
Panchkula (Haryana)

Shri Sunil Kumar Sharma
Consultant Engineer
NIPGR, New Delhi
(October 14, 2013, to till date)

Shri Sandeep Datta
Manager, NIPGR
(Member-Secretary)

Staff of the Institute

SCIENTIFIC STAFF

Prof. Akhilesh Kumar Tyagi, Director

Prof. Asis Datta, Distinguished Emeritus Scientist

Dr. Niranjan Chakraborty, Scientist – VI

Dr. Subhra Chakraborty, Scientist – VI

Dr. Debasis Chattopadhyay, Scientist – VI

Dr. Alok Krishna Sinha, Scientist – V

Dr. Sabhyata Bhatia, Scientist – V

Dr. Praveen Verma, Scientist – V

Dr. Manoj Prasad, Scientist – V

Dr. Jitendra K. Thakur, Scientist – IV

Dr. Gitanjali Yadav, Scientist – III

Dr. Ashverya Laxmi, Scientist – III

Dr. Manoj Majee, Scientist – III

Dr. Mukesh Jain, Scientist – III

Dr. Naveen C. Bisht, Scientist – III

Dr. Ananda K. Sarkar, Scientist – III

Dr. Gopaljee Jha, Scientist – III

Dr. Saloni Mathur, Scientist – III

Dr. Senthil Kumar Muthappa, Scientist – III

Dr. Jitender Giri, Scientist – II

Dr. Swarup K. Parida, Scientist – II

Dr. Pinky Agarwal, Scientist – II

TECHNICAL STAFF

Ms Umamaheswari Rajamani, Technical Staff Gr. – I
Dr. Sarjeet Singh Thakur, P. I. O. & Technical Staff Gr. – I
Shri R. S. Tomar, Technical Staff Gr. – I
Shri P. S. Negi, Technical Staff Gr. – I
Shri Sunil Kumar, Technical Staff Gr. – I
Shri Sunil Kumar Avasthi, Technical Staff Gr. – I
Dr. Santosh Kumar Gupta, Technical Staff Gr. – I
Shri Neeraj Nimm, Programmer
Shri Arun Kumar, Technical Staff Gr. – II
Shri Shankar Acharya, Technical Staff Gr. – II
Shri C. Ravi Shankar, Technical Staff Gr. – II
Shri Ravi Kant Singh, Jr. Engineer (Civil)
Shri Naveen Kumar Sudda, Jr. Engineer (Electrical)
Shri Shobharam Valmeeki, Technical Staff Gr. – II
Shri Anand Singh Rana, Technical Staff Gr. – II
Shri Ashok Kumar, Technical Staff Gr. – II
Shri Rajendra, Technical Staff Gr. – II
Shri Dinesh Mehta, Technical Staff Gr. – II
Shri Ratneshwar Thakur, Technical Staff Gr. – II
Shri Shailendra Kharwal, Technical Staff Gr. – III
Shri Anand Dangi, Technician
Shri Arabinda Das, Multi Tasking Staff
Shri P. K. Mishra, Multi Tasking Staff
Shri B. P. Mandal, Multi Tasking Staff
Shri Tul Bahadur Thapa, Multi Tasking Staff
Shri Shyam Bahadur Gurung, Multi Tasking Staff
Ms Neeta Maurya, Multi Tasking Staff
Shri Mahender Singh, Multi Tasking Staff

ADMINISTRATIVE & FINANCE STAFF

Shri Sandeep Datta, Manager

Dr. V. K. Sharma, Librarian / Information Scientist

Shri Rajinder Raina, Purchase-Cum-Store Officer

Shri Sudhir Patwal, Administrative Officer

Shri Rakesh Mohan, Finance Officer

Shri Sunil Kumar Sharma, Consultant

Shri Kamal Kumar Verma, PS to Director

Ms Rashmi Singh, Management Assistant

Ms Vinita Sharma, Management Assistant

Ms Rajani Aswal, Management Assistant

Shri Manmohan Kotnala, Management Assistant *

Ms Sonali, Jr. Management Assistant

Shri Tapas Shit, Jr. Management Assistant

Shri Mitesh Raj Bhardwaj, Jr. Management Assistant

Shri Achint Gupta, Jr. Management Assistant

Shri Devender Singh Bhandari, Assistant

Shri Ramesh Singh Chaudhary, Jr. Assistant

Shri Hari Singh Negi, Jr. Assistant

Shri Kuldeep Singh, Driver

Shri Manmohan Singh Rawat, Multi Tasking Staff

Shri Bhrigunath Manjhi, Multi Tasking Staff

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* resigned from services w.e.f. September 30, 2013 (A/N)

Budget/Auditor's Reports & Audited Accounts

BUDGET

The Financial resources of the National Institute of Plant Genome Research are the core grant provided by the Govt. of India, Department of Biotechnology, comprising of Grants-in-Aid General, Grants for creation of Capital Assets and Grants-in-Aid Salaries.

The Department of Biotechnology in their projections for financial year 2013-14 have allocated grant of ₹ 2300.00 lakhs including ₹ 600.00 lakhs for infrastructure facilities in respect of NIPGR.

The source and application of funds during the financial year 2013-14 in respect of Institute is as under:

Sources of Funds

The Govt. of India, Department of Biotechnology, released grants of ₹ 2300.00 lakhs during 2013-14 as detailed below:

*	Grants-in-Aid General	₹ 1200.00 lakhs
	Grants for creation of Capital Assets	₹ 600.00 lakhs
	Grants-in-Aid Salaries	₹ 500.00 lakhs

Besides, the Institute has also earned an interest of ₹ 1,07,20,096/- on bank deposits of the Institute during the year, apart from the opening balance of ₹ 5,24,04,209/- carried forward from previous year.

Application of Funds

(As per Utilization Certificate furnished to the Department of Biotechnology for the year 2013-14)

The total expenditure on research activities and infrastructure development during the year 2013-2014) was ₹ 26,80,46,293/- including ₹ 8,23,45,931/- on infrastructure development and ₹ 6, 91,940 /- for setting up of the Phytroton Facilities.

OVER ALL EXPENDITURE AT A GLANCE

		Amount in ₹
A-Grants-in-Aid General		
1. Consumables		3,66,02,645
2. Contingencies		8,84,59,003
3. Training/Networking/Fellowship		88,03,770
4. Campus/Field Development		49,65,034
5. Travel		1,33,892
	Total =	**13,89,64,344**
B-Grants for creation of Capital Assets		
1. Land & Building		1,20,42,900
2. Equipment		3,35,76,824
3. Vehicle		7,50,958
4. Furniture & Fixtures		3,22,64,485
5. Books/Scientific Journals		37,10,764
	Total =	**8,23,45,931**
C-Grants-in-Salaries		
1. Manpower		4,60,44,078
	Total =	**4,60,44,078**
D-Phytotron Facilities		**6,91,940**

INDEPENDENT AUDITOR'S REPORT

Report on the financial statements

We have audited the accompanying financial statements of **NATIONAL INSTITUTE OF PLANT GENOME RESEARCH** (formerly National Centre for Plant Genome Research) Aruna Asaf Ali Marg, J.N.U. Campus, New Delhi-110067, which comprise the Balance sheet as at March 31, 2014, and the Income & Expenditure Account and the Receipts & Payments Account for the year ended on that date, and a summary of significant accounting policies and other explanatory information.

Management`s Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that gives a true and fair view of financial position and financial performance of the Institute in accordance with the Accounting Standards issued by The Institute of Chartered Accountants of India. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentations of financial statements that gives a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor`s Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor`s judgment, including the assessment of the risk of material misstatements of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the institute's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit opinion.

Basis for Qualified Opinion

(i) *Provision for actuarial liability on account of gratuity and other terminal benefits for employees has not been worked out and provided for as required under AS-15 "Employee Benefits" issued by The Institute of Chartered Accountants of India. In the absence of actuarial valuation as on 31.03.2014, we are not in a position to ascertain and quantify the impact thereof on the financial statement. (Also refer point no. 8 of schedule no.24 to the financial statements).*

Contd..2/*

1-E/15, Jhandewalan Extn., New Delhi-110055, India. E-mail : info@vkdco.com
Fax : (91-11) - 23549789, Phones : (91-11) - 23528511, 23638325, 23536857, 23550475

Qualified Opinion

In our opinion and to the best of our information and according to the explanations given to us, *except for the possible effects of the matter described in the Basis for Qualified Opinion paragraph,* the financial statements give a true and fair view in conformity with the accounting principles generally accepted in India:

a) In the case of Balance Sheet of the state of affairs of the Institute as at 31st March, 2014;

b) In the case of Income and Expenditure Account, of the excess of Expenditure over Income during the year ended on that date and

c) In the case of Receipts and Payments Account, of the receipts and payments during the year ended on that date.

For V. K. DHINGRA & CO.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

V.K. DHINGRA & CO. NEW DELHI CHARTERED ACCOUNTANTS

(VIPUL GIROTRA)
PARTNER
M.No. : 084312

PLACE: NEW DELHI
DATE: JULY 11, 2014

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

LIABILITIES	**Schedule**	**Current Year**	**Previous Year**
Corpus/Capital Fund	**1**	826,890,734	850,398,633
Reserves and Surplus	**2**	8,032,698	24,090,225
Earmarked/Endowment Funds	**3**	30,831,282	24,146,177
Secured Loans and Borrowings	**4**	-	-
Unsecured Loans and Borrowings	**5**	-	-
Deferred Credit Liabilities	**6**	-	-
Current Liabilities and Provisions	**7**	70,746,455	45,104,919
TOTAL		**936,501,169**	**943,739,954**
ASSETS			
Fixed Assets	**8**	790,223,612	776,822,654
Investments-From Earmarked/Endowment Funds	**9**	27,400,000	22,400,000
Investments- Others	**10**	-	-
Current Assets, Loans, Advances etc.	**11**	118,877,557	144,517,300
Miscellaneous Expenditure (to the extent not written off or adjusted)		-	-
TOTAL		**936,501,169**	**943,739,954**
Significant Accounting Policies and notes on accounts	**24**		
Contingent Liabilities	-	-	-

Schedules 1 to 24 form the Integral part of Accounts

AS PER OUR SEPARATE REPORT
OF EVEN DATE ATTACHED
For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)
FINANCE OFFICER

