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CITATIONS

ICAR AWARD CEREMONY

25 JULY 2015

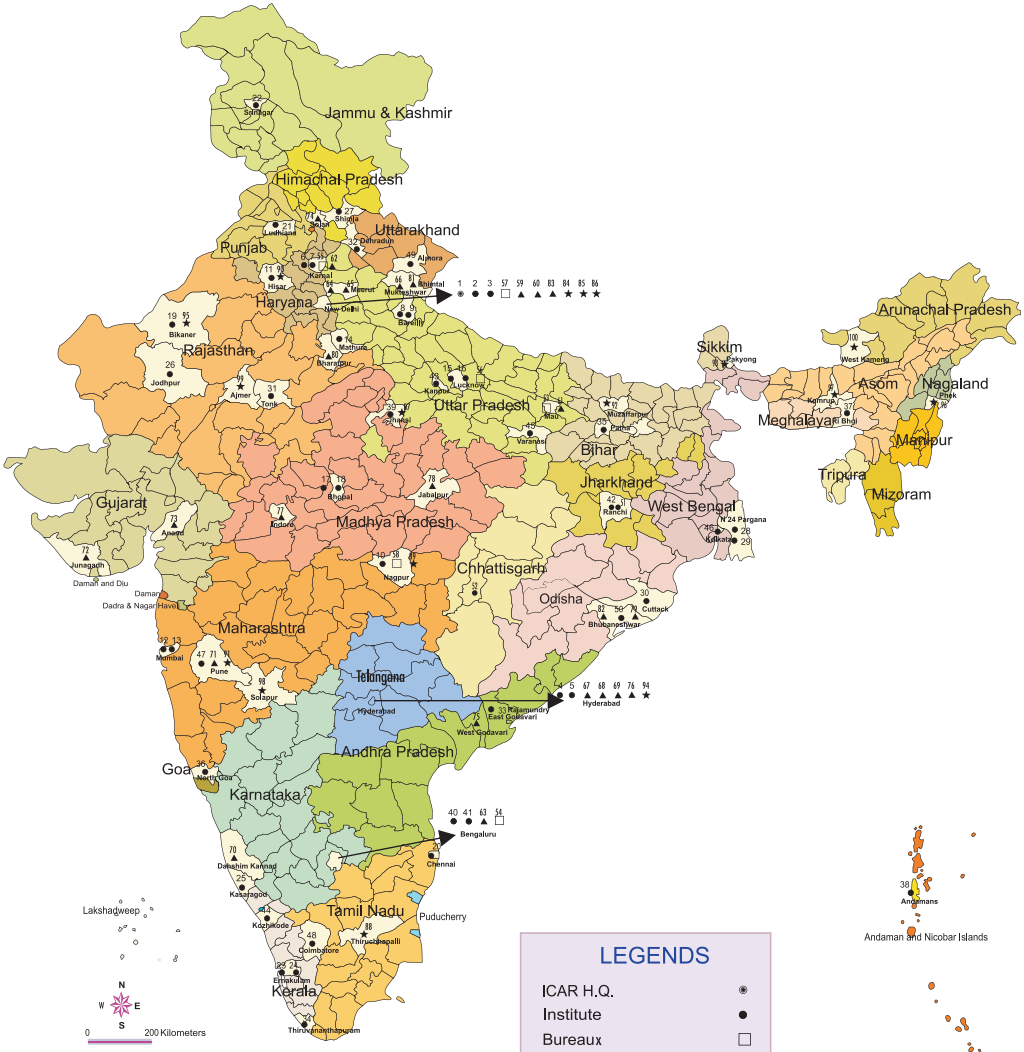
भाकृअनुप
ICAR

Indian Council of Agricultural Research
New Delhi

www.icar.org.in

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

Institutes, Bureaux, Directorates and National Research Centres



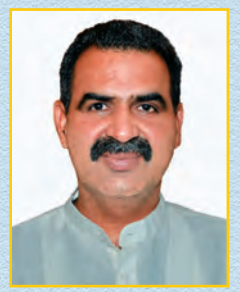
● 64 Research Institutes ● 6 Bureaux ● 15 National Research Centres ● 15 Project Directorates

ICAR AWARD CEREMONY

25 JULY 2015

Shri Narendra Modi
Hon'ble Prime Minister of India

Shri Radha Mohan Singh
Minister of Agriculture



Dr. Sanjeev Kumar Balyan
Minister of State for Agriculture

Shri Mohanbhai Kundariya
Minister of State for Agriculture

TOWARDS TRICOLOUR REVOLUTION ...

CITATIONS

ICAR AWARD CEREMONY

25 JULY 2015

Indian Council of Agricultural Research
New Delhi
www.icar.org.in

राधा मोहन सिंह
RADHA MOHAN SINGH

सत्यमेव जयते

कृषि मंत्री, भारत सरकार
MINISTER OF AGRICULTURE
GOVERNMENT OF INDIA

संदेश

मुझे यह जानकर बहुत प्रसन्नता हुई है कि भारतीय कृषि अनुसंधान परिषद अपने स्थापना दिवस समारोहों के एक भाग के रूप में वार्षिक पुरस्कार समारोह, 2015 का आयोजन कर रही है। मैं सभी पुरस्कार विजेता वैज्ञानिकों, शिक्षाविदों, किसानों और पत्रकारों का अभिनंदन करता हूँ और इन सभी को अपने–अपने कार्य क्षेत्रों में उत्कृष्ट उपलब्धियों और योगदान के लिए हार्दिक बधाई देता हूँ। मुझे पूर्ण विश्वास है कि इस प्रकार के पुरस्कार रचनात्मक और नई संकल्पनाओं को बढ़ावा देने के लिए बहुत जरूरी हैं जिनके फलस्वरूप कृषि विज्ञान के सभी क्षेत्रों में नई और बेहतर प्रौद्योगिकियों और कौशलों का विकास होता है तथा माननीय प्रधानमंत्री के कृषि उत्पादन एवं उत्पादकता को बढ़ाने, संसाधनों के उपयोग की दक्षता में सुधार लाने, उत्पादन लागतों में कमी लाने तथा लाभ–मार्जिन को बढ़ाने जैसे स्वप्नों को साकार रूप दिया जा सकता है। इस अवसर पर, मैं सभी पुरस्कार विजेताओं को उनकी शानदार उपलब्धियों के लिए पुनः बधाई देता हूँ एवं भविष्य में भी निरन्तर सफलता के लिए अपनी हार्दिक शुभकामनाएं देता हूँ और जो इस बार पुरस्कार प्राप्त नहीं कर सकें, उनके भविष्य के लिए मैं अपनी हार्दिक शुभकामनाएं देता हूँ।

11 जुलाई 2015
नई दिल्ली

(राधा मोहन सिंह)

डॉ. संजीव कुमार बालियान
Dr. SANJEEV KUMAR BALYAN

सत्यमेव जयते

कृषि राज्य मंत्री
भारत सरकार
Minister of State for Agriculture
Government of India

संदेश

मुझे यह जानकर अत्यन्त प्रसन्नता हो रही है कि भारतीय कृषि अनुसंधान परिषद के स्थापना दिवस समारोह के अवसर पर परिषद द्वारा 25 जुलाई, 2015 को वार्षिक पुरस्कार समारोह, 2015 का आयोजन किया जा रहा है। मैं सभी पुरस्कार विजेताओं को हार्दिक बधाई देता हूँ। कृषि क्षेत्र में नई और बेहतर प्रौद्योगिकियों का तेजी से विकास और कृषि में अनुसंधान, शिक्षण और विस्तार में नई युक्तियों को अपनाना आज के संदर्भ में और अधिक महत्वपूर्ण हो गया है क्योंकि हमें लगातार नई और बड़ी चुनौतियों का सामना करना पड़ रहा है। मुझे पूर्ण विश्वास है कि हमारे सभी कृषि वैज्ञानिक, अनुसंधानकर्ता, शिक्षक, विस्तार पदाधिकारी और किसान इस बात से भलीभांति अवगत हैं और वे इन समस्याओं का समाधान करने और आसन्न जटिल चुनौतियों का सामना करने में अपना महत्वपूर्ण योगदान देगें। मैं सभी पुरस्कार विजेताओं और उनके परिवारों तथा उन सभी लोगों को हार्दिक बधाई देता हूं जिन्होंने प्रत्यक्ष या अप्रत्यक्ष रूप से हमारे देश में कृषि क्षेत्र के विकास के प्रति अपना योगदान दिया है। मुझे पूर्ण आशा है कि इससे देश में कृषि विकास के सभी क्षेत्रों में वैज्ञानिक प्रयासों को और बढ़ावा मिलेगा।

15 जुलाई 2015
नई दिल्ली

(डॉ. संजीव कुमार बालियान)

