

LIST OF RESEARCH PROJECTS

DEVELOPMENT AND ANALYSIS OF EXPERIMENTAL DESIGNS FOR AGRICULTURAL SYSTEMS RESEARCH

On-going

ICAR National Professor Scheme

1. **Designs for single factor and multi-factor experiments and their applications in agricultural systems research.**

VK Gupta: 05.04.2006-31.03.2016

Institute Funded

2. **Development of innovative convenience food as protein supplement. (Collaboration with IARI, New Delhi association w.e.f. 26.02.2010). (CIP0912)**

IARI: SK Jha, Shruti Sethi, RK Pal, Abhijit Kar, VR Sagar, Charanjit Kaur, DVK Samuel, Amar Singh and

IASRI: Krishan Lal: 24.10.2009–31.03.2014

3. **Weed assessment and management in the crops and cropping systems. (Collaboration with IARI, New Delhi w.e.f. 29.12.2010). (CIP1011)**

IARI: Rajvir Sharma, TK Das, Jitender Kumar, Pankaj, Livleen Shukla, Sangeeta Paul, Renu Pandey, Mahesh Chand Meena, IASRI: Amrit Kumar Paul: 01.04.2009–31.03.2014

4. **Mating-environmental designs under two-way blocking setup. (SIX1202)**

Eldho Varghese and Cini Varghese: 15.03.2012–30.09.2013

5. **Main effects linear trend-free multi-level factorial experiments. (SIX1205)**

Susheel Kumar Sarkar, Krishan Lal and VK Gupta : 27.03.2012–15.09.2013

Outside Funded

6. **Experimental designs in the presence of indirect effects of treatments. (DST Funded). (SOX1115)**

Seema Jaggi, Cini Varghese, Anu Sharma and Eldho Varghese: 01.10.2011–30.09.2014

Completed

Institute Funded

7. **Analysis of experimental designs with *t*-family of error distributions. (SIX1006)**

Krishan Lal, Rajender Parsad (upto 31.03.2011),VK Gupta and Lalmohan Bhar (till 24.09.2011): 01.05.2010–20.09.2012

8. **Efficacy of soil sampling strategies for describing spatial variability of soil attributes (Collaboration with IISS, Bhopal association w.e.f. 01.11.2011) (CIP1124)**

IISS, Bhopal: Neenu S, S Srivastava, IASRI: BN Mandal: 01.08.2010–30.09.2012

9. **Efficient designs for drug testing in veterinary trials. (SIX1104)**
Cini Varghese: 01.06.2011–30.09.2012
10. **Application of optimization techniques for construction of incomplete block designs. (SIX1116)**
BN Mandal, Rajender Parsad and VK Gupta: 01.10.2011–31.03.2013

New Initiated

Institute Funded

11. **Planning, designing and analysis of data relating to experiments for AICRP on long-term fertilizer experiments. (SIX1206)**
Krishan Lal, DK Sehgal (till 31.08.2012) and BN Mandal (since 01.10.2012): 01.04.2012–31.03.2014
12. **Planning, designing and analysis of 'On Farm' research experiments planned under PDFSR. (SIX1207)**
NK Sharma and Sukanta Dash (since 01.10.2012): 01.04.2012–31.03.2014
13. **Information system for designed experiments. (SIX1208)**
OP Khanduri, DK Sehgal (till 31.08.2012), Soumen Pal (till 30.09.2012), Shashi Dahiya and Susheel Kumar Sarkar (since 01.10.2012): 01.04.2012–31.03.2017
14. **Planning, designing and analysis of experiments planned 'On Stations' under PDFSR. (SIX01209)**
Anil Kumar, Rajendra Kumar (till 31.10.2012) and Eldho Varghese (since 01.10.2012): 01.04.2012–31.03.2014
15. **Row-column designs for factorial experiments in two rows. (AGENIASRISIL201200100001)**
Sukanta Dash, Rajender Parsad and VK Gupta: 04.10.2012–31.03.2014
16. **Experimental designs for polycross trials. (AGENIASRISIL201300200003)**
Cini Varghese, Seema Jaggi and Eldho Varghese: 04.02.2013–31.07.2014

Outside Funded

17. **Bioacoustics tool: A novel non-invasive approach for different monitoring of health and productivity in dairy animals. (AGENIASRICOL201300400005)**
NDRI, Karnal: Surender Singh Lathwal, Shiv Prasad, TK Mohanty, Archana Verma, AP Ruhil and SV Singh
IASRI: Anil Kumar: 01.02.2013-31.01.2016