(SANDEEP DATTA)
MANAGER

(Prof.AKHILESH Kr.TYAGI)
DIRECTOR

(VIPUL GIROTRA)
PARTNER
Membership. No. 084312

PLACE: NEW DELHI
DATE: July 11,2014

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
INCOME & EXPENDITURE FOR THE YEAR ENDED 31st MARCH 2014

AMOUNT IN ₹

INCOME	**Schedule**	**Current Year**	**Previous Year**
Income from Sales/ Services	**12**	-	-
Grants / Subsidies (Recurring)	**13**	170,000,000	172,000,000
Fees/ Subscriptions	**14**	-	-
Income from Investments (Income on Investment from Earmarked/ Endowment Fund)	**15**	-	-
Income from Royalty, Publication etc.	**16**	21,000	216,000
Interest Earned	**17**	11,490,824	11,793,065
Other Income	**18**	2,390,888	
Deferred Income- Fixed Assets		75,133,953	57,705,990
Increase / (decrease) in stock of Finished goods and works-in-progress	**19**	-	-
TOTAL (A)		**259,036,665**	**241,715,055**
EXPENDITURE			
Establishment Expenses	**20**	46,315,246	40,826,862
Other Administrative Expenses etc.	**21**	153,644,993	143,240,801
Expenditure on Grants, Subsidies etc.	**22**	-	-
Interest	**23**	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule-8)		75,133,953	57,705,990
TOTAL (B)		**275,094,192**	**241,773,653**
Balance being excess of Income over Expenditure (A - B)			
Balance being excess of Expenditure over Income (B - A)		(16,057,527)	(58,598)
Transfer to Special Reserve (Specify each)		-	-
Transfer to / from General Reserve		-	-
BALANCE BEING DEFICIT/ SURPLUS CARRIED TO CORPUS/ CAPITAL FUND		**(16,057,527)**	**(58,598)**
Significant Accounting Policies and notes on accounts	**24**	-	-
Contingent Liabilities		-	-

Schedules 1 to 24 form the Integral part of Accounts

AS PER OUR SEPARATE REPORT
OF EVEN DATE ATTACHED.
For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

PLACE: NEW DELHI
DATE:July 11, 2014

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
RECEIPTS & PAYMENTS FOR THE YEAR ENDED 31st MARCH 2014

AMOUNT IN ₹

RECEIPTS **Particulars**	**Current Year**		**Previous Year**	
Opening Balance				
In Saving Account/Short Term deposits	60,578,969		28,375,600	
Grants Received from Deptt of Biotechnology				
Non recurring	60,000,000		98,000,000	
Recurring	170,000,000		172,000,000	
Interest Earned	10,720,096		9,120,364	
Security Deposit from Contractors	5,268,208		3,055,399	
EMD from Contractors	2,400,000		-	
Refund of Deposits by DCSE				
Refund of consumable advance	77,089		-	
Refund of contingency advance	88,057		799,810	
Hostel/Mess Security	175,400		44,500	
Service Charges Received	21,000		216,000	
Other Income	2,390,888			
Refund of equipment advance	-		46,055,494	
TDS-94C&J	-		431,791	
TOTAL		**311,719,707**		**358,098,958**

AS PER OUR SEPARATE REPORT
OF EVEN DATE ATTACHED
For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

PLACE: NEW DELHI
DATE: July 11,2014

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
RECEIPTS & PAYMENTS FOR THE YEAR ENDED 31st MARCH 2014

AMOUNT IN ₹

PAYMENTS **Particulars**	**Current Year**		**Previous Year**	
Building under Construction	12,042,900		38,270,164	
Deposits with RITES for Building	-		-	
Land	-		3,200,000	
Lab Equipment	20,066,910		49,945,388	
Office Equipment	956,928		400,197	
Computer/Peripherals	1,906,826		383,639	
Furniture & Fixture	32,264,485		129,334	
Books & Scientific Journals	3,710,764		12,665,950	
Vehicle	750,958		-	
Manpower				
Salaries and Wages	41,979,763		38,850,153	
Contribution to Provident fund	293,147		1,318,191	
Consumables				
a) Chemicals ,Glasswares & Consumables	34,717,613		47,804,165	
b) Other Lab Items	-		9,956	
Contingencies				
a) Publication of Papers	1,994,778		1,410,125	
b) Electricity and water charges	41,285,126		38,650,661	
c) Seminar,Conference & Workshops	2,380,605		281,991	
d) Maintenance of Equipment	18,678,519		15,410,472	
e) Maintenance of AC Plant	3,820,248		2,324,734	
f) Maintenance of Building	3,719,331		1,980,268	
g) Vehicles Running and Maintenance	-		-	
(i) Petrol ,Oil & Lubricants	519,801		854,648	
(ii) Maintenance	163,567		519,931	
h) Postage, Telephone and Comm. Charges				
(i) Postage & Telegrams	122,477		263,874	
(ii) Telephone & Fax	349,673		379,028	
i) Printing and Stationary	1,332,012		1,060,689	
j) Security expenses	2,705,989		7,168,873	
k) Auditors Remuneration	15,618		33,708	
l) Committee Meeting Expenses	609,220		281,679	
m) Legal fees	36,000		-	
n) Journals and periodicals	135,046		117,446	
o) Advertisement and Publicity	280,504		245,018	
p) Mise.contingencies	4,906,473		4,908,564	
q) Professional Charges	975,325		3,261,747	
r)Rates & Taxes	2,612,347		2,041,967	
Campus/ Field Development	4,838,850		6,277,659	
Training affiliation and Others	755,254		900,674	
NIPGR Fellowships	7,505,200		6,415,442	
Travelling and Conveyance Expenses				
(i) Travelling	120,119		2,042,553	
(ii) Conveyance & Transport	13,113		23,852	

Continued

Others				
a) Contigency Advance	-			
b) Consumable Advance	-		49,094	
c) Equipment advance	46,160		-	
d) Security Deposit paid	4,307,757		-	
e) Refund of Earnest Money deposit	2,803,847		7,638,155	
f) Hostel/Mess Security	152,500		-	
g)TDS-94C&J	431,791			
h) Outstanding expenses	10,719,738			
Closing Balance				
In Saving Bank Account/Short term Deposit	44,692,425		60,578,969	
TOTAL		**311,719,707**		**358,098,958**

AS PER OUR SEPARATE REPORT
OF EVEN DATE ATTACHED.
For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

PLACE: NEW DELHI
DATE: July 11,2014

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 1 **CORPUS /CAPITAL FUND**	**Current Year**		**Previous Year**	
Grants in Aid Non recurring				
Balance as at the beginning of the year	703,100,331		662,806,321	
Add: Contributions received during the year	64,008,919		98,000,000	
Less : Reduced during the year	75,133,953		57,705,990	
		691,975,297		703,100,331
Fixed Assets Fund				
Balance as at the beginning of the year	146,242,342		185,688,691	
Add: Contributions received during the year	27,791,398		799,582	
Add: Rectified entry due to last year ommission	1,229		138,098	
Less Contribution refunded during the year	2,028,684		2,675,633	
Less:Reduced during the year	38,146,808		37,708,396	
		133,859,477		146,242,342
Research Fund				
Balance as at the beginning of the year	862,696		862,696	
Add: Contributions received during the year	-		-	
		862,696		862,696
Students & Staff Welfare Fund				
Balance as at the beginning of the year	193,264		193,264	
Add: Contributions received during the year	-		-	
		193,264		193,264
BALANCE AS AT THE YEAR- END		**826,890,734**		**850,398,633**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 2- **RESERVES AND SURPLUS:**	**Current Year**		**Previous Year**	
1.Capital Reserve:				
As per last Account	-		-	
Addition during the year	-		-	
Less: Deduction during the year	-		-	
		-		-
2.Revaluation Reserve:				
As per last Account	-		-	
Addition during the year	-		-	
Less: Deduction during the year	-		-	
		-		-
3.Special Reserves:				
As per last Account	-		-	
Addition during the year	-		-	
Less: Deduction during the year	-		-	
		-		-
4. General Reserve:				
As per last Account	24,090,225		24,148,823	
Addition during the year	-1		-	
Less: Deduction during the year	(16,057,527)		(58,598)	
		8,032,698		24,090,225
TOTAL		**8,032,698**		**24,090,225**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 3A	**Current Year**		**Previous Year**	
Fund Debt Employees Provident Fund				
a) Opening balance of the fund	24,146,177		18,243,202	
b) Additions to the fund				
i) Donations/grant				
ii)Income from Investments/Savings Account	2,783,221		3,141,265	
iii)Regular Subscription/Refund of Advance received	4,197,650		3,171,710	
Total (a+b)		31,127,048		24,556,177
c)Utilization/Expenditure towards objectives of fund	-		-	
i. Capital Expenditure				
* Fixed Assets	-		-	
* Others	-		-	
ii Revenue Expenditure				
Advance payment to Subscribers	345,000		410,000	
Final payment to Subscribers	2,653,294			
Final payment to Subscribers on account of NPS	-		-	
Total (c)		2,998,294		410,000
TOTAL - A (a+b-c) (Annexure-63)		**28,128,754**		**24,146,177**

AMOUNT IN ₹

SCHEDULE 3B	**Current Year**		**Previous Year**	
11th International Symposium on Rice Functional Genomics				
a) Opening balance	-			
b) Funds received during the year	14,494,759			
Total (a+b)		14,494,759		-
c)Utilization/Expenditure towards Organization of	11,792,231			
Total (c)		11,792,231		-
TOTAL-B (a+b-c)		**2,702,528**		**-**
TOTAL (3A+3B) (Annexure-64)		**30,831,282**		

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 4- **SECURED LOANS AND BORROWINGS:**	**Current Year**		**Previous Year**	
1. Central Government	-		-	
2. State Government (Specifty)	-		-	
3. Financial Institutions				
a) Term Loans	-		-	
b) Interest accrued and due	-		-	
4. Banks:				
a) Term Loans	-		-	
-Interest accrued and due	-		-	
b) Other Loans (Specify)	-		-	
-Interest accrued and due	-		-	
5. Other Institutions and Agencies	-		-	
6 Debentures and Bonds	-		-	
		-		-
TOTAL		-		-