मोहनभाई कुंडारिया
MOHANBHAI KUNDARIYA

सत्यमेव जयते

कृषि राज्य मंत्री
भारत सरकार
कृषि भवन, नई दिल्ली 110001
Minister of State for Agriculture
Government of India
Krishi Bhawan, New Delhi 110001

संदेश

मुझे यह जानते हुए अति प्रसन्नता हुई है कि इस वर्ष भा.कृ.अ.प., नई दिल्ली का 87वां स्थापना दिवस समारोह पटना में 25 जुलाई, 2015 को मनाया जा रहा है एवं इस अवसर पर भा.कृ.अ.प., नई दिल्ली द्वारा पुरस्कार समारोह का आयोजन भी किया जा रहा है। इस अवसर पर सभी पुरस्कार संस्थानों, वैज्ञानिकों, कृषकों एवं पत्रकारों को हार्दिक बधाई देता हूँ।

मैं आशा करता हूँ कि इससे कृषि क्षेत्र में बेहतर प्रगति होगी तथा इससे अनेक अन्य संस्थानों एवं कार्मिकों को प्रेरणा प्राप्त होगी।

(मोहनभाई कुंडारिया)

डॉ. एस. अय्यप्पन
Dr. S. AYYAPPAN

सत्यमेव जयते

Secretary, Department of Agricultural Research
& Education and Director General,
Indian Council of Agricultural Research
New Delhi 110 001

FROM THE DG'S DESK

Incentivizing individual employees and teams for their outstanding performance, across organizations, make them more efficient, responsive and productive apart from improving their level of job satisfaction. The awards, besides recognizing merit and accomplishments, generate healthy competition among individuals, groups and institutions to strive and attain still higher levels of excellence in their respective areas of work. The Indian Council of Agricultural Research has been recognizing and rewarding the institutions, scientists, teachers, farmers and agricultural journalists every year. It is satisfying to note that during this year; 82 awardees under 18 different categories have been selected. These comprise three Institutions, one AICRP, 9 KVKs, 55 scientists, 7 farmers and 6 journalists. It is heartening to note that of the 55 scientists, 15 are women.

Among the Agricultural Universities and Deemed universities, Assam Agriculture University, Jorhat has been bestowed upon the Best Agriculture University Award for the rapid strides in all spheres of teaching, research, extension and innovations, ICAR Central Research Institute for Dryland Agriculture, Hyderabad has been awarded the Best Institution Award among the large institute category whereas, the ICAR National Research Centre on Equines, Hisar, has been adjudged the best ICAR institution among smaller ICAR Institutes category.

All India Coordinated Research Project on Palms, CPCRI, Kasaragod, Kerala has been conferred Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award 2014. The Project has released 18 improved varieties of coconut which includes seven hybrids (for tender nut & copra), established nucleus seed gardens of released varieties like COD, Gautami Ganga, Kera Keralam, Kera Bastar.

Prof. N.K. Singh, National Professor, B.P. Pal Chair (Genetics & Plant Breeding), New Delhi, has been conferred Norman Borlaug Award 2014 for his outstanding contribution in the science of Genomics and Molecular Breeding in the area of Crop Sciences and Biotechnology. Rafi Ahmed Kidwai Award has been bagged by three scientists for outstanding contributions in Crop/Horticultural Sciences, NRM/ Agricultural Engineering and Animal/Fisheries Sciences respectively. Lal Bahadur Shastri Outstanding

Young Scientist Award 2014 has been bagged by 3 scientists one each in Crop/Horticultural Sciences, Animal/Fisheries Sciences and Social Sciences. Hariom Ashram Trust Award for Biennium 2012-13 have been bagged by 2 research teams in the areas of Crop/Horticultural Sciences and Natural Resource Management Agricultural Engineering categories and a researcher in the Fisheries & Animal Sciences category. Jawaharlal Nehru Awards for high quality Ph.D. thesis are being given to 17 scholars of whom 10 are from ICAR, 1 from SAUs and 6 outside NARES. There are 3 awardees for Panjabrao Deshmukh Woman Scientist Award. The Vasantrao Naik Award for Outstanding Research and Applications in Dryland Farming Systems for 2014 has gone to research team from AICRP on Dryland Agriculture, UAS, GKVK, Bengaluru. Dr. Ravindra Naik, CIAE Regional Centre, Coimbatore has been conferred NASI-ICAR Award for contributions in developing equipments to reduce drudgery and cater to the specific requirements of the farm women.

Best KVK Award at National Level has been bagged by KVK Bengaluru for outstanding extension/ outreach activities having significant impact in developing agriculture and allied sectors of the district. The awards in the best KVK at Zonal level were also bagged by 8 outstanding KVK's in different zones.

Jagjivan Ram Abhinav Kisan Puruskar has been awarded to 6 farmers, one at National level and 5 at Zonal level. The N.G. Ranga Award for Diversified Agriculture has been awarded to Shri Gurpreet Singh Shergill, a farmer from Patiala, Panjab for making floriculture as his base in diversified farming.

Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems has been bagged by 2 teams of the Scientists from ICAR Research Complex for NEH Region, Umiam, Meghalaya and All India network Project on White Grubs & other Soil Arthropod Pests at Assam Agricultural University. Swami Sahajanand Saraswati Outstanding Extension Scientist Award has gone to two scientists, one each from MP and Karnataka for their outstanding work with the farming community towards promotion of the sustainable development models.

The authors of two technical books in Hindi, one each on Crop Science/Horticulture, National Resource Management/Agricultural Engineeringhave been selected for Dr. Rajendra Prasad Puruskar. Four professors/scientists have been selected for the Bharat Ratna Dr. C. Subramanian Best Teacher Award in the fields of Crop/Horticultural Sciences, NRM/Agricultural Engineering, Animal/Fisheries Sciences and Social Sciences. Six journalists comprising of 4 from Print and 2 from electronic media have been given the Chaudhary Charan Singh Award for agricultural journalism 2014.

I congratulate all the award winners and their family members and hope that these awards will encourage them to attain newer heights in future and also inspire their colleague to emulate them in pursuit of excellence. I wish to thank all the Chairmen and the members of the Award Judging Committees for the wonderful job. Our greetings to the NARES family on the occasion.

9 July, 2015
New Delhi

(S. Ayyappan)

R. RAJAGOPAL
Addl. Secretary (DARE) &
Secretary (ICAR)

सत्यमेव जयते

भारत सरकार
कृषि मंत्रालय
कृषि अनुसंधान एवं शिक्षा विभाग
कृषि भवन, नई दिल्ली-110001

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURAL
RESEARCH AND EDUCATION
KRISHI BHAVAN, NEW DELHI-110001

MESSAGE

With a view to inculcate and nurture the competitive spirit among the Agricultural Scientific and teaching community in the country. the Indian Council of Agricultural Research has been recognizing talent by way of conferring various awards in the fields of agricultural research, education. extension and journalism.

These awards not only infuse a sense of pride in the minds of the recipients but also promote healthy competition leading to excellence in their respective fields.

The awards being conferred this year include: Norman Borlaug Award, Sardar Patel Outstanding ICAR Institution Award, Chaudhary Devi Lal Outstanding All India Coordinated Research Project (AICRP), Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences, Lal Bahadur Shastri Outstanding Young Scientist Award, Bharat Ratna Dr. C. Subramaniam Award for Outstanding Teachers, Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems, Jawaharlal Nehru Award for Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences, Jagjivan Ram Abhinav Kisan Puruskar/Jagjivan Ram Innovative Farmer Award (National/Zonal), N.G. Ranga Farmer Award for Diversified Agriculture. Dr. Rajendra Prasad Puruskar for Technical Books in Hindi in Agricultural and Allied Sciences, Vasantrao Naik Award for Outstanding Research and Application in Dryland Farming Systems, Swami Sahajanand Saraswati Outstanding Extension Scientist Award, Chaudhary Charan Singh Award for Excellence

in Journalism in Agricultural Research and Development, NASI-ICAR Award for Innovation and Research on Farm Implements and Hariom Ashram Trust Award for Biennium 2012-13.

This year there are 14 institutional and 73 individual awards being bestowed in their respective spheres of activities. For the first time, administrative awards are also being instituted for various categories or administrative, technical and skill supporting personnel of the ICAR who have greatly contributed to the organic growth of the organization.

I take this opportunity in congratulating the awardees of this year and look towards their continued vigor and enthusiasm to take the organization to its pinnacle with their dedicated and untiring support. I also thank all the members of the jury and the various committees for having so objectively and meticelously finalized the awards.