FORECASTING, MODELLING AND SIMULATION TECHNIQUES IN BIOLOGICAL AND ECONOMIC PHENOMENA

On-going

Institute Funded

18. **Forecasting models using functional data analysis and nonlinear support vector regression techniques. (SIX1117)**
Mir Asif Iqbal and Prajneshu: 04.10.2011–30.06.2013
19. **Development of weather based crop yield forecasting models using Generalized Autoregressive Conditional Heteroscedastic (GARCH) and Wavelet techniques. (SIX1120)**
Ranjit Kumar Paul, Prajneshu and Himadri Ghosh: 11.10.2011–30.06.2013
20. **An econometric study of water markets in canal command area of North-Western Rajasthan. (SIX1122)**
DR Singh, Sivaramane N (till 27.03.2012), Prawin Arya and SP Bhardwaj (since 28.03.2012): 04.11.2011–30.06.2013



- 21. Weather based yield forecast for rice and wheat using non-linear regression techniques. (SIX1129)**
Sanjeev Panwar and N Okendro Singh (till 28.02.2013): 26.12.2011–30.04.2013
- 22. Development of forecasting methodology for fish production from ponds of upland region (Collaboration with DCFR, Bhimtal). (CIL1109)**
IASRI: N Okendro Singh (till 28.02.2013), Sanjeev Panwar (since 23.09.2011 as Co-PI and since 01.03.2013 as PI), LM Bhar (till 24.09.2011) and Ranjana Agrawal (till 23.09.2011) and **DCFR, Bhimtal :** Prem Kumar (since 23.09.2011): 20.08.2011–30.04.2013
- 23. Weather based forewarning of mango pests (Collaboration with CISH, Lucknow). (CIL1005)**
IASRI: Ranjana Agrawal, **CISH, Lucknow:** Rakesh Chandra, G Pandey and AK Misra, **RFRS, Vengurle:** BR Salvi, MB Dalvi, AY Munj, **AES, Paria:** NI Shah, Hemant Sharma and GB Kalariya, **BCKV, Mohanpur:** SK Ray, A Samanta, **BAC, Sabour:** Rajesh Kumar, SN Ray and Mithesh Kumar, **FRS Sangareddy:** A Bhagwan, B Mahindar and D Anitha Kumari: 01.04.2010-31.07.2013
- 24. A study of stochastic volatility models through particle filtering. (SIX1201)**
Bishal Gurung and Himadri Ghosh: 02.02.2012–30.06.2013

Outside Funded

- 25. Pest and disease dynamics vis-a-vis climatic change under National Initiative on Climate Resilient Agriculture (NICRA) (Collaboration with NCIPM, New Delhi). (COP1105)**
NCIPM: S Vennila and **IASRI:** Amrender Kumar and KN Singh (since 01.10.2012): 01.06.2011–31.03.2017
- 26. Enhancing resilience of agriculture to climate change through technologies, institutions and policies (Funded by National Initiative on Climate Resilient Agriculture (NICRA)). (COP1112)**
NCAP: Pratap Singh BIRTHAL, Suresh A Kurup and Shiv Kumar, **NAARM, Hyderabad:** GP Reddy and **IASRI:** Ranjit Kumar Paul: 29.08.2011–26.08.2014

Completed

Institute Funded

- 27. Development of forecasting module for podfly, *Melanagromyza Obtusa Malloch* in the late pigeon pea' (Collaboration with IIPR, Kanpur association w.e.f. 01.01.2009). (CIP0710)**
Ranjana Agrawal and Amrender Kumar (till 23.09.2011): 01.07.2007–30.09.2012
- 28. Weather based forewarning models for onion thrips (*Thrips tabaci Lindeman*) (Collaboration with Directorate of Onion and Garlic Research, Pune). (CIP1004)**
IASRI: Amrender Kumar, Ranjana Agrawal and **DOGR, Pune:** PS Srinivas (till 30.11.2011), Jayanthi Mala BR (since 01.12.2010): 01.04.2010–05.03.2013
- 29. Study of asymmetry in retail–wholesale price transmission for selected essential commodities. (SIX1123)**
SP Bhardwaj, Ashok Kumar (till 31.07.2012) and Sanjeev Panwar: 03.11.2011–31.03.2013

Outside Funded

- 30. Visioning, Policy Analysis and Gender (V-PAGE) Sub Program II: Technology forecasting and policy analysis (NAIP Component I: Consortium Partner) (COP0708)**
NCAP: Ramesh Chand, P Ramasundaram, **IASRI:** VK Bhatia, Ramasubramanian V, Anil Rai, KK Chaturvedi (till 31.08.2010) and Amrender Kumar: 01.06.2007–30.06.2012