AMOUNT IN ₹

SCHEDULE 5- **UNSECURED LOANS AND BORROWINGS**	**Current Year**		**Previous Year**	
1. Central Government	-		-	
2. State Government (Specifty)	-		-	
3. Financial Institutions	-		-	
4. Banks:	-		-	
a) Terms Loans	-		-	
b) Other Loans (Specify)	-		-	
5. Other Institutions and Agencies	-		-	
6. Debentures and Bonds	-		-	
7. Fixed Deposits	-		-	
8. Others (Specify)	-		-	
		-		-
TOTAL		-		-

AMOUNT IN ₹

SCHEDULE-6 **DEFERRED CREDIT LIABILITIES**	**Current Year**		**Previous Year**	
a. Acceptances secured by hypothecation of capital equipment and other assets	-	-	-	-
b.Others	-	-	-	-
		-		-
TOTAL		-		-

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 7-	**Current Year**		**Previous Year**	
CURRENT LAIBILITIES AND PROVISIONS				
A. CURRENT LIABILITIES				
1. Acceptances			-	
2. Sundry Creditors				
a) For Goods	-		-	
b) Others		-		-
3. Advances Received				
(i) Security deposits from contractors	6,335,573		3,280,174	
Add: Variations during the year	960,451		3,055,399	
Less: Variations during the year	-		-	
		7,296,024		6,335,573
(ii) Earnest Money deposit	420,837		8,058,992	
Add: Variations during the year	-		-	
Less: Variations during the year	403,847		7,638,155	
		16,990		420,837
(iii) Hostel Security from Students	506,000		456,000	
Add: Variations during the year	22,900		50,000	
		528,900		506,000
4.Projects Grants/Fellowships				
(i) CSIR	20,845		406,542	
(ii) DBT	36,562,261		17,394,312	
Less: Rectified entry due to last year ommission	-		(138,098)	
(iii) DST	2,631,071		2,306,747	
(iv) ICMR	-		312,490	
(v) NASI	7,126		-	
(vi) Fellowships	2,028,138		6,408,987	
(vii)Advance for meetings	-		-	
(Annexure-1 to 63)		41,249,441		26,690,980
5.Interest accured but not due on :				
(a) Secured Loans /borrowings				
(b) Unsecured Loans/borrowings				
6.Statutory Liabilities				
a) TDS	-		431,791	
b) Others				
		-		431,791
7.Other Current Liabilities;-				
Audit fees payable	22,472		34,605	
Outstanding Expenses payable	21,632,629		10,685,133	
		21,655,101		10,719,738
TOTAL (A)		**70,746,455**		**45,104,919**
B. PROVISIONS				
1.For Taxation	-		-	
2.Gratuity	-		-	
3.Superannuation/Pension	-		-	
4.Accumulated Leave Encashment	-		-	
5.Trade Warranties/Claims	-		-	
6.Others (Specify)	-	-	-	-
TOTAL (B)		-		-
TOTAL (A+B)		**70,746,455**		**45,104,919**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st March 2014

SCHEDULE 8- FIXED ASSETS

AMOUNT IN ₹

ASSETS	RATE	W.D.V.as on 01.04.2013	Additions/Sales			Total As on 31.03.2014	Depreciation for the year	W.D.V. as on 31.03.14
			Upto 30.09.13	On or After 01.10.13	Sales/ Adjustments			
1.Land								
a) Free Hold	0%	43,200,000	-	-	-	43,200,000		43,200,000
b) Lease hold		-	-	-	-	-	-	
2.(A) Building							-	
a) On Freehold Land	10%	-	236,902,000	-	-	236,902,000	23,690,200	213,211,800
b) On Leasehold Land		-	-	-	-	-	-	
c) Ownership flats/premises	10%	-	-	-	-	-	-	
d) Superstructures on Land not belonging to the entity	10%	807,692	-	-	-	807,692	80,769	726,923
2.(B) Building (Projects)	10%	-	47,472,641	-	-	47,472,641	4,747,264	42,725,377
3. Plant Machinary & Equipment							-	
a) Lab Equipments(Core)	40%	80,973,677	7,212,859	12,854,051	-	101,040,587	37,845,425	63,195,162
b) Lab Equipment (Project)	40%	60,982,695	-	47,352,522	435,036	107,900,181	33,689,568	74,210,613
4. Vehicles	15%	1,098,443	-	750,958	-	1,849,401	221,088	1,628,313
5. Furniture & Fixtures	10%	11,893,464	143,627	32,120,858		44,157,949	2,809,752	41,348,197
6. Office Equipments	15%	5,107,815	741,878	215,050	5,154	6,059,589	892,810	5,166,779
7. Computer / Peripherals	60%	635,809	1,321,045	585,781	-	2,542,635	1,349,847	1,192,788
8. Books & Scientific Journals	60%	11,862,898	43,646	3,667,118	-	15,573,662	8,244,062	7,329,600
							-	
Total of Current Year		**216,562,494**	**293,837,696**	**97,546,338**	**440,190**	**607,506,337**	**113,570,785**	**493,935,552**
Capital work in Progress*		**560,260,160**	**12,019,500**	**8,383,041**	**284,374,641**	**296,288,060**	-	**296,288,060**
Grand Total		**776,822,654**	**305,857,196**	**105,929,379**	**284,814,831**	**903,794,397**	**113,570,785**	**790,223,612**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)
FINANCE OFFICER

(SANDEEP DATTA)
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(Prof.AKHILESH Kr.TYAGI)
DIRECTOR

(VIPUL GIROTRA)
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE -9 INVESTMENTS FROM FUND DEBT EMPLOYEES PROVIDENT FUND	**Current Year**		**Previous Year**	
1. In Government Securities	-		-	
2.Other approved Securities	-		-	
3. Shares	-		-	
4. Debentures and Bonds	-		-	
5. Subsidiaries and Joint Ventures	-		-	
6.Others-Financial Institutions	27,400,000		22,400,000	
		27,400,000		22,400,000
TOTAL		**27,400,000**		**22,400,000**

AMOUNT IN ₹

SCHEDULE 10 - INVESTMENTS - OTHERS	**Current Year**		**Previous Year**	
1. In Government Securities	-		-	
2. Other approved Securities	-		-	
3. Shares	-		-	
4. Debentures and Bonds	-		-	
5. Subsidiaries and Joint Ventures	-		-	
6. Others	-		-	
		-		-
TOTAL		-		-

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
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NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE -11 **CURRENT ASSETS, LOANS, ADVANCES ETC.**	**Current Year**		**Previous Year**	
A. CURRENT ASSETS:				
1. Inventories:				
a) Stores and Spares	-		-	
b) Loose Tools	-		-	
c) Stock-in- trade				
Finished Goods	-		-	
Work-in-progress	-		-	
Consumables	3,825,692		5,259,958	
		3,825,692		5,259,958
2. Sundry Debtors				
a) Debts Outstanding for a period exceeding six months	-		-	
b) Others	-		-	
		-		-
3. Cash balance in hand				
(including cheques/drafts and imprest)	-		-	
		-		-
4. Bank Balances:				
a) With Schedules Banks:				
-On Current Accounts	-		-	
-On Deposit Accounts (includes margin money)	10,600,000		50,000,000	
-On Savings Account	95,999,647		40,717,071	
-NIPGR CPF Account	728,754		1,746,177	
-11th ISRFG	2,702,528		-	
		110,030,929		92,463,248
b) With non- Scheduled Banks:				
-On Current Accounts	-		-	
-On Deposit Accounts	-		-	
-On Savings Accounts	-		-	
		-		-
5. Post Office- Savings Accounts	-		-	
		-		-
TOTAL (A)		**113,856,621**		**97,723,206**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE- 11 **CURRENT ASSETS, LOANS, ADVANCES ETC.**	**Current Year**		**Previous Year**	
B. LOANS,ADVANCES AND OTHER ASSETS:				
1. Loans:				
a)Staff		-		-
b)To other Entities engaged in activities/objectives similar to that of the entitiy		-		-
2. Advances and other amounts recoverable in cash or in kind for value to be received				
a) On Capital Account (Equipment Adv.)	-		-	
b) On Capital Account (Equipment Adv.projects)	-		40,262,526	
c) Contingencies Advance	1,813,029		566,086	
d) Consumable Advance	9,799		86,888	
e) Advance for assets	46,160		-	
f) Security				
(i) Delhi Vidyut Board	24,000		24,000	
ii) Reliance Inds Ltd.	26,000		26,000	
iii) BSES (consumption deposit)	2,142,000		2,142,000	
iv) VSNL (Internet Lease)	70,000		70,000	
(v) Relience Comm.Infrast.Ltd.(Telephone)	2,000		2,000	
vi) Queens Road Sevice Station	50,000		50,000	
vii) Tata Communications Ltd	94,688		94,688	
		4,277,676		43,324,188
3. Income Accrued:				
a) On Investments from Earmarked/Endowment Funds	-		-	
b) On Investments - Others	-		3,469,906	
c) On Loans and Advances	-		-	
d) Others -(M/s RITES Ltd)	743,260		-	
(includes income due unrealised - `Nil)				
		743,260		3,469,906
4. Claims Receivable	-		-	
		-		-
TOTAL (B)		**5,020,936**		**46,794,094**
TOTAL (A +B)		**118,877,557**		**144,517,300**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE- 12 **INCOME FROM SALES/SERVICES**	**Current Year**		**Previous Year**	
1. Income from Sales				
a) Sales of Finished Goods	-		-	
b) Sales of Raw Material	-		-	
c) Sales of Scraps	-		-	
		-		-
2.Income from Services				
a) Labour and Processing Charges	-		-	
b) Professional/Consultancy Services	-		-	
c) Agency Commission and Brokerage	-		-	
d) Maintenance Services (Equip./Property)	-		-	
e) Others (Specify)	-		-	
		-		-
TOTAL		-		-

AMOUNT IN ₹

SCHEDULE -13 **GRANTS/SUBSIDIES**	**Current Year**		**Previous Year**	
(Irrevocable Grants & Subsidies Received)				
a) Central Government	170,000,000		172,000,000	
b) State Government(s)	-		-	
c) Government Agencies	-		-	
d) Institutions/Welfare Bodies	-		-	
e) International Organisation	-		-	
f) Others (Specify)	-		-	
		170,000,000		172,000,000
TOTAL		**170,000,000**		**172,000,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 14 - FEES/SUBSCRIPTIONS	**Current Year**		**Previous Year**	
a) Entrance Fees	-		-	
b) Annual Fees/Subscriptions	-		-	
c) Seminar/Programme Fees	-		-	
d) Consultancy Fees	-		-	
e) Others (Specify)	-		-	
		-		-
TOTAL		-		-