17 July, 2015
New Delhi

(R. Rajagopal)

Dr. SHIV PRASAD KIMOTHI
Assistant Director General
(Coordination)

भारतीय कृषि अनुसंधान परिषद
कृषि भवन, डा. राजेन्द्र प्रसाद मार्ग,
नई दिल्ली–110001

INDIAN COUNCIL OF AGRICULTURAL RESEARCH
Krishi Bhawan, Dr. Rajendra Prasad Road,
New Delhi - 110001

PREFACE

Indian Council of Agricultural Research (ICAR) acknowledges the outstanding contributions of Institutions, AIRCPs, Scientists, Women Scientists, Teachers, Students, Innovative Farmers, Journalists covering research, teaching and innovation and Technical Books in Hindi every year by giving away cash award, citation and certificate. The first of these awards was given in 1956. With the passage of time, new awards were added. ICAR and NASI has instituted NASI-ICAR Award for Innovation and Research on Farm Implements from the year 2013 in order to reduce drudgery of farm women. At present, there are twenty categories of award, eighteen are annual and two biennial. In the year 2014, extraordinary contributions are being recognized in 17 categories. Overall, 388 applications/nominations were received for 17 different ICAR Awards 2014. The procedure for selecting the awardees involves many steps of meticulous planning and diligent efforts. The ICAR Awards were advertised in the month of October-November, 2014 and applications/nominations were received till 31st December 2014. The applicant's documents were scrutinized and classified either subject area or geographical zone wise as per guidelines of the awards. The documents along-with criteria for evaluation were sent to the Award Judging Committee members and chairpersons well in advance. The committees were chaired by an eminent scientists of national stature and consisted of 3-6 experts in different disciplines and from different parts of the country. Judging Committees met in the months of April-July for finalizing the awards. The significant contributions of the awardees are compiled in the booklet entitled CITATIONS. I hope the booklet would not only

provide an interesting and motivational reading to the scientists, academicians, extension personnel and the agricultural farmers but would also inspire all those engaged in the agricultural, research, teaching and extension to elevate their efforts to the newer heights so that they could also achieve similar laurels/recognition. I express sincere gratitude to Dr. S. Ayyappan, Secretary DARE and DG, ICAR for continuous encouragement and guidance and Shri R. Rajagopal, Additional Secretary DARE and Secretary, ICAR for constant guidance and useful suggestions. The efforts made by staff of Award Cell and Coordinating Unit especially Shri P.K. Jain, Ms. R. Banerjee, Mr. D.D. Sharma and Shri Vinay Kumar in scrutinizing the applications, organizing the meetings and award function deserve special mention.

15 July 2015
New Delhi

(Shiv Prasad Kimothi)

CONTENTS

SARDAR PATEL OUTSTANDING ICAR INSTITUTION AWARD 2014

The Indian Council of Agricultural Research (ICAR) was set up on 16th July, 1929 on the recommendation of the Royal Commission on Agriculture. It was recognised in 1965. Over the years it has developed a large research and training infrastructure and operates through 100 Institutes including Bureaux, PDs & National Research Centres (NRCs) and 71 Agricultural Universities.

In order to recognize the outstanding performance by the ICAR Institutes, Deemed Universities of ICAR, Central Agricultural University and State Agricultural Universities, three Awards of ₹ 10.00 lakh each, are given to two ICAR Institutes/NRCs/Project Directorates/National Bureaus (one to large and other to small) and one to State Agricultural University/DUs/CAU. The award has been named after Sardar Vallabhbhai Patel (1875-1950), the first Deputy Prime Minister and Home Minister of India. For the awards of the three categories *viz.* ICAR's National Institutes/ Large Institutes (scientific cadre strength more than 60) (ii) ICAR's NRCs/Project Directorate etc./small institutes (scientific cadre strength up to 60) and (iii) State Agricultural Universities/ DUs/CAU. 14 eligible applications were received in response to the open advertisement, the recipient of awards are:

CENTRE RESEARCH INSTITUTE FOR DRYLAND AGRICULTURE
Hyderabad, Telangana

CENTRAL RESEARCH INSTITUTE FOR DRYLAND AGRICULTURE (CRIDA), Hyderabad, Telangana was conferred Sardar Patel Outstanding ICAR Institution Award 2014 for the **Large Institute category**. ICAR-CRIDA has made outstanding contributions in basic, strategic research and technology development in rain water harvesting, development watershed models, location specific *in-situ* and farm pond technology for different rainfed agro-eco regions of the country. Large scale implementation of ridge and furrow, broad bed and furrow (BBF) was taken up in Maharashtra, Karnataka and other rainfed states along with bund maker required for BBF. Packing rainwater harvesting technology including lining requirements, efficient micro irrigation systems have contributed to improved farm productivity and profitability besides improving cropping intensity of high rainfall regions. Technologies on diversion of rainwater to water recharge in open wells and reducing farm pond size have entered in Dryland Missions of several state governments. Identification of resilient crops and cropping systems, improving and maintaining soil organic carbon, carbon positive soil management technologies, farm pond based integrated farming system models and agro-forestry models developed by the CRIDA have been up scaled several national schemes including National Mission on Sustainable Agriculture (NMSA). Farm implements developed by the CRIDA have become popular in rainfed regions in improving energy use efficiency, drudgery reduction and utilization limited sowing window available in rainfed agriculture. CRIDA has developed 580 District Agriculture Contingency Plans with the help of all Agricultural universities in the country, have been put to use in Ministry Website and also district administration are being implemented at ground level.

NATIONAL RESEARCH CENTRE ON EQUINES (NRCE), Hisar, Haryana was conferred Sardar Patel Outstanding ICAR Institution Award 2014 for the **Small Institute category.** NRCE is the only institute in the country responsible for research on equine health, production and management for the welfare of the society. During last nearly three decades, the institute has developed tremendously in terms of infrastructure, capacities and capabilities to take care of equine sector in the country. The institute capacity to handle all major diseases of equines and its role in preventing incursion of new diseases in the country led Govt. of India to recognize NRCE as National Referral Laboratory. The institute provides diagnostic services to all its stakeholders. During the last five years about 35000 samples were tested for imparting diagnosis using various serological (recombinant antigens, mAb based) and molecular assays.The scientist and staff of the institute are continuously engaged in refinement and development of diagnostics and vaccines (updated E1 and EHV-1 vaccines) and production research through 13 institute and 11 external funded projects. The institute capacity on equine health was further recognized when three International Twining projects on equine piroplasmosis, glanders and equine influenza were founded by OIE for developing Referral Labs for this region.All six recognized breeds (*Marwari, Kathiawari, Spiti, Zanskari, Manipuri* and *Bhutia*) have been phenotypically and genotypically characterized using microsatellite techniques. The institute is actively engaged in *in-situ* and *ex-situ* conservation and propagation of important breeds of equines by perfecting AI and semen cryopreservation technology that has resulted in the increase of horse population by 2.3% and mule population by 43% over last five years (Livestock Census

NATIONAL RESEARCH CENTRE ON EQUINES
Hisar, Haryana

2012). Our studies on utilization of donkeys' and mules' energy in agricultural operations for sustainable livelihood have become a baseline data for policy makers.The institute has reached to farmers and other stakeholders by organizing 12 vocational trainings, 81 health camps and kishan gosthies, 34 exhibitions & *melas*, and brought out 16 extension publications and has developed a unique Info-Equine Museum.The institute has published a total of 233 research articles, 24 reviews, 158 research abstracts and 105 technical and popular articles, developed 14 diagnostic technologies, 2 vaccines, 4 patents and has mobilized ₹10.70 crores from external project funding and generated a revenue of ₹2.3 crores in last 5 years from disease investigation & diagnostic services.

ASSAM AGRICULTURAL UNIVERSITY
Jorhat, Assam

ASSAM AGRICULTURAL UNIVERSITY, Jorhat, Assam has been conferred Sardar Patel Outstanding ICAR Institution Award 2014 for the **SAU/DU/CAU category.** Considered as a feeder university for entire North Eastern region of India, the Assam Agricultural University with its head quarters at Jorhat, has been producing quality human resources in agriculture and allied sectors besides conducting state/region specific agricultural research for continuously fueling the sector with upscaled and innovative technology injections and passing them on down the line to the user community. Since inception in the year 1969, the University has produced 16067 graduates and post graduates. These human resources are rendering yeoman's service to the state, regional, national and global agriculture in various capacities.

Empowered by the contribution of 9 colleges, 11 regional research stations and 23 KVKs, the University has so far given/recommended 91 different crop varieties, 2 animal varieties, quality seeds and planting materials, bio-inputs, animal vaccines, fish feed and hatcheries, baby food, transgenic chick pea line, stress tolerant (flood) varieties and complete production and protection packages. The developed and validated technologies have been taken to the farming community in a hand holding approach to eventually record a 4.9% agricultural growth in the state.

Besides the creation of state of the art teaching-learning facilities and ambience, the University also entered into bilateral collaboration with the different countries, namely Switzerland, Australia, USA and European Union. Its students are today pursuing studies in 5 European countries availing Erasmus Mundus Fellowship.