New Initiated

Institute Funded

- 31. Study of commodity price forecast based on time series data. (AGENIASRISIL201300300004)**
SP Bhardwaj, DR Singh, KN Singh and Ranjit Kumar Paul: 18.02.2013–28.02.2015

DEVELOPMENT OF TECHNIQUES FOR PLANNING AND EXECUTION OF SURVEYS AND STATISTICAL APPLICATIONS OF GIS IN AGRICULTURAL SYSTEMS

On-going

Institute Funded

- 32. Study of sample sizes for estimation of area and production of food grain crops (SIX1125)**
KK Tyagi, AK Gupta, VK Jain and Kaustav Aditya : 14.11.2011–30.04.2013
- 33. On small area inference using survey weights. (SIX1107)**
IASRI: Hukum Chandra and VK Jain, **DWSR, Jabalpur:** Yogita Gharde (since 12.10.2012): 06.08.2011–31.05.2013
- 34. Spatial non-stationarity in small area estimation under area level model. (SIX1114)**
Hukum Chandra, UC Sud and Yogita Gharde (till 31.03.2012): 01.10.2011–31.07.2013
- 35. Study to develop methodology for crop acreage estimation under cloud cover in the satellite imageries. (SIX1119)**
Prachi Misra Sahoo, Tauqueer Ahmad, KN Singh and AK Gupta: 10.10.2011–31.07.2013
- 36. Farm power machinery use protocol and management for sustainable crop production (Collaboration with Division of Agricultural Engineering, IARI, New Delhi association w.e.f. 08.02.2010) (CIP0906)**
IARI: Indra Mani, Dipankar De, MS Kalra, JK Singh, Adarsh Kumar, PK Sahoo, PK Sharma, Alka Singh, JP Sinha (since 25.02.2011) and Satish Lande (since 25.02.2011), **IASRI:** Tauqueer Ahmad: 01.04.2009–31.03.2014

Completed

Outside Funded

- 37. Policy Analysis and Market Intelligence (Sub-Prog. III) of Visioning Policy Analysis and Gender (V-PAGe) project (NAIP Component I: Consortium Partner) (COP0709)**
NCAP: Ramesh Chand, P Ramasundaram and Pratap Singh (till May 2008); **IASRI:** VK Bhatia, AK Vasisht (till 01.03.2010), DR Singh, Ashok Kumar, SP Bhardwaj, Prawin Arya, Sushila Kaul (till 30.03.2010), Anil Rai, KK Chaturvedi (till 31.08.2010) and N Sivaramane, **IARI:** NP Singh (till July 2008): 01.06.2007–30.06.2012

New Initiated

Institute Funded

- 38. A study on calibration estimators of finite population total for two stage sampling design. (SIX1211)**
Kaustav Aditya, UC Sud, Hukum Chandra and VK Jain: 01.04.2012-31.03.2014
- 39. Small area estimation for skewed data. (AGENIASRISIL201300100002)**
Hukum Chandra, UC Sud and Kaustav Aditya: 19.01.2013-31.12.2014



Outside Funded

40. **Assessment of quantitative harvest and post harvest losses of major crops/commodities in India (Collaboration with CIPHET, Ludhiana association w.e.f. 01.06.2012) (COP1220)**
CIPHET, Ludhiana: SK Nanda and RK Vishwakarma, **IASRI:** Tauqueer Ahmad, UC Sud (till 26.11.2012), Anil Rai and PM Sahoo: 01.02.2012–31.03.2014

DEVELOPMENT OF STATISTICAL TECHNIQUES FOR GENETICS/COMPUTATIONAL BIOLOGY AND APPLICATIONS OF BIOINFORMATICS IN AGRICULTURAL RESEARCH

On-going

Institute Funded

41. **Analysis and determination of antimicrobial peptides: A machine learning approach. (SIX1121)**
 Sarika and Mir Asif Iqbal: 01.11.2011–30.09.2013
42. **Study of synonymous codon usage and its relation with gene expressivity in genomes of halophilic bacteria (Collaboration with NABIM, Mau). (CIL1108)**
IASRI: Samir Farooqi and Dwijesh Chand Mishra, **NABIM, Mau:** DP Singh and KK Meena: 01.08.2011–15.04.2013
43. **Genomics and molecular markers in crop plants (Collaboration with NRCPB, New Delhi association w.e.f. 28.10.2010) (Sub-project 4: Development of new genomic and EST resources and functional genomics of thermo tolerance in mandate crops). (CIP1010)**
NRCPB: NK Singh, Kishore Gaikwad, **IASRI:** AR Rao: 01.04.2009–31.03.2014*
 * The RAC of NRCPB has recommended to windup the project on 31 March 2012 and asked to continue the project for the next five year plan, i.e., 2012-2017.
44. **In silico identification of abiotic stress (Salinity) responsive transcription factor and their cis-regulatory elements in grapes (*Vitis vinifera*). (Collaboration with NRC Grapes, Pune) (CIP1213)**
NRC Grapes, Pune: Anuradha Upadhyay and Ajay Kumar Upadhyay, **IASRI:** Sarika: 01.01.2012–31.12.2013