AMOUNT IN ₹

SCHEDULE 15- INCOME FROM INVESTMENTS	**Current Year**		**Previous Year**	
(Income on Invest. from Earmarked/Endow. Funds transferred to Funds)				
1) Interest				
a) On Govt. Securitites	-		-	
b) Other Bonds/Debentures	-		-	
		-		-
2) Dividends				
a) On Shares	-		-	
b) On Mutual Fund Securities	-		-	
		-		-
3) Rents	-		-	
4) Other (Specify)	-		-	
		-		-
TOTAL		-		-
TRANSFERRED TO EARMARKED/ENDOWMENT FUND				

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 16 **INCOME FROM ROYALTY, PUBLICATION ETC.**	**Current Year**		**Previous Year**	
1) Income form Royalty	-		-	-
2) Income form Publications	-		-	-
3) Service Charges	21,000		216,000	-
		21,000		216,000
TOTAL		**21,000**		**216,000**

AMOUNT IN ₹

SCHEDULE 17 **INTEREST EARNED**	**Current Year**		**Previous Year**	
1) On Term Deposits:				
a) With Scheduled Banks	4,774,129		8,704,535	
b) With Non- Scheduled Banks				
c) With Instituitons				
d) Others-(M/s.RITES Ltd.)	4,240,634		-	
		9,014,763		8,704,535
2) On Savings Accounts:				
a) With Scheduled Banks	2,476,061		3,088,530	
b) With Non- Scheduled Banks	-		-	
c) Post Office Savings Accounts				
d) Others		2,476,061		3,088,530
3) On Loans:				
a) Employees/Staff	-		-	
b) Others	-		-	
		-		-
4) Interest on Debtors and Other Receivables	-		-	
		-		-
TOTAL		**11,490,824**		**11,793,065**
Note - Tax Deducted at source to be indicated				

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 18 - OTHER INCOME	**Current Year**		**Previous Year**	
1) Profit on Sale/disposal of Assets:	-		-	
a) Owned assets	-		-	
b) Assets acquired out of grants or recd. free of cost	-		-	
2) Export Incentives realised	-		-	
3) Other Income	-		-	
a. Licence fee from Staff Quarters/Canteen	302,510		-	
b. Guest House Charges	378,733		-	
c. Hostel fee/rent	1,709,645		-	
4) Deferred Income - Fixed Assets	75,133,953		57,705,990	
		77,524,841		57,705,990
TOTAL		**77,524,841**		**57,705,990**

AMOUNT IN ₹

SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS	**Current Year**		**Previous Year**	
a) Closing Stock:				
- Finished Goods	-		-	
- Work-in-progress	-		-	
		-		-
b) Less: Opening Stock				
- Finished Goods	-		-	
- Work-in-progress	-		-	
		-		-
NET INCREASE/(DECREASE) [a-b]		**-**		**-**

AMOUNT IN ₹

SCHEDULE 20 ESTABLISHMENT EXPENSES	**Current Year**		**Previous Year**	
a) Salaries and Wages	46,022,099		39,508,671	
b) Allowances and Bonus				
c) Contribution to Provident Fund	293,147		1,318,191	
d) Contribution to Other Fund (Specify)	-		-	
e) Staff Welfare Expenses	-		-	
f) Expen.on Empl. Retirement and Terminal Benefits	-		-	
g) Others (Specify)	-		-	
		46,315,246		40,826,862
TOTAL		**46,315,246**		**40,826,862**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.	**Current Year**		**Previous Year**	
1. Consumables				
a) Chemicals ,Glasswares & Consumables	44,521,151		47,183,746	
b) Other Lab Items	-	44,521,151	9,956	47,193,702
2. Contingencies				
a) Publication of Papers	2,603,621		1,406,396	
b) Electricity and water charges	42,407,356		39,026,971	
c) Seminar,Conference & Workshops	2,380,605		277,791	
d) Maintenance of Equipment	20,333,510		13,317,762	
e) Maintenance of AC Plant	3,820,248		3,329,928	
f) Maintenance of Building	4,435,426		2,422,433	
g) Vehicles Running and Maintenance				
(i) Petrol ,Oil & Lubricants	519,801		1,025,085	
(ii) Maintenance	163,567		175,413	
h) Postage, Telephone and Comm. Charges				
(i) Postage & Telegrams	122,477		186,730	
(ii) Telephone & Fax	376,080		379,028	
i) Printing and Stationary	1,332,012		1,088,914	
j) Security expenses	5,273,915		7,873,745	
k) Auditors Remuneration	38,090		33,708	
l) Committee Meeting Expenses	609,220		289,929	
m) Legal fees	36,000		-	
n) Journals and periodicals	162,023		117,446	
o) Advertisement and Publicity	348,823		368,689	
p) Mise.contingencies	5,298,496		4,161,108	
q) Rates &Taxes	2,612,347		2,041,967	
r) Professional Charges	1,890,267		2,825,840	
s) Assets written off	5,154	94,769,038	3,998	80,352,881
3. Campus/Field Development	5,139,092	5,139,092	6,197,335	6,197,335
4.(a) Training affiliation and Others	755,254		900,674	
b) NIPGR Fellowships	8,327,226	9,082,480	6,533,448	7,434,122
5. Travelling and Conveyance Expenses				
(i) Travelling	120,119		2,039,677	
(ii) Conveyance & Transport	13,113	133,232	23,084	2,062,761
TOTAL		**153,644,993**		**143,240,801**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Formerly National Centre For Plant Genome Research)
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31st MARCH 2014

AMOUNT IN ₹

SCHEDULE 22 **EXPENDITURE ON GRANTS,SUBSIDIES ETC.**	**Current Year**		**Previous Year**	
a) Grants given to Institutions/ Organisations		-		-
b) Subsidies given to Institutions / Organisations		-		-
		-		-
TOTAL		-		-

AMOUNT IN ₹

SCHEDULE 23 - INTEREST	**Current Year**		**Previous Year**	
a) On Fixed Loans		-		-
b) On Other Loans (including Bank Charges)		-		-
c) Others(specify)		-		-
		-		-
TOTAL		-		-

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

Schedule- 24

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Center for Plant Genome Research)

ACCOUNTING POLICIES AND NOTES FORMING PARTS OF THE BALANCE SHEET AS AT AND INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31st MARCH, 2014

1. The annual accounts have been prepared in the revised format of accrual system of accounting, except for Extramural Funds and Contributory Provident Fund.

2. (a) Recurring Grants have been recognised in the Income & Expenditure account and Non-Recurring Grants have been shown as addition to grants in aid in the year of receipts.

   (b) Grants for core funds relatable to depreciable fixed assets are treated as deferred income and recognised in the Income and Expenditure Account on a systematic and rational basis over the useful life of such assets i.e. such grants are allocated to income over the periods and in the proportions in which depreciation is charged. During the year income recognised in respect of such Grants amounts to ₹ 7,51,33,953/-.

3. (a) The depreciation has been provided w.e.f. the date of purchase of fixed assests as per the rates prescribed by Income Tax Act, 1961.

   (b) Full depreciation is charged during the year of acquisition in case the assets is aquired in the first half and 50% of rate of depreciation for assets acquired during the second half of the financial year.No depreciation is provided during the year of disposal of assets.

   (c) Depreciation of ₹ 3,81,46,808/- has been provided during the year and directly debited to fixed assets fund.These assets were created out of the Non-Recurring Grants of the projects.

4. Fixed assets have been created with grants received from the Department of Bio-Technology. The condition of these grants, inter alia, stipulates that assets will be the property of Government, who will be free to sell or otherwise dispose off the same.The Govt. of India has the discretion to gift the assets to the Institute if it considers appropriate, but no such gifts have been made so far.Therefore, in effect the ownership of the assets lies with Govt. of India and not with the Institute.

5. All purchases of chemicals, glassware, consumables and stationery have been charged to consumption at the time of purchase . However,the closing stock has been

worked out and shown in the respective schedule.The closing stock of these items amounting to ₹ 38,25,692/- was available at the end of the year.

6. (a) Expenses and Overheads incidental to construction of building of institute are added to the capital work in progress to be capitalized along with the building.

(b) The Phase-I of building of the institute has been completed and put into use. The cost of the building has been capitalized as per cost approved by the Building Committee on completion. Similarly the Building for Plant Growth Chamber has also been completed and the cost as approved by the Building Committee has been capitalized under the Head "Building (Projects)".

(c) The interest income includes an amount of ₹19,83,150/- as interest accured during previous years on deposit works.Similarly, the interest accured on deposit work of Phase II will be accounted on completion and approval of the total cost for Phase-II by the Building Committee of the Institute.

7. The Institute has a policy of allocating the overheads and transfer of expenditure from Institute to different projects at the end of year on proportionate basis after taking into account the amount of maximum permissible limits for overheads sanctioned by the funding agency in each project. During the year institute has allocated ₹ 7, 08,840/- as overheads to different projects.

8. No provision has been made by the Institute towards the gratuity payable and other terminal benefits to staff.

9. Previous year figures have been re-grouped/re-arranged wherever considered necessary.

For V.K DHINGRA & Co.
Chartered Accountants
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof. AKILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER

Place: New Delhi
Date: July 11, 2014

ANNEXURE-1(SCH.)7(4)(i)-a)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

CSIR PROJECT

R/P entitled "Proteomic analysis of dehydration-responsive endomembrane fraction of rice (*Oryza sativa L.*)".

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	287,141		179,428	
Grant- In- Aid for				
i) Staff	218,400		218,400	
ii) Contingencies	600,000		643,372	
iii) Overheads	-		-	
TOTAL		**1,105,541**		**1,041,200**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Staff	218,400		145,600	
ii) Contingencies	885,676		608,459	
iii) Overheads	-		-	
CLOSING BALANCE				
With Bank in Saving A/c	1,465		287,141	
TOTAL		**1,105,541**		**1,041,200**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-2(SCH.)7(4)(i)-b)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

CSIR PROJECT

R/P entitled "N-acetylglucosamine catabolic pathway in pathogens of human and plant".