Presently the University has cut off mark of 74% for admission with a record number of 8300 applicants for admission against an absorption capacity of 1011 (464 UG and 547 PG) paving thus the way for a second agricultural university in the state. The University has also entered into frontier areas of research including automated nurseries and bio-prospecting of the bio-wealth of the region. The University has also introduced mobile SMS services and other ICT mode of information delivery to the farmers.

CHAUDHARY DEVILAL OUTSTANDING ALL INDIA CO-ORDINATED RESEARCH PROJECT (AICRP) AWARD 2014

Award 2014

The Council has several All India Coordinated Research Projects (AICRP). In order to recognize the outstanding performance of the AICRP and its cooperating centres for enhancement of agricultural productivity, one award of ₹3.0 lakh (₹2.0 lakh for main coordinating unit and ₹1.0 lakh for the best centre) is given to the All India Coordinated Research Project. The Award has been named after Chaudhary Devi Lal (1914-2001) who had been the Deputy Prime Minister and Agriculture Minister of India. In all 6 eligible applications were received in response to the open advertisement. The details about the winning AICRP along with major achievements are given on next page:

ALL INDIA COORDINATED RESEARCH PROJECT ON PALMS (CPCRI), Kasaragod, Kerala has been conferred Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award 2014. The Project has released 18 improved varieties of coconut which includes seven hybrids (for tender nut & copra), established nucleus seed gardens of released varieties like COD, Gautami Ganga, Kera Keralam, Kera Bastar. Ninety three germplasm accessions of Palmyrah palm with dwarfness and high yielding traits were collected and characterized. The technologies developed resulted in 25-50% saving of water and fertilizers and increase in profit. The technologies generated have been transferred to the farming community and have exhibited high impact in terms of economic benefits to the stakeholders and has contributed towards the development of sustainable production systems with higher productivity and better resource use efficiency.

ALL INDIA COORDINATED RESEARCH PROJECT ON PALMS
CPCRI, Kasargold, Kerala

NORMAN BORLAUG AWARD 2014

Award 2014

In order to identify a scientist, who has provided a breakthrough for agriculture through a new insight that has created high potential value for the future and to recognize the elements of a genius in a scientist who has conducted path-breaking research and also to incentivize and award a scientist of truly exceptional ability and originality of thinking, one annual award of ₹10,00,000/- (Ten lakhs only) is given by ICAR to a scientist of any discipline of agricultural and allied aciences and not necessarily confined to NARS, without restriction of any minimum or maximum age. Apart from this, the elected scientist would be given a research contingency grant of ₹30.00 lakh per year for carrying out research in an area identified mutually by the scientist and the ICAR, which will have specified objectives and goals. Grant would be admissible for a maximum of five years, subject to annual review and favourable recommendation by a committee of agricultural and non-agricultural scientists set up for the project. 5 eligible applications were received in response to an open advertisement and the selected awardee is:

PROF. (Dr.) NAGENDRA KUMAR SINGH
National Professor
B.P. Pal Chair (Genetics & Plant Breeding)
New Delhi

PROF. (Dr). NAGENDRA KUMAR SINGH, National Professor, B.P. Pal Chair (Genetics & Plant Breeding), New Delhi, has been conferred Norman Borlaug Award 2014. He has made outstanding contributions to the science of Genomics and Molecular Breeding in the area of Crop Sciences and Biotechnology. He has collected wild rice germplasm from remote corners of India and identified novel sources of genes for drought, flooding and salt tolerance in these. Apart from his key role in sequencing of the rice chromosome 11, tomato chromosome 5 and wheat chromosome 2A as part of international consortia, he led a team of Indian scientists to decode the 'Arhar Dal' (pigeonpea) genome, the first plant genome sequenced entirely by India and the first pulse crop sequenced anywhere in the world in 2011. Using the pigeon pea genome and transcriptome sequence information he has identified 47,004 protein coding genes and thousands of DNA markers for application in molecular breeding of *Arhar*. Prof Singh has conceived and coordinated large multi-institutional projects in India for the development of infrastructure, human resource and competitive research in the frontier areas of functional genomics and transgenic development in crop plants. His work will fast track the development of high yielding disease and pest resistant varieties of Arhar - a rich source of protein widely consumed in the country. This will uniquely contribute to the enhanced food and nutritional security in the country particularly to solve the problem of protein malnutrition.

RAFI AHMED KIDWAI AWARD FOR OUSTANDING RESEARCH IN AGRICULTURAL SCIENCES 2014

Award 2014

The Council has instituted the Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences in order to recognize outstanding research in agricultural and allied sciences and provide incentives for excellence in agricultural research. This award is to be given to agricultural scientists for outstanding contribution in specific areas defined as: (1) Crop and Horticultural Sciences; (2) Natural Resources Management and Agricultural Engineering; (3) Animal and Fisheries Sciences and (4) Social Sciences. A total of four awards are assigned one each in the above areas. Each award consists of ₹5.00 lakh in cash. All Indian Scientists engaged in agricultural research and overseas Indian scientists working in the area relevant to Indian agriculture are eligible for these awards. The award has been named after Late Sh. Rafi Ahmed Kidwai (1894-1954) who was the president of ICAR from 1952-1954. A total of 47 eligible applications were received in response to the open advertisement and the winners with their contributions are:

Dr. ARVIND KUMAR, Senior Scientist, IRRI, South Asia Hub, ICRISAT, Hyderabad has been conferred Rafi Ahmed Kidwai Award for Outstanding Research In Agricultural Sciences 2014. He has contributed significantly to increased rice production in rainfed environment by developing thirty five drought tolerant rice varieties including fifteen released in India. *Sahbhagi dhan*, one of the first drought tolerant rice varieties released in India in 2010-11 provided farmers with yield gain of 1.0 t/ha and has been disseminated to 0.5 million hectares by 2014. Dr. Kumar identified thirteen major QTLs for grain yield under drought, improved seven mega varieties including IR64, *Swarna, Sambha Mahsuri, Vandana* and *Anjali* from India following marker assisted breeding. The identified QTLs are used by breeding programs across India. Dr. Kumar identified QTLs for early uniform emergence, early vigor, root traits related to better nutrient uptake, lodging resistance, nematode tolerance and grain yield under dry direct seeded situation to develop better rice varieties to tackle emerging labour and water shortage problem in agriculture. Dr. Kumar identified seven genes for rice gall midge resistance that have been used continuously by several breeding programs across India to develop gall midge resistant varieties.

Dr. ARVIND KUMAR
Senior Scientist
IRRI, South Asia Hub
ICRISAT, Hyderabad

PROF. KAMLESH NARAYAN TIWARI
Professor, Deptt. of Agricultural & Food Engineering, IIT Kharagpur
Kharagpur, West Bengal

PROF. KAMLESH NARAYAN TIWARI, Professor, Deptt. of Agricultural & Food Engineering, IIT Kharagpur, Kharagpur, West Bengal has been conferred Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2014. Dr. Tiwari, a Professor at IIT, Kharagpur has been working on micro irrigation and RS and GIS application in watershed management. His significant research contributions include; Establishing water requirement of various horticultural crops under micro irrigation and greenhouse; Developing soil moisture sensor and computer controlled automated micro irrigation system; Developing novel techniques to reduce energy requirement of sprinkler irrigation system using drag reducing polymers and Development of new techniques to estimate runoff and sediment yield from agricultural watersheds using RS and GIS. He has to his credit, several research projects of national importance, publications in reputed journals, 2 International monograms on Remote Sensing Applications by an International publisher and 7 Patents. He has received UNESCO and DAAD Fellowships for Post Doctoral research studies. He is honored with the fellow of National Academy of Sciences (NASCs) India, National Academy of Agricultural Sciences (NAAS), Indian Society of Agricultural Engineers and Indian Water Resources Society (IWRS), Hari Krishna Shastri Memorial Award of IARI, Shankar Memorial Award and Commendation Medal of ISAE for excellent teaching and research in Soil and Water Engineering.

Dr. SUNITA GROVER, Principal Scientist & Head, Dairy Microbiology Division, National Dairy Research institute (NDRI), Karnal has been conferred Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2014. Dr. Sunita Grover has made significant contributions in the area of probiotics and her pioneering work on exploring Indigenous probiotic strains of Indian gut origin as biotherapeutics to manage human health has been well recognized across and world. Her scientific accomplishments include; developing a repository of Indian probiotic strains, their molecular signatures and demonstrating the functional efficacy of probiotic strains both in cell culture and animal models as can be reflected from a series of her publications in high impact factor journals of International repute. The technology for two of her native probiotic strains *L. plantarum* Lp91 and *L. fermentum* Lf1 has been transferred to M/s Sarvotham care, a leading Hyderabad based Nutraceutcial Company. Her other achievements include developing the technology for production and downstream processing of three recombinant proteins *viz.* buffalo chymosin, human lactoferrin and phytase in Pichia pastoris which are ready for commercialization. She is also a recipient of prestigious Young National Women bio-scientist Award–2000 by Department of Biotechnology and authored a text book entitled "A comprehensive Dairy Microbiology". She has to her credit several publications in reputed international journals of high impact factor and her work is regularly cited by the scientific community.