Outside Funded

45. **Whole Genome Association (WGA) analysis in common complex diseases: An Indian initiative (Centre of Excellence in Genome Science and Predictive Medicine) (DBT funded). (COP0807)**
UDSC: BK Thelma, **NII:** Ramesh C. Juyal, **DU:** Sanjay Jain, **IASRI:** AR Rao and SD Wahi (since 22.06.2010)
AIIMS: Ashok Kumar, **DMC:** Ajit Sood: 29.09.2008–28.09.2013
46. **Bio-prospecting and allele mining for abiotic stress tolerance (NAIP Component IV: Consortium Partner). (COP0910)**
NRCPB: NK Singh, **IASRI:** AR Rao, Sudeep and SD Wahi : 04.05.2009–31.03.2014
47. **Phenomics of moisture deficit and low temperature stress tolerance in rice (Funded by NRCPB, New Delhi). (COP1106)**
NRCPB: P Ananda Kumar, **IARI:** Viswanathan Chinnusamy, **IASRI:** Sudeep, SD Wahi and Alka Arora, **IIT:** S Chaudhury, **University of Delhi South Campus:** JP Khurana, **CRRI, Cuttack :** ON Singh, **IGKV, Raipur:** G Chandel, **CAU, Barapani:** Wricha Tyagi, **ICAR RC-NEHR, Barapani:** A Pattanaik: 15.02.2011–14.02.2016
48. **Buffalo genome information resource (Funded by DBT) (Collaboration with NDRI, Karnal). (COP1215)**
NDRI, Karnal: Sachinandan De, **IASRI:** AR Rao: 26.03.2012–25.03.2014

New Initiated

Institute Funded

- 49. Algorithm for gene classification based on gene expression data. (SIX1210)**
DC Mishra and Sanjeev Kumar: 01.04.2012–31.03.2014
- 50. Study on robustness of sequential testing procedures for some distributions used in agricultural pest control. (SIX1212)**
Wasi Alam: 01.04.2012–30.09.2013
- 51. Parallelized workflows for gene prediction, phylogenetic analysis and primer designing. (SIX1219)**
SB Lal, Anu Sharma and Sarika: 28.08.2012–31.07.2014

DEVELOPMENT OF INFORMATICS IN AGRICULTURAL RESEARCH

On-going

Institute Funded

- 52. Project Information and management system of ICAR (PIMS-ICAR). (SIX0901)**
RC Goyal, PK Malhotra, Sudeep, Alka Arora and Pal Singh: 01.01.2009–31.03.2014
- 53. Development of methodology for estimation of compound growth rate and its web-based solution. (SIX1102)**
Soumen Pal (till 30.09.2012), Himadri Ghosh and Prajneshu: 25.04.2011–24.10.2013
- 54. Exploration of central data warehouse for knowledge discovery. (SIX1127)**
Anshu Bharadwaj, SN Islam and DR Singh: 09.12.2011–31.05.2013
- 55. Strengthening and refinement of maize AgriDaksh. (CIP1113)**
DMR: Virendra Kumar Yadav, KP Singh, P Kumar, Vinay Mahajan, KS Hooda, Jyoti Kaul, Ashok Kumar, Aditya Kumar Singh, Ishwar Singh, Meena Shekhar, DP Choudhary, Avinash Singode, CM Parihar, Chikkappa G Karjagi, and Ambika Rajendran; **IASRI:** Sudeep (since 01.03.2012), Yogesh Gautam (since 01.10.2011), Hari Om Agarwal (till 29.02.2012) and Harnam Singh Sikarwar (till 01.02.2012), **AICRP Centers:** Robin Gogoi (IARI), G Nallathambi (Coimbatore), Mruthunjaya C Wali (Arbhavi), SR Kulkarni (Kolhapur), SM Khanorkar (Godra), Dev Raj Lenka (Bhubaneswar), JP Shahi (Varanasi), SPS Brar (Ludhiana), Bashir Ahmad Alaie (Srinagar), Dilip Singh (Banswara) and NS Barua (Assam) : 01.04.2011–31.03.2016
- 56. ePlatform for seed spice growers. (CIL1128)**
IASRI: SN Islam, Shashi Dahiya, Anshu Bharadwaj and SP Bhardwaj, **NRCSS, Ajmer:** RS Mehta, MK Vishal, MA Khan, Gopal Lal (since 13.02.2013), Ravinder Singh (since 13.02.2013), JK Ranjan (since 13.02.2013), RK Solanki (since 13.02.2013) and SS Rathore (since 13.02.2013): 17.12.2011–30.09.2013
- 57. Web based software for codon usage analysis for gene expression identification. (SIX1204)**
Anu Sharma, SB Lal and Dwijesh Chandra Mishra: 16.03.2012-15.05.2013