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	119,401		334,757	
Grant- In- Aid for				
i) Staff	-		(176,000)	
ii) Contingencies	349,175		500,000	
iii) Overheads	-		-	
TOTAL		**468,576**		**658,757**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Staff	296,420		366,181	
ii) Contingencies	152,776		173,175	
iii) Overheads	-		-	
CLOSING BALANCE				
With Bank in Saving A/c	19,380		119,401	
TOTAL		**468,576**		**658,757**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-3(SCH.)7(4)(ii)-a)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled "Nutritional Genomics: Value Added transgenic crops for better nutrition &fungal resistance"

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	(55,569)		(55,569)	
Grant- In- Aid for				
i) Manpower	-		-	
ii) Consumable	-		-	
iii) Travel	-		-	
iv) Contingencies	-		-	
TOTAL		**(55,569)**		**(55,569)**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Manpower	-		-	
ii) Consumable	-		-	
iii) Travel	-		-	
iv) Contingencies	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	(55,569)		(55,569)	
TOTAL		**(55,569)**		**(55,569)**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Isolation and characterization of early-responsive chickpea genes involved in defense/resistance in response to Ascochyta infection

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	(30,036)		(30,036)	
Equipment	(48,474)		(48,474)	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	-		-	
iv) Travel	-		-	
v) Contingencies	-		-	
TOTAL		**(78,510)**		**(78,510)**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	-		-	
iv) Travel	-		-	
v) Contingencies	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	(30,036)		(30,036)	
Equipment	(48,474)		(48,474)	
TOTAL		**(78,510)**		**(78,510)**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-5(SCH.)7(4)(ii)-c)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled In Silico Bioprospecting by analysis of plant stress response pathways

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	345,762		391,720	
Equipment	46,525		133,098	
Grant- In- Aid for				
i) Equipment				
ii) Manpower	-		109,000	
iii)Contingencies	-		515,000	
iv) Travel	-		-	
v) Cash Award	-		100,000	
TOTAL		**392,287**		**1,248,818**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	62,070		86,573	
ii) Manpower	-		109,200	
iii)Contingencies	87,729		547,205	
iv) Travel	9,979		13,553	
v) Cash Award	-		100,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	248,054		345,762	
Equipment	(15,545)		46,525	
TOTAL		**392,287**		**1,248,818**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Establishment of a Distributed Information Sub-Centre at National Institute for Plant Genome Research, New Delhi.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	435,773		305,767	
Equipment	698,385		198,385	
Grant- In- Aid for				
i) Equipment	-		500,000	
ii) Manpower	-		497,000	
iii)Contingencies	-		200,000	
iv) Travel	-		-	
v) Other Cost	-		83,000	
TOTAL		**1,134,158**		**1,784,152**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	540,909		-	
ii) Manpower	387,285		341,469	
iii)Contingencies	33,670		168,254	
iv) Travel	28,505		19,375	
v) Other Cost	62,050		120,896	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	(75,737)		435,773	
Equipment	157,476		698,385	
TOTAL		**1,134,158**		**1,784,152**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-7(SCH.)7(4)(ii)-e)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Automated DNA sequencing and controlled enviornment plant growth chamber facility

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Savings A/C				
Equipment	(344,639)		(344,639)	
			-	
Grant- In- Aid for				
i) Equipment	-		-	
TOTAL		(344,639)		(344,639)

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Equipment	(344,639)		(344,639)	
TOTAL		(344,639)		(344,639)

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Biotechnological approach towards forage crop improvement (Molecular characterization of genes involved in expression of components of apomixis)

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	17,419		17,419	
Equipment	(20,980)		(20,980)	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	2,000		-	
iv) Travel	-		-	
v)Contingencies	-		-	
TOTAL		**(1,561)**		**(3,561)**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable				
iv) Travel				
v)Contingencies	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	19,419		17,419	
Equipment	(20,980)		(20,980)	
TOTAL		**(1,561)**		**(3,561)**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled DNA barcoding of *Dalbergia species*

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	45,059		45,059	
Equipment	(191,459)		(191,459)	
Grant- In- Aid for				
i) Equipment				
ii) Manpower				
iii) Consumable				
iv) Travel				
v)Contingencies				
TOTAL		**(146,400)**		**(146,400)**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	-		-	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	45,059		45,059	
Equipment	(191,459)		(191,459)	
TOTAL		**(146,400)**		**(146,400)**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Setting up of Phytotron facilities as a part of the project(Centre for knowledge management and translational research for crop improvement (CKMTRC)

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Equipment	4,137,207		4,862,267	
Grant- In- Aid for				
i) Equipment	-		-	
TOTAL		**4,137,207**		**4,862,267**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	4,137,207		725,060	
CLOSING BALANCE				
With Bank in Saving A/c				
Equipment	-		4,137,207	
TOTAL		**4,137,207**		**4,862,267**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-11(SCH.)7(4)(ii)-i)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled National Plant Gene Repository

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	1,174,670		1,096,893	
Equipment	826		537,826	
Grant- In- Aid for				
i) Equipment	-		(537,000)	
ii) Manpower	400,000		870,000	
iii) Consumable	400,000		463,000	
iv) Travel	-		45,000	
v)Contingencies	-		100,000	
TOTAL		**1,975,496**		**2,575,719**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	849,930		834,283	
iii) Consumable	906,885		414,605	
iv) Travel	86,342		71,007	
v)Contingencies	94,331		80,328	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	37,182		1,174,670	
Equipment	826		826	
TOTAL		**1,975,496**		**2,575,719**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Isolation and functional characterization of genes from necrotrophic chickpea-blight fungus *Ascochyta rabiei* which involved in pathogenesis during compatible interactions.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	169,461		185,085	
Equipment	385		385	
Grant- In- Aid for				
i) Equipment				
ii) Manpower	-		450,000	
iii) Consumable	-		150,000	
iv) Travel	-		25,000	
v)Contingencies	-		75,000	
TOTAL		**169,846**		**885,470**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	85,800		495,342	
iii) Consumable	-		167,857	
iv) Travel	-		14,385	
v)Contingencies	-		38,040	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	83,661		169,461	
Equipment	385		385	
TOTAL		**169,846**		**885,470**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-13(SCH.)7(4)(ii)-k)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Functional analysis of gene regulatory networks during flower and seed development in rice .

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	1,437,280		911,850	
Equipment	-		148,244	
Grant- In- Aid for				
i) Equipment	-		(148,244)	
ii) Manpower	429,000		350,000	
iii) Consumable	779,000		800,044	
iv) Travel	45,000		-	
v)Contingencies	153,000		182,000	
TOTAL		**2,843,280**		**2,243,894**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	488,427		343,480	
iii) Consumable	759,217		332,529	
iv) Travel	31,344		14,404	
v)Contingencies	195,860		116,201	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	1,368,432		1,437,280	
Equipment	-		-	
TOTAL		**2,843,280**		**2,243,894**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Analysis of diseases-responsive subcellular phosphoproteome in crop plants.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	790,037		787,080	
Equipment	(40,854)		(40,854)	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	-		456,239	
iii) Consumable	-		813,115	
iv) Travel	-		31,932	
v)Contingencies	-		103,239	
TOTAL		**749,183**		**2,150,751**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	6,066		272,242	
iii) Consumable	361,212		1,002,891	
iv) Travel	-		17,702	
v)Contingencies	19,584		108,733	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	403,175		790,037	
Equipment	(40,854)		(40,854)	
TOTAL		**749,183**		**2,150,751**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-15(SCH.)7(4)(ii)-m)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Indo-Canadian Pulse Genomics Initiative (InCan-PGI).

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	739,295		3,239,199	
Equipment	2,013,737		2,600,000	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	-		-	
TOTAL		**2,753,032**		**5,839,199**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	2,013,737		586,263	
ii) Manpower	233,688		122,116	
iii) Consumable	193,054		2,306,511	
iv) Travel	283,852		-	
v)Contingencies	28,701		71,277	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	-		739,295	
Equipment	-		2,013,737	
TOTAL		**2,753,032**		**5,839,199**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Molecular genetics of plant development: Regulation Stem Cells and lateral organ patterning through the activity of novel genes and small RNAs.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	639,796		594,574	
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower	990,000		990,000	
iii) Consumable				
iv) Travel				
v)Contingencies	500,000		500,000	
TOTAL		**2,129,796**		**2,084,574**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	990,000		1,012,500	
iii) Consumable				
iv) Travel				
v)Contingencies	515,073		432,278	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	624,723		639,796	
Equipment				
TOTAL		**2,129,796**		**2,084,574**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Next Generation Challenge Programme on Chickpea Genomics.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	7,570,568		10,928,423	
Equipment	-		4,467,136	
Grant- In- Aid for				
i) Equipment	-		(296,630)	
ii) Manpower	4,137,850		3,600,000	
iii) Consumable	5,200,000		4,500,630	
iv) Travel	120,406		-	
v)Contingencies	382,684		330,000	
TOTAL		**17,411,508**		**23,529,559**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		4,170,506	
ii) Manpower	3,629,250		3,088,393	
iii) Consumable	4,927,562		8,268,037	
iv) Travel	68,359		87,338	
v)Contingencies	273,870		344,717	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	8,512,467		7,570,568	
Equipment	-		-	
TOTAL		**17,411,508**		**23,529,559**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Functional study of mediator complex, a transcriptional co-activator in plant Growth & Development.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	353,122		53,176	
Equipment	14,947		119,910	
Grant- In- Aid for				
i) Equipment				
ii) Manpower	170,000		149,000	
iii) Consumable	600,000		600,000	
iv) Travel				
v) Contingencies				
vi) Cash Award	100,000		100,000	
TOTAL		**1,238,069**		**1,022,086**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	14,947		104,963	
ii) Manpower	206,026		184,180	
iii) Consumable	434,379		264,874	
iv) Travel				
v) Contingencies				
vi) Cash Award	100,000		100,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	482,717		353,122	
Equipment	-		14,947	
TOTAL		**1,238,069**		**1,022,086**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Comparative metabolite profiling of transgenic and non-transgenic potato expressing AmA1 protein

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	82,273		1,037,504	
Equipment	-		450,000	
Grant- In- Aid for				
i) Equipment				
ii) Manpower	91,000		-	
iii) Consumable	250,000		-	
iv) Travel	-		-	
v) Contingencies	20,000		-	
TOTAL		**443,273**		**1,487,504**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		450,000	
ii) Manpower	139,333		293,067	
iii) Consumable	238,654		608,840	
iv) Travel	21,320		-	
v) Contingencies	18,824		53,324	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	25,142		82,273	
Equipment	-		-	
TOTAL		**443,273**		**1,487,504**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Molecular cloning and characterization of dehydration responsive Tubby-like protein CaTLP1