Dr. SUNITA GROVER
Principal Scientist & Head
Dairy Microbiology Division
National Dairy Research Institute (NDRI)
Karnal

LAL BAHADUR SHASTRI OUTSTANDING YOUNG SCIENTIST AWARD 2014

Award 2014

The council has instituted the Lal Bahadur Shastri Outstanding Young Scientist Award in order to recognize the talented young scientists who have shown extraordinary originality and dedication in their research programmes. Four individual awards are to be given annually across the disciplines, limited to only one award in any discipline. An individual award of ₹1.00 lakh in cash and a challenge project for three years with budgetary provision of ₹ 10.00 lakh per year + ₹5.00 lakh for foreign training (3 months). The challenge project and foreign training will be administered/monitored by Division of Agricultural Education at ICAR Headquarters. All young scientists who possess a doctoral degree and are below 40 years of age, and hold a regular teaching, research, extension education job in the ICAR-SAU system of institutions and engaged in research in agricultural and allied sciences for at least five years continuously are eligible for consideration. The award has been named after Late Sh. Lal Bahadur Shastri (1904-1966) the former Prime Minister of India who gave the slogan 'Jai Jawan Jai Kisan'. 36 eligible applications were received in response to the open advertisement and the winners are:

Dr. ADITYA PRATAP, Senior Scientist, Crop Improvement Division, ICAR-Indian Institute of Pulses Research, Kanpur has been associated with crop improvement research for the last ten years in genetic improvement of mungbean, chickpea and rapeseed-mustard. He contributed in development and release/ identification of 6 crop varieties. He developed 2 extra early mungbean lines maturing in less than 50 days and identified 2 photo and thermo insensitive *Vigna* accessions. He has been instrumental in establishment of wide hybridization gardens in rapeseed-mustard. He also accomplished generic diversity and population structure studies in *Vigna* species and transferred a number of SSR markers in them. He also accomplished morphological and molecular characterization of *Vigna*, marker assisted introgression of resistance to *Fusarium* wilt in chickpea, mapping and tagging of yellow mosaic disease restant gene in blackgram, quality seed production in mungbean and development of haploidy breeding protocol in triticales and derivatives through wheat *x Imperata cylindrica* system.

Dr. ADITYA PRATAP
Senior Scientist
Crop Improvement Division
ICAR-Indian Institute of Pulses Research
Kanpur

Dr. A. KUMARESAN
Senior Scientist
(Animal Reproduction)
Livestock Research Centre
National Dairy Research Institute
Karnal

Dr. A. KUMARESAN, Senior Scientist (Animal Reproduction), Livestock Research Centre, National Dairy Research Institute, Karnal contributed in research findings for development of tools/ tests that can improve the efficiency of bull selection and quality semen production. He developed, standardized Percutaneous Needle Aspiration Biopsy method useful in retrieving testicular cells from the live bulls which has shown to be a successful method for studying testicular changes without affecting the reproductive health and semen production. His finding that the proportion of Sertoli cells in the testicular cytology differed with individual bulls and it is related to quality semen production ability and cryotolerance of spermatozoa is first of its kind and opens new avenue for fertility research. One of his important achievements is that the research identified patterns of tyrosine phosphorylation inspermatozoa showed that one type of pattern is associated with fertility.

Dr. SHAIK N. MEERA, Senior Scientist (Agriculture Extension), Transfer of Technology and Training Section, Directorate of Rice Research, Hyderabad has contributed to the development of innovative extension methods with field level impacts especially benefitting thousands of rice farmers. The Rice Knowledge Management Portal developed by him is acclaimed as one of the finest ICT applications in agriculture by Food and Agriculture Organization (FAO). The Rice Portal has made significant impacts across the country by improving the farmers' access to rice knowledge. He has also contributed to the introduction of several new rice varieties/ hybrids/ technologies by coordinating more than 7000 Frontline demonstrations in last 6 years, benefitting 18318 rice farmers directly. Besides introducing innovative extension concepts such as 'India Rice Check', he has contributed to strengthening of extension activities of India Rice Sector. From extension research to extension service, he struck an effective balance to blend Information and Communication Technologies with traditional extension methods. This has resulted in improving the livelihoods of thousands of Indian rice farmers.

Dr. SHAIK N. MEERA
Senior Scientist
(Agriculture Extension)
Transfer of Technology and
Training Section
Directorate of Rice Research
Hyderabad

PANJABRAO DESHMUKH OUTSTANDING WOMAN SCIENTIST AWARD 2014

Award 2014

In order to recognize and encourage the women agricultural scientists for their outstanding research contribution in agriculture and allied sciences, the ICAR has constituted Panjabrao Deshmukh Outstanding Women Scientist Award. Two annual awards are meant exclusively for outstanding women agricultural scientists. The award consists of ₹1.00 lakh in cash with provision of equal amount of ₹1.00 lakh for motivating Woman Scientists and female students across the country including travel within a year of receiving the award. All women scientists engaged in research in agricultural and allied subjects/extension in a recognized institutions are eligible. The awards are exclusively meant for individual woman scientists. The award has been named after Late Sh. Panjabrao Deshmukh (1898-1965) who was Minister of Agriculture in the first cabinet of Pt. Nehru in 1952. A total of 21 applications were received in response to the open advertisement. The awardees are:

Dr. (Mrs.) PRAMEELA KRISHNAN, Principal Scientist, Division of Agricultural Physics, IARI, Pusa, New Delhi, has been conferred Panjabrao Deshmukh Outstanding Woman Scientist Award 2014. She has made significant contribution towards understanding the crop responses to stress from the levels of molecules to models. She applied Nuclear Magnetic Resonance spectroscopy to understand the plants' multifaceted abilities as Decision Support System. First time report was made on the significant roles of adjusting planting date and developing rice cultivars with less spikelet sterility under high temperature stress as the best adaptation strategies to combat global warming. Dr. Krishnan established the Free Air Temperature Increment (FATI) system to characterize the impact of high temperature stress under natural, open field condition for identifying high temperature stress under natural, open field condition for identifying the important physiological, biochemical stress indicators of crop plants. She successfully applied the crop stimulation models to identify best management strategies that saved time and cost barring the need for conducting rigorous experimentations at different multi-locations. Dr. Krishnan pioneered the development of a web-based crop simulation model using INFOCROP-wheat that could simulate the moisture, temperature and nutrient stress effect and be used as a Decision Support System.

Dr. (Mrs.) PRAMEELA KRISHNAN
Principal Scientist
Division of Agricultural Physics
IARI, Pusa, New Delhi

Dr. (Mrs.) NIRMALA B. YENAGI
Professor
Deptt. of Food Science & Nutrition
College of Rural Home Science
UAS, Dharwad, Karnataka

Dr. (Mrs.) NIRMALA B. YENAGI, Professor, Department of Food Science & Nutrition, College of Rural Home Science, UAS, Dharwad, Karnataka, has been conferred Panjabrao Deshmukh Outstanding Woman Scientist Award 2014 which she shares with Dr. Anupama. She has made valuable research contributions in the area of Cereal Science and Technology with respect to the nutritional, functional, processing and therapeutic qualities of regional cereal crops such as pearl millet, dicoccum wheat, pop sorghum, red rice, black rice and nutritious millets. She has been involved in innovative research leading to the development of several technologies to solve community nutrition problems leading to diabetes, anaemia and protein calorie malnutrition. She has developed more than 15 technologies in the area of value addition for promoting regional cereal and millets and played a crucial role in the successful transfer of technology to 10-15 women entrepreneurs to start home based food industries to conserve local food resources. Her many contributions in the areas of Food Science and Value addition are reflected in various awards and honours that she has received. Her skills in management and technical input have helped in the installation of food processing incubation centre and in starting the B. Tech in Food Technology degree programme in 2011-12.

Dr. (Mrs.) ANUPAMA, Principal Scientist, Division of Agricultural Chemicals, IARI, Pusa, New Delhi has been conferred Panjabrao Deshmukh Outstanding Woman Scientist Award 2014 which she shares with Dr. B. Yenagi. She has contributed significantly in the field of precision agro-inputs formulations, employing target specific polymer chemistry. 'Pusa Hydrogel', a water conserving technology invented by her is an indigenous product for enhancing water use efficiency in the rainfed agriculture. Her work on sustained release input delivery systems aimed at developing integrated collaboration with ICAR and industry and have generated significant awareness regarding hydrogels for input management. Her work aimed at developing integrated approaches towards water, nutrients and pest management has generated enormous interest among stakeholders at national and international levels. She has filed several national and international patents on her inventions and is recipient of the prestigious national awards namely ICAR's Lal Bahadur Shastri Young Scientist award and National Academy of Agricultural Sciences Young Scientist award. Her current research interests include utilization of nanotechnology and agri-waste derived delivery systems for management of agri-inputs and pests.