Outside Funded

- 58. Strengthening Statistical Computing for NARS (NAIP Component I: Consortium Leader). (COL0908)**
VK Bhatia (till 28.02.2013) Director (IASRI), Rajender Parsad, PK Malhotra (till 31.03.2011), VK Mahajan (till 31.03.2011), Seema Jaggi, Samir Farooqui, Ramasubramanian V, LM Bhar, AK Paul, N Sivaramane (till March 2012): 20.04.2009–31.03.2014



59. Establishment of National Agricultural Bioinformatics Grid in ICAR (NAIP funded). (COL1002)

VK Bhatia (till 28.02.2013) Director (IASRI), Anil Rai, PK Malhotra (till 31.03.2011), KK Chaturvedi (till 31.08.2010), Dinesh Kumar, SB Lal, Anu Sharma, Samir Farooqi, Sudeep (till 31.03.2011), Hukum Chandra, AR Rao, Seema Jaggi, Sanjeev Kumar (since 01.09.2011) and Sarika (since 03.09.2012): 01.04.2010–31.03.2014

60. Implementation of Management Information System (MIS) including Financial Management System (FMS) in ICAR. (COL1203)

VK Bhatia (till 14.02.2013), AK Choubey (since 15.02.2013), Alka Arora, Sudeep, Shashi Dahiya, Soumen Pal (till 30.09.2012), SN Islam (since 11.06.2012) and Anshu Bharadwaj (since 15.03.2013): 19.01.2012–31.03.2014

Completed

Institute Funded

61. Development of web based mushroom expert system (Lead Centre: Directorate of Mushroom Research, Solan, HP). (CIP1110)

DMR, Solan: Mahantesh Shirur, B Vijay, RC Upadhyay, VP Sharma, OP Ahlawat, Satish Kumar, Shwet Kamal, Goraksha C Wokchaure and K Manikandan, **IASRI:** Yogesh Gautam, Hari Om Agarwal (till 29.02.2012), Pal Singh and Harnam Singh (till 01.02.2012): 01.04.2011–30.09.2012

62. Development of web enabled Statistical Package for Factorial Experiments (SPFE 2.0). (SIX1126)

Sangeeta Ahuja and PK Malhotra: 17.11.2011–31.03.2013

New Initiated

Institute Funded

63. Development of scientific monitoring system and database design for the HYPM. (SIX1216)

RC Goyal, Sudeep and Alka Arora: 01.04.2012–30.06.2013

64. Management system for post graduate education - II. (SIX1218)

Sudeep, PK Malhotra, RC Goyal and Yogesh Gautam: 01.04.2012–31.03.2017

65. National information system on agricultural education network in India. (NISAGENET-IV). (SIX1217)

RC Goyal, Alka Arora, Pal Singh, Shashi Dahiya and Soumen Pal (till 30.09.2012): 01.04.2012–31.03.2017

Outside Funded Projects

66. A new distributed computing frame work for data mining. (Funded by Department of Information Technology association w.e.f. 01.11.2012). (COP1222)

BITS, Pilani: Navneet Goyal, Poonam Goyal and Sundar Balasubramaniam, **IASRI:** Sanjeev Kumar: 15.10.2012–14.10.2015

CONSULTANCY PROJECTS: (02)

Development of Techniques for Planning and Execution of Surveys and Analysis of Data including Economic Problems of Current Interest

On-going

67. Study to develop an alternative methodology for estimation of cotton production. (Funded by Directorate of Economics and Statistics (DES), Ministry of Agriculture, Govt. of India).

Tauqueer Ahmad, VK Bhatia (till 28.02.2013), UC Sud, Anil Rai and Prachi Misra Sahoo : 01.04.2011–31.07.2013

New Initiated

68. Impact assessment of agro forestry model in Vaishali district of Bihar State

Tauqueer Ahmad, VK Bhatia (till 28.02.2013), UC Sud, Anil Rai and Prachi Mishra Sahoo: 10.09.2012–09.05.2013