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	6,348		347,929	
Equipment	23,040		482,000	
Grant- In- Aid for				
i) Equipment	(23,040)		-	
ii) Manpower	593,000		-	
iii) Consumable	700,000		-	
iv) Travel	20,000		-	
v) Contingencies	60,000		-	
TOTAL		**1,379,348**		**829,929**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		458,960	
ii) Manpower	366,800		206,075	
iii) Consumable	304,204		118,304	
iv) Travel	-		17,202	
v) Contingencies	26,459		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	681,885		6,348	
Equipment	-		23,040	
TOTAL		**1,379,348**		**829,929**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Elucidation of protein level interactions to define arrangement of subunits in the plant mediator complex

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	83,341		1,003,835	
Equipment	21,898		668,990	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	302,766		-	
iii) Consumable	712,318		-	
iv) Travel	-		-	
v) Contingencies	38,309		-	
TOTAL		**1,158,632**		**1,672,825**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		647,092	
ii) Manpower	351,000		294,220	
iii) Consumable	705,722		584,590	
iv) Travel	18,020		-	
v) Contingencies	37,071		41,684	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	24,921		83,341	
Equipment	21,898		21,898	
TOTAL		**1,158,632**		**1,672,825**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Molecular and biochemical study of protein-L-Isoaspartyl Methyltransferase (PIMT) and its biological role in seed vigor,viability and stress tolerance in rice

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	621,861		697,901	
Equipment	-		857,000	
Grant- In- Aid for				
i) Equipment	-		(53,999)	
ii) Manpower	434,000		183,300	
iii) Consumable	600,000		558,199	
iv) Travel	13,000		-	
v) Contingencies	35,000		43,000	
TOTAL		**1,703,861**		**2,285,401**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		803,001	
ii) Manpower	332,248		311,171	
iii) Consumable	591,449		493,693	
iv) Travel	-		13,691	
v) Contingencies	58,388		41,984	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	721,776		621,861	
Equipment	-		-	
TOTAL		**1,703,861**		**2,285,401**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Mechanism of genetic interacion between CIPK6 and CIPK25 in root development

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	300,537		167,475	
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower				
iii) Consumable	-		300,000	
iv) Travel				
v) Contingencies				
TOTAL		**300,537**		**467,475**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower				
iii) Consumable	289,931		166,938	
iv) Travel				
v) Contingencies				
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	10,606		300,537	
Equipment				
TOTAL		**300,537**		**467,475**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Mapping of Mungbean yellow Mosaic Virus resistance loci in soybean

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	(79,147)		516,415	
Equipment	89,117		433,424	
Grant- In- Aid for				
i) Equipment	(99,000)		-	
ii) Manpower	386,000		-	
iii) Consumable	550,000		-	
iv) Travel	41,000		-	
v) Contingencies	44,000		-	
TOTAL		**931,970**		**949,839**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		344,307	
ii) Manpower	378,003		376,041	
iii) Consumable	475,364		192,506	
iv) Travel	23,103		-	
v) Contingencies	44,797		27,015	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	20,586		(79,147)	
Equipment	(9,883)		89,117	
TOTAL		**931,970**		**949,839**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Regulation of root development by auxin and cytokinin mediated signaling

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	227,728		1,119,103	
Equipment	(3,572,922)		46,900,000	
Grant- In- Aid for				
i) Equipment	7,318,438		-	
ii) Manpower	764,700		-	
iii) Consumable	1,314,000		-	
iv) Travel	-		-	
v) Contingencies	69,000		-	
TOTAL		**6,120,944**		**48,019,103**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	3,745,083		50,472,922	
ii) Manpower	414,533		368,020	
iii) Consumable	731,321		493,526	
iv) Travel	23,307		-	
v) Contingencies	40,955		29,829	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	1,165,312		227,728	
Equipment	433		(3,572,922)	
TOTAL		**6,120,944**		**48,019,103**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Functional Genomics of Nodulation in Chickpea Roots

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	610,594		1,359,852	
Equipment				
Grant- In- Aid for				
i) Equipment			-	
ii) Manpower	-		-	
iii) Consumable	700,000		-	
iv) Travel	50,000		-	
v) Contingencies	17,000		-	
TOTAL		**1,377,594**		**1,359,852**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	329,806		42,774	
iii) Consumable	321,448		635,458	
iv) Travel	40,128		54,958	
v) Contingencies	13,471		16,068	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	672,741		610,594	
Equipment	-		-	
TOTAL		**1,377,594**		**1,359,852**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-27(SCH.)7(4)(ii)-y)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Study of the role Mitogen Activated Protein Kinase (MAPK) during rice root development

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	172,480		1,215,955	
Equipment	-			
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	278,200		-	
iii) Consumable	612,200		-	
iv) Travel	3,200		-	
v) Contingencies	43,000		-	
TOTAL		**1,109,080**		**1,215,955**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	369,523		371,827	
iii) Consumable	526,931		642,482	
iv) Travel	21,025		-	
v) Contingencies	42,903		29,166	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	148,698		172,480	
Equipment	-		-	
TOTAL		**1,109,080**		**1,215,955**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled To study the role of glucose and its interaction with hormones in controlling Arabidopsis thaliana root directional responses

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	113,003		196,000	
Equipment				
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	3,000		-	
iii) Consumable	700,000		-	
iv) Travel	28,600		-	
v) Contingencies	27,200		-	
TOTAL		**871,803**		**196,000**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	28,035		27,097	
iii) Consumable	694,848		-	
iv) Travel	-		28,630	
v) Contingencies	46,031		27,270	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	102,889		113,003	
Equipment	-		-	
TOTAL		**871,803**		**196,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-29(SCH.)7(4)(ii)-zi)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Identification of genes involved in regulation of Phosphate utilization by root under Water-Deficit Stress in Rice

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	427,008		579,268	
Equipment				
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	104,400		-	
iii) Consumable	669,000		-	
iv) Travel	-		-	
v) Contingencies	3,100		-	
TOTAL		**1,203,508**		**579,268**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	368,410		148,710	
iii) Consumable	615,391		-	
iv) Travel	-		-	
v) Contingencies	28,456		3,550	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	191,251		427,008	
Equipment	-		-	
TOTAL		**1,203,508**		**579,268**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Molecular characterization of Variation in Root System Architecture among selected Indicia Rice Varieties

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	79,527		503,262	
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower	281,800		-	
iii) Consumable	700,000		-	
iv) Travel	-		-	
v) Contingencies	36,000		-	
TOTAL		**1,097,327**		**503,262**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	253,961		276,409	
iii) Consumable	470,342		140,617	
iv) Travel	-		-	
v) Contingencies	50,800		6,709	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	322,224		79,527	
Equipment	-		-	
TOTAL		**1,097,327**		**503,262**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled To Study the Interaction between Cytokinin and Sugar Signal Transduction Pathway in Model Plant System Arabidopsis thaliana

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	189,339		240,490	
Equipment	(142,729)		1,300,000	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	477,000		-	
iv) Travel	-		-	
v) Contingencies	-		-	
TOTAL		**523,610**		**1,540,490**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		1,442,729	
ii) Manpower	68,387		-	
iii) Consumable	369,805		51,151	
iv) Travel	-		-	
v) Contingencies	46,858		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	181,289		189,339	
Equipment	(142,729)		(142,729)	
TOTAL		**523,610**		**1,540,490**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-32(SCH.)7(4)(ii)-ziv)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Analysis of dehydration-responsive proteome, and cloning and functional characterization of novel elements in rice

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	8,730		890,910	
Equipment	61,040		520,000	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	606,170		-	
iii) Consumable	349,754		-	
iv) Travel	17,734		-	
v) Contingencies	24,812		-	
TOTAL		**1,068,240**		**1,410,910**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	61,441		458,960	
ii) Manpower	612,451		489,880	
iii) Consumable	345,321		349,754	
iv) Travel	15,100		17,734	
v) Contingencies	25,262		24,812	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	9,066		8,730	
Equipment	(401)		61,040	
TOTAL		**1,068,240**		**1,410,910**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Development of low Glucosinolate Vrassica Juncea transgenic lines using RNAi based down-regulation of glucosinolate pathway genes

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	210,757			
Equipment	88,617		1,082,900	
Grant- In- Aid for				
i) Equipment	-		-	
ii) Manpower	179,900		283,200	
iii) Consumable	641,300		700,000	
iv) Travel	1,100		40,000	
v) Contingencies	30,100		40,000	
TOTAL		**1,151,774**		**2,146,100**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	33,300		994,283	
ii) Manpower	283,200		179,902	
iii) Consumable	64,426		641,294	
iv) Travel	582		1,111	
v) Contingencies	12,265		30,136	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	702,684		210,757	
Equipment	55,317		88,617	
TOTAL		**1,151,774**		**2,146,100**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

DBT-CREST award for the Year 2011-12

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	(100,188)		368,993	
Grant- In- Aid for				
i) Fellowship	-		-	
ii) Preparatory Allowance	-		-	
iii) Travel Cost	-		-	
TOTAL		**(100,188)**		**368,993**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Fellowship	-		483,005	
ii) Preparatory Allowance	-		-	
iii) Travel Cost	-		(13,824)	
CLOSING BALANCE				
With Bank in Saving A/c	(100,188)		(100,188)	
TOTAL		**(100,188)**		**368,993**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-35(SCH.)7(4)(ii)-zvii)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Functional Proteomic Studies in North-east Rice (Oryza sativa L.) for Dehydration Tolerance

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	666,157			
Equipment	290,000			
Grant- In- Aid for				
i) Equipment	-		290,000	
ii) Manpower	-		500,000	
iii) Consumable	-		500,000	
iv) Travel	-		50,000	
v) Contingencies	-		50,000	
TOTAL		**956,157**		**1,390,000**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	247,021		-	
ii) Manpower	235,040		261,678	
iii) Consumable	399,264		105,463	
iv) Travel	31,887		30,992	
v) Contingencies	13,985		35,710	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	(14,019)		666,157	
Equipment	42,979		290,000	
TOTAL		**956,157**		**1,390,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Tissue Specific Engineering of Glucosinolate Content and Profiles in Indian Oilseed Mustard (Brassica Juncea) for Higher Nutritional Value and Uncompromised Defense Response