Dr. (Mrs.) ANUPAMA
Principal Scientist
Division of Agricultural Chemicals
IARI, Pusa, New Delhi

BHARAT RATNA Dr C. SUBRAMANIAM AWARD FOR OUTSTANDING TEACHERS 2014

Award 2014

To provide recognition to outstanding teachers, incentive for excellence in teaching and to promote quality teaching, ICAR constituted Bharat Ratna Dr. C. Subramaniam Award for Outstanding Teachers. These awards are meant for individual teachers independently offering a full course or part of an integrated course. An individual award consists of ₹1.00 lakh in cash + travel grant of ₹1.00 lakh to promote innovation in teaching across the country including travel and a citation. A total of four such awards one each in the Crop/Horticultural Sciences, Natural Resource Management/Agril. Engineering, Animal/Fisheries Science and Social Sciences have been assigned. The award has been named after Bharat Ratna Dr. C. Subramaniam (1910-2000) who ushered in an era of self-sufficiency in food production. 18 eligible applications were received in response to an open advertisement and the selected awardees are:

CROP AND HORTICULTURAL SCIENCES

Dr. SUBHASH CHANDER, Principal Scientist, Division of Entomology, IARI, Deemed University, New Delhi has made notable contribution towards quality education. As Major Advisor, he guided 14 students in new areas of crop-pest simulation modeling and remote sensing, that has developed coupled insect dynamics-crop simulation models and development of spectral signatures of pests. He has published 38 research papers from students' research apart from publishing over 105 research papers in reputed journals. He has contributed for the development of 4 new courses and revision of 5 courses, taught 18 courses taking more than 75 classes per year, and prepared e-learning material in the form of 23 Reusable Learning Objects. He was involved in 13 externally-funded and 14 In-house research projects as Principal Investigator/ Co-Principal Investigator. He was Member of IARI Examination committee, IGNOU Doctoral Committee, Evaluator for ARS-Agriculture Entomology. He contributed significantly to improve academic environment in his Division.

Dr. SUBHASH CHANDER
Principal Scientist
Division of Entomology, IARI
Deemed University, New Delhi

NATURAL RESOURCE MANAGEMENT AND AGRICULTURAL ENGINEERING

Dr. RANGARAJU VISVANATHAN
Professor (Agril. Processing)
Anbil Dharamalingam Agricultural College & Research Institute, TNAU
Navalur Kuttappattu, Tiruchirappalli
Tamil Nadu

Dr. RANGARAJU VISVANATHAN, Professor (Agril. Processing), Anbil Dharamalingam Agricultural College & Research Institute, TNAU, Navalur Kuttappattu, Tiruchirappalli, Tamil Nadu, has made significant contributions towards quality education to make students globally competitive. He contributed towards creation of world class facilities for post graduate research and motivation of students for higher studies by making available facilities for them. Some of his scholars have received International Awards.

ANIMAL AND FISHERIES SCIENCES

Dr. BIMLESH MANN
Principal Scientist & Head
Dairy Chemistry Division
NDRI, Karnal

Dr. BIMLESH MANN, Principal Scientist & Head, Dairy Chemistry Division, NDRI, Karnal has contributed as a teacher, research guide and academic administrator towards quality education at NDRI, Karnal. She was involved in design of courses like Advances in the Chemistry of Functional Dairy Food and Nutraceuticals and Chemistry of Milk Products which were introduced in PG and UG programmes respectively. She developed several facilities in her Division. Students under her guidance have published 39 research papers, filed 2 patents and commercialized 5 technologies by transferring to two renowned dairy industries. All of her students are well placed in reputed industries and institutions all over the country and outside. She has also contributed in streamlining and effective implementation of Master's and Doctoral programmes in the institute.

FAKHRUDDIN ALI AHMED AWARD FOR OUTSTANDING RESEARCH IN TRIBAL FARMING SYSTEMS 2014

Award 2014

ICAR instituted Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems primarily for any person or team (with two or three associates, if any) engaged in applied research and its applications in tribal areas of the country aimed at improving the biological resources and livelihoods or in original work directly applicable to tribal farming system. Two awards of the value of ₹1.00 lakh in cash, a citation and provision of equal amount for study on related subject in the geographical area for a year. The award has been named after Late Sh. Fakhruddin Ali Ahmed (1905-1977) who was president of ICAR Society from 1971 to 1974. In all 18 eligible applications were received in response to the open advertisement and the winners with their contribution are:

Dr. SURESH KUMAR D.S.
Principal Scientist
Division of Livestock Production
ICAR Research Complex for NEH Region
Umroi Road, Umiam, Meghalaya

Dr. SURESH KUMAR D.S., Principal Scientist, Division of Livestock Production, ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya has been conferred Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems 2014. His Associates were Dr. G. Kadirvel, Dr. Sunil Doley and Dr. P.K. Bharti. Dr. Suresh Kumar and his associates carried out an outstanding work of applied research on 'Livestock Based Integrated Farming System for Improving Livelihood and Nutritional Security of Tribal Farmers of NEH Region'. They developed low cost and farmer friendly technologies of housing, feeding, breeding and genetic improvement in pig and backyard poultry production system to resource poor farmers of north east India. They demonstrated successfully that farmer's income and livelihood may be enhanced by 130-150% by incorporating small scientific interventions along with assisted reproductive technologies in their integrated farming system. They also identified the important traits of indigenous pig and poultry in changing climate. They also introduced Murrah buffaloes and Emu successfully and demonstrated their usefulness in changing climatic scenario. They also established the relationship pf mineral status of soil, plant and animal to the infertility in Meghalaya and developed their mitigation strategies.

Dr. BADAL BHATTACHARYA, All India network Project on White Grubs & other Soil Arthropod Pests, Department of Entomology, Assam Agricultural University, Jorhat, Assam has been conferred Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems 2014. Dr. Badal Bhattacharya and his Associate Dr.Satyendra Kumar Dutta studied Bioecology of *Lepidiota mansueta* under the aegis of AINP on White Grub Project, AAU, Jorhat. This species of white grub had appeared as severe key pest of many field crops in Majuli river island of Assam. It has biennial life cycle, which is the first of its kind from North East India. The third instar grubs are voracious feeders causing extensive damage to underground parts of many crops in Majuli. This species has the unique distinction as the first Indian phytophagus white grub species with non-feeding adults. Mass campaigning was organized in Majuli during 2010-2014 adopting the concept of Social Engineering/ Farmers Participatory Approach. It was found exceedingly successful leading to massive collection and killing of about 1,43,250 numbers of *L.mansueta* beetles. This mass campaigning explored the group approach of extension mostly targeting the flood and erosion affected tribal farmers in Majuli and had tremendous impact in terms of protecting the crops, disseminating ecofriendly technologies, enhancing crop productivity as well as improving both livelihood and nutritional security.

Dr. BADAL BHATTACHARYA
All India Network Project on White Grubs & other Soil Arthropod Pests
Department of Entomology
Assam Agricultural University
Jorhat, Assam

JAWAHARLAL NEHRU AWARD FOR P.G. OUTSTANDING DOCTORAL THESIS RESEARCH IN AGRICULTURAL AND ALLIED SCIENCES 2014

Award 2014

The ICAR instituted in January, 1969, the Jawaharlal Nehru Awards for 'Post-graduate Agricultural Research' based on Ph.D. thesis of the young scientists as an incentive for high-quality fundamental or applied research among post-graduate students in India and to recognize outstanding research work done by them in different fields of agricultural research including Animal Husbandry, Fisheries, Social Science, etc. There are 18 awards with a cash prize of ₹0.50 lakh each with a Gold plated silver medal. The award has been named after Late Pt. Jawaharlal Nehru (1889-1964), the first Prime Minister of India. A total of ninety five (95) eligible applications were received for consideration in different discipline and 17 were selected for the award. Out of 17 awardees, 2 obtained degree outside NARS, 7 from Agricultural University and 8 from ICAR Institutes. The awardees and their contributions are given in following pages:

BIOTECHNOLOGY

Dr. SHALLU THAKUR

Dr. SHALLU THAKUR collected local landraces of rice from hot-spots of blast disease incidence and identified resistance-sources.The identified sources exhibited allelic variation. Three allelic variants of blast resistance genes were discovered by allele mining. She developed new functional markers and gene specific (dominant and co-dominant) markersthat could be used in introgression breeding programme through marker-assisted selection. She also identified novel protein haplotypes that correlated with resistance trait in rice landraces. Dr. Shallu Thakur obtained her Ph.D. degree from Himachal Pradesh University, Shimla.

Dr. REHNA AUGUSTINE

Dr. REHNA AUGUSTINE identified a transcription factor (*BjMYB28)* that controls the biosynthesis and accumulation of aliphatic glucosinolatesin Indian mustard. She investigated the regulatory mechanisms involved in glucosinolate biosynthetic pathway. Using RNAi-based suppression strategy, significant suppression of glucosinolate content was achieved. Stable low glucosinolate transgenic lines of mustard were developed. Dr. Rehna Augustine obtained her Ph.D. degree from Jawaharlal Nehru University, New Delhi.

CROP SCIENCES

Dr. DIVYA BALAKRISHNAN

Dr. DIVYA BALAKRISHNAN developed near isogenic lines in rice variety CO 39 by pyramiding four genes for blast disease resistance. She identified polymorphic molecular markers that will be useful in germplasm screening. The gene pyramided breeding lines were selected based on phenotypic and genotypic screening. An improved rice variety namely, ADT43 was developed. Dr. Divya Balakrishnan obtained her Ph.D. degree from Tamil Nadu Agricultural University, Coimbatore.

Dr. NIHARIKA MALLICK

Dr. NIHARIKA MALLICK identified polymorphic markers and developed several near isogenic lines of wheat variety HD2932. These lines carried 2-gene and 3-gene combinations of different rust resistance genes. Using marker assisted selection strategy, improved wheat variety HD2932 pyramided with rust resistance genes was developed in a short span of time. This variety carries resistance to stripe rust and leaf rust diseases. The improved variety has performed well in All India wheat trials. Dr. Niharika Mallick received her Ph.D. degree from IARI, New Delhi.

CROP PROTECTION

Dr. SANDEEP KUMAR studied the leafroll disease of grapevine. He discovered and characterized the two major viruses associated with the disease. Indian isolates of these two viruses exhibited more closeness with the isolate from USA, South Africa, Portugal, Austria and Tunisia. However, isolates Revella-4/12, Revella-4/14, KS-B-7 and Nashik showed incongruent grouping behavior. Nashik isolate was found to be a recombinant between Manjri –A2-38/36 isolate from India and 6-18 isolate from USA. Immuno-reagents were produced and utilized for the development of diagnostic kits to detect the grapevine leafroll disease. These reagents can be used in quarantine certification of planting materials. Dr. Sandeep Kumar received his Ph.D. from IARI, New Delhi.

Dr. SANDEEP KUMAR

Dr. NANDITA SAHANA elucidated the essential role of Ubiquitin/ 26S proteasome system in plant defence responses of papaya against ringspot viruses a host-virus system. The study revealed the importance of viral protein HcPro in modulating catalytic activities of proteasomal complex. This viral protein was also found to play a crucial role in small RNAbiogenes affecting RNA silencing. The domains of the HcPro protein were found to modulate the host defense responses. The study will help in developing the resistance strategy. Dr. Nandita Sahana obtained Ph.D. degree from IARI, New Delhi.

Dr. NANDITA SAHANA

NATURAL RESOURCE MANAGEMENT

Dr. SAMAN PREET AHUJA

Dr. SAMAN PREET AHUJA developed a methodology for projecting upcoming ground water levels at local and regional scale employing bias free projections of regional climate data in cropping system (CropSyst) and ground water models (MODFLOW).In this study crop duration, yield and root zone water balance were assessed in different time slices with intensively calibrated and validated cropping system using corrected climate data, carbon-di oxide concentration, actual soil profile, management intervention and crop data. The study brought about the factors that could lead to less water depletion. Dr. Saman Preet Ahuja obtained her Ph.D. degree from Punjab Agricultural University, Ludhiana.

Dr. VENKANNA KANDULA

Dr. VENKANNA KANDULA investigated the technical aspect of soil quality restoration, established critical limits of key soil properties for soil quality and developed database to understand changes in these properties in relation to restoration measures. He also established cause-effect relationship between soil quality and productivity of different management systems in a holistic manner for sustainable land management practices in Semi-Arid Tropical regions of India. Dr. Venkanna Kandula obtained his Ph.D. degree from Andhra University, Visakhapatnam.

HORTICULTURE

Dr. GOVIND KUMAR RAI developed transgenic drought-tolerant tomato by introducing *AtDREB1A* gene. The developed transgenic tomato lines exhibited better adaptation to water deficit conditions.He also modified the methodology that improved the transformation efficiency of tomato. The transgenic tomato exhibited increased fruit yield, survival and recovery. The alleviation of drought-induced oxidative stress was also achieved. Dr. Govind Kumar Rai obtained his Ph.D. degree from Banaras Hindu University, Varanasi.

Dr. GOVIND KUMAR RAI

Dr. POOJA BOHRA worked on the diversity particularly of land races of elite indigenous banana *Elakki Bale*. She collected lines that revealed considerable diversity in yield and quality attributes as well as reaction to Fusarium wilt under *in vitro* screening. Several promising lines of banana were identified. She also developed a protocol for *in vitro* multiplication and cost-effective micro-propagation of *Elakki Bale*. Dr. Pooja Bohra obtained her Ph.D. degree from University of Agricultural Sciences, Bangalore.

Dr. POOJA BOHRA

AGRICULTURAL ENGINEERING

Dr. ASHISH KUMAR SRIVASTAVA

Dr. ASHISH KUMAR SRIVASTAVA developed universal mounting fixture and Deployable Roll Over Protective Structure (ROPS). The developed ROPS enabled retro-fitting on any make and models of tractors making it a universal device. Strength Index and Test Rig were also developed to study safety margin of axle housing. Promotion of these protective structures will minimize commonly experienced rolling over accidents of tractors in India and save life and property loss. Dr. Ashish Kumar Srivastava obtained his Ph.D. degree from Indian Institute of Technology, Kharagpur.

ANIMAL SCIENCES

Dr. VIKRANT SINGH CHAUHAN

Dr. VIKRANT SINGH CHAUHAN designed novel reproductive strategies which might help in improvement of reproductive efficiency and utilization of superior germplasm in buffaloes. He studied the dynamics of expression and localization of the vascular endothelial growth factor (VEGF) for improving the fertility in buffalo. This study also demonstrated other growth factors having luteotrophic and anti-apoptotic effects to stimulate VEGF. This understanding of the regulation by VEGF system will help improve fertility in buffaloes. Dr. Vikrant Singh Chauhan received his Ph.D. degree from IVRI, Izatnagar.

Dr. REVANNAIAH YOGISHARADHYA studied molecular/spatial epidemiology of infections and mixed-infections in animals in different agro-climatic regions of India and developed indirect-ELISAs with high diagnostic sensitivity and specificity. The assays were validated using field/vaccine sera. Recombinant B2L protein of ORFV was evaluated and found to possess immune-modulating effect. The rB2L protein was also found to possess antibacterial and lipase activities and could be a safe and better adjuvant than commercially available ones. Dr. Revannaiah Yogisharadhya received his Ph.D. from IVRI, Izatnagar.

Dr. REVANNAIAH YOGISHARADHYA

FISHERIES SCIENCES

Dr. NEERAJ KUMAR investigated the effect of endosulfan and elevated temperature on stress responses in fish. The nutritional mitigation of these stress factors was achieved with nutrients combined with the methyl donor. Fish fed with two formulations of supplemented diets showed better growth rate, anti-oxidant activity and less endocrine disruption. Dietary supplementations of nutrients and neutraceuticals can help the farmers to either augment or aid the natural oxidative defense mechanism in the fishes. Dr. Neeraj Kumar received his Ph.D. from CIFE, Mumbai.

Dr. NEERAJ KUMAR

Dr. VIKAS PATTATH AYYAPPAN

Dr. VIKAS PATTATH AYYAPPAN studied Brine shrimp *Artemia*, generally used as the live feed in larviculture. He studied the massive invasion of the exotic Artemiafranciscana and the displacement of native *Artemia* population from the saline ecosystems. The study provides valuable insights into the nutritional variations in the cyst, nauplii, and adult stages and reveals its superior nutrient quality when compared to the widely used commercial strains. The study established that the microalgae provide a superior enrichment diet for Artemianauplii as in the higher survival rate, nutritional content and salinity tolerance in the enriched nauplii in comparison to the commercial enrichment diet. The study also showed the enhanced biochemical constituents and heat shock protein function as the first line defense against the sudden salinity stress in Artemia. Dr. Vikas P. Ayyappan received his Ph.D. from CMFRI, Mangalore University, Kochi.