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment	1,000,000			
ii) Manpower	250,000			
iii) Consumable				
iv) Travel	600,000			
v) Contingencies				
vi) Cash Award	100,000			
TOTAL		1,950,000		-

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	603,761			
ii) Manpower	135,368			
iii) Consumable				
iv) Travel	402,537			
v) Contingencies				
vi) Cash Award	100,000			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	312,095			
Equipment	396,239			
TOTAL		1,950,000		-

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled G-Quadruplexes: Prevalence, Functional relevance and Epigenetic Regulation in Plants

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment	1,000,000			
ii) Manpower	250,000			
iii) Consumable				
iv) Travel	600,000			
v) Contingencies				
vi) Cash Award	100,000			
TOTAL		**1,950,000**		**-**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	928,989			
ii) Manpower	94,120			
iii) Consumable				
iv) Travel	353,005			
v) Contingencies				
vi) Cash Award	100,000			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	402,875			
Equipment	71,011			
TOTAL		**1,950,000**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Gold nanoparticles based simple,quick and onsite early diagnostic kit for apple scab disease

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower	280,800			
iii) Consumable	500,000			
iv) Travel	30,000			
v) Contingencies	50,000			
TOTAL		**860,800**		**-**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	129,140			
iii) Consumable	143,112			
iv) Travel	17,902			
v) Contingencies	25,161			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	545,485			
Equipment				
TOTAL		**860,800**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Biotechnological approaches to improve nutritional and post-harvest quality, drought olerance and pathogen resistance in edible crops

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower	1,965,000			
iii) Consumable	2,884,000			
iv) Travel	50,000			
v) Contingencies	100,000			
TOTAL		**4,999,000**		**-**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	544,678			
iii) Consumable	2,767,716			
iv) Travel	-			
v) Contingencies	94,032			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	1,592,574			
Equipment				
TOTAL		**4,999,000**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Functional genomics approaches in understanding the regulation of synthesis and accumulation of apocarotenoids in saffron crocus (Crocus sativus L.)

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment	850,000			
ii) Manpower	280,800			
iii) Consumable	1,500,000			
iv) Travel	50,000			
v) Contingencies	50,000			
TOTAL		**2,730,800**		**-**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	800,000			
ii) Manpower	66,929			
iii) Consumable	235,587			
iv) Travel	18,670			
v) Contingencies	22,388			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	1,537,226			
Equipment	50,000			
TOTAL		**2,730,800**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Understanding synergistic response of Arabidopsis plants exposed to drought and bacterial pathogen.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment				
ii) Manpower	990,000			
iii) Consumable				
iv) Travel	1,000,000			
v) Contingencies				
TOTAL		**1,990,000**		**-**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-			
ii) Manpower	728,750			
iii) Consumable				
iv) Travel	379,370			
v) Contingencies				
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	881,880			
Equipment				
TOTAL		**1,990,000**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

R/P entitled Analysis of diversity in yield components (seed size and weight) at transcriptome and epigenome levels for association/genetic mapping of selected loci in rice and chickpea.

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant- In- Aid for				
i) Equipment	17,500,000			
ii) Manpower	2,503,200			
iii) Consumable	17,500,000			
iv) Travel	150,000			
v) Contingencies	300,000			
TOTAL		**37,953,200**		**-**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-			
ii) Manpower	857,109			
iii) Consumable	5,052,313			
iv) Travel	-			
v) Contingencies	35,965			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	14,507,813			
Equipment	17,500,000			
TOTAL		**37,953,200**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT PROJECT

DBT-CREST award for the Year 2011-12

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Grant- In- Aid for				
i) Fellowship	792,000			
ii) Preparatory Allowance	30,000			
iii) Travel Cost	90,000			
TOTAL		**912,000**		**-**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Fellowship	540,097			
ii) Preparatory Allowance	30,000			
iii) Travel Cost	90,000			
CLOSING BALANCE				
With Bank in Saving A/c	251,903			
TOTAL		**912,000**		**-**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-44(SCH.)7(4)(iii)-a)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled Financial Assistance for a award of J.C.Bose Fellowship to Prof. Akhilesh Kumar Tyagi

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	252,160		184,653	
Equipment			-	
Grant - In - Aid for				
i) Equipment				
ii) Manpower	300,000		300,000	
iii) Consumable				
iv) Travel				
v)Contingencies	740,000		840,000	
vi)Overheads	60,000		60,000	
TOTAL		**1,352,160**		**1,384,653**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	300,000		300,000	
iii) Consumable				
iv) Travel				
v)Contingencies	872,909		772,493	
vi)Overheads	60,000		60,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	119,251		252,160	
Equipment				
TOTAL		**1,352,160**		**1,384,653**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P under SERC Fast Track Scheme entitled To study the interaction between glucose and brassinosteroid signal transduction pathway in a model plant system Arabidopsis thaliana

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	9,209		252,608	
Equipment			-	
Grant - In - Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	-		-	
vi)Overheads	-		-	
TOTAL		**9,209**		**252,608**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment			-	
ii) Manpower			-	
iii) Consumable	(6,320)		232,712	
iv) Travel	16,000		-	
v)Contingencies	(471)		-	
vi)Overheads	-		10,687	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	-		9,209	
Equipment	-		-	
TOTAL		**9,209**		**252,608**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P under SERC Fast Track Scheme entitled Development, characterization and use of microsatellite markers in foxtail millet(*setaria italica (L.) P. Beauv*)

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	6,171		6,491	
Equipment	2,000		2,000	
Grant - In - Aid for				
i) Equipment	-		-	
ii) Manpower	-		418,000	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	-		-	
vi)Overheads	-		82,000	
TOTAL		**8,171**		**508,491**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	8,171		418,000	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	-		320	
vi)Overheads	-		82,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	-		6,171	
Equipment	-		2,000	
TOTAL		**8,171**		**508,491**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-47(SCH.)7(4)(iii)-d)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

A'(WOS-A) entiled Functional characterization of mitogen activated protein kinase-3 (OsMPK3) in rice

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	96,582		17,841	
Equipment	500		500	
Grant - In - Aid for				
i) Equipment	-		-	
ii) Manpower	420,000		420,000	
iii) Consumable	110,000		150,000	
iv) Travel	-		20,000	
v)Contingencies	20,000		20,000	
vi)Overheads	100,000		100,000	
TOTAL		**747,082**		**728,341**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	420,000		420,000	
iii) Consumable	147,744		96,751	
iv) Travel	-		-	
v)Contingencies	32,321		14,508	
vi)Overheads	100,000		100,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	46,517		96,582	
Equipment	500		500	
TOTAL		**747,082**		**728,341**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-48(SCH.)7(4)(iii)-e)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

WOS-A entitled Role of amino acids in morphogenesis of Candida albicans

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	51,370		41,609	
Equipment				
Grant - In - Aid for				
i) Equipment				
ii) Manpower	220,000		240,000	
iii) Consumable	138,000		150,000	
iv) Travel	-		10,000	
v)Contingencies	10,000		10,000	
vi)Overheads	82,000		82,000	
TOTAL		**501,370**		**533,609**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	211,333		260,000	
iii) Consumable	177,821		126,462	
iv) Travel	7,480		3,063	
v)Contingencies	9,975		10,714	
vi)Overheads	82,000		82,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	12,761		51,370	
Equipment				
TOTAL		**501,370**		**533,609**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled Role of homeobox genes in abiotic stress responses in rice

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	543,347		1,300,000	
Equipment	27,852		600,000	
Grant - In - Aid for				
i) Equipment	-		-	
ii) Manpower	100,000		-	
iii) Consumable	560,000		-	
iv) Travel	-		-	
v)Contingencies	40,000		-	
vi)Overheads	100,000		-	
TOTAL		**1,371,199**		**1,900,000**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	(19,151)		572,148	
ii) Manpower	499,683		225,294	
iii) Consumable	655,289		501,721	
iv) Travel	14,472		470	
v)Contingencies	37,848		29,168	
vi)Overheads	100,000		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	36,055		543,347	
Equipment	47,003		27,852	
TOTAL		**1,371,199**		**1,900,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-50(SCH.)7(4)(iii)-g)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled Genomic Approaches for Stress Tolerant Chickpea

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	393,434		-	
Equipment			-	
Grant - In - Aid for				
i) Equipment				
ii) Manpower	370,200		561,600	
iii) Consumable	2,504,960		1,039,800	
iv) Travel	-		-	
v)Contingencies	-		-	
vi)Overheads	131,840		100,000	
TOTAL		**3,400,434**		**1,701,400**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment			-	
ii) Manpower	291,200		176,235	
iii) Consumable	1,648,519		1,031,731	
iv) Travel	-		-	
v)Contingencies	-		-	
vi)Overheads	131,840		100,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	1,328,875		393,434	
Equipment	-		-	
TOTAL		**3,400,434**		**1,701,400**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-51(SCH.)7(4)(iii)-h)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled Investigation of cross talk between MAP Kinase and light signaling pathways in Arabidopsis thaliana

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	353,235		-	
Equipment	119,793		-	
Grant - In - Aid for				
i) Equipment	-		850,000	
ii) Manpower	100,000		130,000	
iii) Consumable	570,000		600,000	
iv) Travel	-		30,000	
v)Contingencies	30,000		40,000	
vi)Overheads	100,000		100,000	
TOTAL		**1,273,028**		**1,750,000**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		730,207	
ii) Manpower	102,658		23,400	
iii) Consumable	719,847		401,603	
iv) Travel	-		-	
v)Contingencies	19,636		21,762	
vi)Overheads	100,000		100,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	211,094		353,235	
Equipment	119,793		119,793	
TOTAL		**1,273,028**		**1,750,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled Innovation in Science Pursuit for Inspired Research (INSPIRE) Faculty Award to Dr. Rohini Garg

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	601,239		-	
Equipment	176,539		-	
Grant - In - Aid for				
i) Equipment	245,000		245,000	
ii) Manpower	991,680		1,200,000	
iii) Consumable				
iv) Travel	-		-	
v)Contingencies	420,000		420,000	
vi)Overheads	35,000		35,000	
TOTAL		**2,469,458**		**1,900,000**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	86,573		68,461	
ii) Manpower	983,760		699,355	
iii) Consumable	-		-	
iv) Travel	-		-	
v)Contingencies	267,033		319,406	
vi)Overheads	35,000		35,000	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	762,126		601,239	
Equipment	334,966		176,539	
TOTAL		**2,469,458**		**1,900,000**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DST PROJECT

R/P entitled SERB Woman Excellence Award to Dr. Gitanjali Yadav

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring				
Equipment				
Grant - In - Aid for				
i) Equipment				
ii) Manpower				
iii) Consumable				
iv) Travel	500,000			
v)Contingencies				
vi)Overheads	100,000			
TOTAL		600,000		

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower				
iii) Consumable				
iv) Travel	385,608			
v)Contingencies				
vi)Overheads	100,000			
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	114,392			
Equipment				
TOTAL		600,000		

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

ICMR PROJECT

R/P entitled Genetic engineering of vegetable and legume corps with oxalate decarboxylase gene for removal of oxlic acid on antinutritional stress factor for better human nutrition

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	1,110		389,676	
Equipment	-		-	
Grant - In - Aid for				
i) Equipment	-		-	
ii) Manpower	-		-	
iii) Contingencies	-		-	
iv) Overheads	-		-	
v) Travel	-		-	
TOTAL		**1,110**		**389,676**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment	-		-	
ii) Manpower	-		207,307	
iii) Contingencies	1,110		166,553	
iv) Overheads	-		14,706	
v) Travel	-		-	
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	-		1,110	
Equipment	-		-	
TOTAL		**1,110**		**389,676**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-55(SCH.)7(4)(iv)-b)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

ICMR PROJECT

R/P entitled N-acetylglucosamine-Kinase HXK-1 regulatory role in morphogenesis and pathogenesis in human fungal pathogen *Candida albicans*

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
Recurring	311,380		26,389	
Equipment	-		-	
Grant - In - Aid for				
i) Equipment				
ii) Manpower	-		772,284	
iii) Contingencies	-		509,677	
iv) Overheads				
TOTAL		**311,380**		**1,308,350**

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Equipment				
ii) Manpower	184,516		538,200	
iii) Contingencies	126,864		458,770	
iv) Overheads				
CLOSING BALANCE				
With Bank in Saving A/c				
Recurring	-		311,380	
Equipment	-		-	
TOTAL		**311,380**		**1,308,350**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

NASI PLATINUM JUBILEE CHAIR

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	-			
Grant - In - Aid for				
i) Salary	1,606,400			
ii) Contingencies	114,854			
TOTAL		1,721,254		

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
i) Salary	1,599,274			
ii)Contingencies	114,854			
CLOSING BALANCE				
With Bank in Saving A/c	7,126			
TOTAL		1,721,254		

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-57(SCH.)7(4)(vi)- a)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

FELLOWSHIP GRANT CSIR

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	2,395,675		682,467	
Amt.received from CSIR for Research Fellowships & Associatships	6,558,521		15,469,684	
TOTAL		8,954,196		16,152,151

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Amount paid for Research Fellowships & Associatships	8,335,199		13,756,476	
CLOSING BALANCE				
With Bank in Saving A/c	618,997		2,395,675	
TOTAL		8,954,196		16,152,151

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-58(SCH.)7(4)(vi)- b)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

FELLOWSHIP GRANT UGC

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	2,556,978		3,520	
Amt.received from UGC for Research Fellowships & Associatships	3,689,702		8,243,412	
TOTAL		6,246,680		8,246,932

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Amount paid for Research Fellowships & Associatships	5,787,756		5,689,954	
CLOSING BALANCE				
With Bank in Saving A/c	458,924		2,556,978	
TOTAL		6,246,680		8,246,932

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-59(SCH.)7(4)(vi)- c)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

FELLOWSHIP GRANT DBT

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD

FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				**AMOUNT-IN-RUPEES**
PARTICULARS	**CURRENT YEAR**		**PREVIOUS YEAR**	
OPENING BALANCE				
With Bank in Saving A/c	634,669		1,116,951	
Amt.received from DBT for Research Fellowships & Associatships	5,103,632		3,932,373	
TOTAL		**5,738,301**		**5,049,324**

PAYMENTS				**AMOUNT-IN-RUPEES**
PARTICULARS	**CURRENT YEAR**		**PREVIOUS YEAR**	
Amount paid for Research Fellowships & Associatships	5,135,809		4,414,655	
CLOSING BALANCE				
With Bank in Saving A/c	602,492		634,669	
TOTAL		**5,738,301**		**5,049,324**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	**(SANDEEP DATTA)**	**(Prof.AKHILESH Kr.TYAGI)**	**(VIPUL GIROTRA)**
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-60(SCH.)7(4)(vi)- d)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

DBT POSTDOCTORAL FELLOWSHIP GRANT

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	575,372		338,642	
Amt.received from DBT for Research Fellowships & Associatships	817,600		1,548,897	
TOTAL		1,392,972		1,887,539

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Amount paid for Research Fellowships & Associatships	1,249,070		1,312,167	
CLOSING BALANCE				
With Bank in Saving A/c	143,902		575,372	
TOTAL		1,392,972		1,887,539

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-61(SCH.)7(4)(vi)- e)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

FELLOWSHIP GRANT ICMR

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	117,091		278,486	
Amt.received from ICMR for Research Fellowships & Associatships	251,897		812,800	
TOTAL		368,988		1,091,286

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Amount paid for Research Fellowships & Associatships	213,889		974,195	
CLOSING BALANCE				
With Bank in Saving A/c	155,099		117,091	
TOTAL		368,988		1,091,286

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-62(SCH.)7(4)(vi)- f)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

FELLOWSHIP GRANT TWAS

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD FROM 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c	129,202		2	
Amt.received from ICGEB for Research Fellowships & Associatships	484,426		546,000	
TOTAL		**546,002**		**546,002**

PAYMENTS			AMOUNT-IN-RUPEES	
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Amount paid for Research Fellowships & Associatships	564,904		416,800	
CLOSING BALANCE				
With Bank in Saving A/c	48,724		129,202	
TOTAL		**546,002**		**546,002**

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

ANNEXURE-63(SCH.)7(4)(vii))

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(Formerly National Centre for Plant Genome Research)

NEW DELHI

RECEIPT AND PAYMENT ACCOUNT OF NIPGR EMPLOYEES CONTRIBUTORY PROVIDENT FUND ACCOUNT

FOR THE PERIOD 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
In Savings Account	1,746,177		43,202	
In Fixed Deposit	22,400,000		18,200,000	
SUBSCRIPTIONS				
(i)Amount of Regular Subscription	3,788,400		2,638,210	
(ii) Refund of advances received from Subscribers	409,250		533,500	
Amount received from NIPGR Core grant to meet Institute's liability towards Contribution & Deficit of Interest	293,147		1,318,191	
INTEREST EARNED				
Savings Account	2,490,074		1,823,074	
TOTAL		31,127,048		24,556,177

PAYMENTS				AMOUNT-IN-RUPEES
PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
Advances paid to Subscribers	345,000		410,000	
Full & Final payment of Subscribers	2,653,294		-	
	-		-	
CLOSING BALANCE				
In Savings Account	728,754		1,746,177	
In Fixed Deposit	27,400,000		22,400,000	
TOTAL		31,127,048		24,556,177

For V. K. DHINGRA & Co.
CHARTERED ACCOUNTANTS
Firm Registration No. : 000250N

(RAKESH MOHAN)	(SANDEEP DATTA)	(Prof.AKHILESH Kr.TYAGI)	(VIPUL GIROTRA)
FINANCE OFFICER	MANAGER	DIRECTOR	PARTNER
			Membership. No. 084312

11th International Symposium on Rice Functional Genomics

RECEIPT AND PAYMENT ACCOUNT FOR THE PERIOD 1st APRIL 2013 TO 31st MARCH 2014

RECEIPTS

AMOUNT-IN-RUPEES

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
OPENING BALANCE				
With Bank in Saving A/c				
1. Contribution from Government Institutions	38,40,000			
(a) NIPGR ₹2000000				
(b) SERB ₹450000				
(c) BIRAC ₹750000				
(d) INSA ₹40000				
(e) ICAR ₹600000				
2.Sponsorship (Industries & Corporates)	48,67,147			
3.Registration Fee	56,84,400			
4. Interest	1,03,212			
TOTAL		1,44,94,759		-

PAYMENTS

AMOUNT-IN-RUPEES

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
1. Symposium Management Expenses	1,10,03,174			
2. Boarding & Lodging	1,18,114			
3.Postage Charges	10,311			
4.Travel Expenses	6,60,360			
5.Contingencies	272			
CLOSING BALANCE				
With Bank in Saving A/c	27,02,528			
TOTAL		1,44,94,759		-

(SANDEEP DATTA)	(Dr, ALOK K SINHA)	(Prof. J P KHURANA)	(Prof. AKHILESH Kr. TYAGI)	(VIPUL GIROTRA)
Member	Member	Chairperson	Chairman	Partner
Finance Committee	Finance Committee	Finance Committee	Organizing Committee	For V.K. Dhingra & Co.
11th ISRFG	11th ISRFG	11th ISRFG	11th ISRFG	Chartered Accountants

COMMENTS ON AUDITOR'S REPORT ON ACCOUNTS FOR THE YEAR ENDED MARCH 31, 2014

Para

Provision for actuarial liability on account of gratuity and other terminal benefits for employees has not been worked out and provided for as required under AS-15 “Employee Benefits” issued by The Institute of Chartered Accountants of India. In the absence of actuarial valuation as on 31.03.2014, we are not in a position to ascertain and quantify the impact thereof on the financial statement. (Also refer point no.8 of schedule no.24 to the financial statements).

Reply

The expenditure on staff payments including terminal benefits of employees of the Institute are being met from the grants allocated by the Department of Biotechnology, as and when the payment become due. The liability on account of payment of gratuity shall be met from the respective head of account, whenever the liability occurs and in accordance with the prescribed Rules. In this regard, additional grant was sought from the Government for providing Earmarked Corpus fund towards terminal benefits of employees. However, on account of paucity of funds no additional grant has been sanctioned by the DBT during the year 2013-14. Accordingly, Earmarked Corpus fund for retirement benefits could not be provided in the Accounts for the year 2013-14.However, efforts are on to make provision for requisite Corpus fund during the fiscal 2014-15.

(Rakesh Mohan)	**(Sandeep Datta)**	**(Prof. Akhilesh Kumar Tyagi)**
Finance Officer	**Manager**	**Director**

National Institute of Plant Genome Research

Aruna Asaf Ali Marg, JNU Campus, P. O. Box 10531, New Delhi – 110 067
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