SOCIAL SCIENCES

Dr. SANJIT MAITI

Dr. SANJIT MAITI assessed the vulnerability and adaptation strategies for coping with climate change in animals in coastal and alpine regions of India. His investigation involved development of Climate Change Awareness Scale and Social Vulnerability to Climate Change Index. The districts situated in river basin as well as urban-based districts were relatively less vulnerable in coastal region whereas the districts of alpine region were found to be more vulnerable. The farmer-led adaptation strategies were assessed and found to be scientifically valid. Dr. Sanjit Maiti received his Ph.D. degree from National Dairy Research Institute, Karnal.

Dr. VENKATESH PALANISAMY studied the impact of plant variety protection (PVP) on Indian seed industry and provided insights into economic benefits of PVP. His research established the positive impact of Plant Varieties Protection and Farmers Rights on Indian seed industry through increase in exchange of germplasm, number of varieties released, breeder and quality seeds produced, seed replacement rate and number of public-private partnerships in commercialization of new plant varieties. Dr. Venkatesh Palanisamy obtained his Ph.D. degree from Indian Agricultural Research Institute, New Delhi.

Dr. VENKATESH PALANISAMY

JAGJIVAN RAM ABHINAV KISAN PURUSKAR/ JAGJIVAN RAM INNOVATIVE FARMER AWARD (NATIONAL/ZONAL) 2014

Award 2014

ICAR instituted this award for Innovative farmers at National and Zonal levels in order to recognize the outstanding contribution of innovative farmers for initiatives in development, adoption, modification and dissemination of innovations and improved technologies for increased and sustained productivity, improve resource use efficiency and higher profitability. These awards have been named after Late Sh. Jagjivan Ram (1908-1986) who was the Deputy Prime Minister and Union Minister for Food and Agriculture in the Union Cabinet.

National: One annual national award of ₹ 1.00 lakh in any of the areas of agriculture and allied sciences + equal amount of travel grant across the country to promote his achievement are given to farmers at national level.

Zonal: Eight annual awards of ₹ 0.50 lakh each + equal amount of travel grant to promote his achievement and motivate farmers in his respective zone. The geographical area of each zone is given in the guidelines of the award.

Forty Five (45) eligible applications were received in response to the open advertisement. The winners in National and the Zonal levels are:

NATIONAL

Sh. DIPEN KUMAR MUKUNDBHAI SHAH, Anand, Gujarat, was chosen for the National Award as he has contributed for value addition of Moringa (drumstick) seed and marketing of value added products of drumstick increasing shelf life for year round availability.

Sh. DIPEN KUMAR MUKUNDBHAI SHAH
Anand, Gujarat

ZONAL

ZONE-I

MAJOR MANMOHAN SINGH VERKA, Amritsar, Punjab was recommended for his innovation to improve light penetration in high density kinnow orchard to improve productivity. Ventilation also improved in the process.

MAJOR MANMOHAN SINGH VERKA
Amritsar, Punjab

ZONE-II

Smt. ANITA KUMARI
Madhopur, P. S. Chandi
Nalanda, Bihar

Smt. ANITA KUMARI, Madhopur, P.S. Chandi, Nalanda, Bihar, was recommended for the mobile based marketing of value added products which is an innovative concept.

ZONE-IV

Sh. SETHPAL SINGH
Nandifirojpur, Saharanpur
Uttar Pradesh

Sh. SETHPAL SINGH, Nandifirojpur, Saharanpur, U.P., has been recommended for modifying *Singhara* crop geometry and practicing crop rotation with fenugreek, an innovative concept.

ZONE-VII

Sh. SUBRAT RANJAN PRUSTI, Bhubaneswar, Odisha, was recommended for awarded for developing a model for online vegetable marketing and for experiments on grafting technology for vegetables.

Sh. SUBRAT RANJAN PRUSTI
Bhubaneswar, Odisha

ZONE-VIII

Sh. PRAKASH K.S., Harapanahalli, Davanagere, Karnataka has been recommended for award for stone mulching and drop structure in Arecanut.

Sh. PRAKASH K.S.
Harapanahalli, Davanagere
Karnataka

N.G. RANGA FARMER AWARD FOR DIVERSIFIED AGRICULTURE 2014

Award 2014

The Council has instituted the N.G. Ranga Farmer Award for diversified agriculture in order to recognize the distinguished farmers for their outstanding contributions in the field of diversified agriculture. The award is aimed at creative and innovative approaches resulting in enhancement of production and productivity, resource conservation and application of improved farming techniques/practices in different disciplines of agriculture. The award caries a cash prize of ₹ 1.00 lakh and given annually. The award has been named after Late Prof. N.G. Ranga (1900-1995). A total of 11 applications were received in response to the open advertisement, the recipient of award is:

Shri GURPREET SINGH SHERGILL from Village-Majhal Khurd, Dist.-Patiala (Punjab) is being conferred N.G. Ranga Award 2014. He made floriculture as his base in diversified farming. He cultivated rose, marigold, gladiolus, statice, chrysanthemum and guljafri by adopting the new technologies like flower based crop rotations, mulching by paddy straw, vermicomposting, drip irrigation, use of mist for humidity control in poly house, cold room for fresh flower to extend shelf life and water management through storage tanks. He innovated and designed gladiolus bulb grader, tractor operated gladiolus digger to reduce the labour cost. By cultivation of Gladiolus-English in 2 hectares he earned the net return of ₹ 5.3 lakhs with B:C ratio of 6.58. A good number of farmers from all over Punjab have ventured into horticulture and vermicompost production to improve their earnings. His contribution in terms of new technology and package of practices are-flower based new crop rotations, self-designed gladiolus bulb grader, rose water distillation plant establishment, manufacturing and sale of rose water under the brand name 'Balson', manufacturing of rose sharbat and sale vermicompost production. Out of the total 36 acres of land, he grows horticultural crops on 22 acres of land, along with 12 acres under field crops, half acre under agro-forestry and vermin culture, and one acre of fish pond. His farm also includes poly-houses for storage of fresh flowers; a pack house for packing of rose cut-flowers and gladiolus sticks; a rose water plant; a dairy unit; and sheds for cleaning, grading and storage of gladiolus bulbs; and storage of fertilizers, pesticides and implements.

Sh. GURPREET SINGH SHERGILL
Village-Majhal Khurd
Patiala, Punjab

कृषि एवं संबंधित विज्ञान की तकनीकी पुस्तकों हेतु डॉ. राजेन्द्र प्रसाद पुरस्कार 2014

Award 2014

परिषद ने कृषि एवं संबंधित विज्ञान पर हिन्दी में तकनीकी पुस्तक लेखन के क्षेत्र में मौलिक स्तरीय लेखन तथा भारतीय लेखकों को प्रोत्साहित करने के उद्देश्य से डा. राजेन्द्र प्रसाद पुरस्कार की स्थापना की है। यह पुरस्कार व्यक्तिगत रूप से अथवा लेखकों की टीम के रूप में प्रदान किया जाता है। प्रत्येक पुरस्कार एक लाख रुपये (1,00,000 रू.) नकद के रूप दिया जाता है। कृषि एवं संबंधित विज्ञान के विभिन्न विषयों पर चार पुरस्कार प्रदान किए जाते हैं लेकिन एक विषय पर एक ही पुरस्कार दिया जाता है। कृषि एवं संबंधित विषयों के सभी मौलिक हिन्दी तकनीकी पुस्तकों के भारतीय लेखक तथा एक से अधिक लेखकों की पुस्तकों के संपादक, जिनका स्वयं पुस्तक में उल्लेखनीय योगदान हो, इस पुरस्कार के पात्र हैं। यह पुरस्कार भारत के प्रथम राष्ट्रपति डा. राजेन्द्र प्रसाद (1884–1963) के सम्मान में दिया जाता है। खुले विज्ञापन से प्राप्त चौदह (14) प्रविष्टियों में से पुरस्कृत लेखक और उनका योगदान इस प्रकार है।

उत्कृष्ट हिन्दी लेखन हेतु 2014 का डॉ. राजेन्द्र प्रसाद पुरस्कार डॉ. डी. आर. भारद्वाज, प्रधान वैज्ञानिक, उद्यान विभाग को प्रदान किया गया है।

डॉ. डी. आर. भारद्वाज
प्रधान वैज्ञानिक, उद्यान विभाग

इस पाठ्य पुस्तक सब्जी विज्ञानः सिद्धांत एवं अनुप्रयोग भाग 1 एवं भाग 2 में, सब्जी अनुसंधान एवं विकास, सब्जियों की पोषणवाटिका, सब्जी बागवानी के प्रकार एवं सब्जियों का वर्गीकरण, पौधशाला प्रबन्धन तकनीकी, सब्जी जननद्रव्य एवं बौद्धिक सम्पदा अधिकार, सब्जी फसलों में प्रजनन की तकनीकें, सब्जी फसलों में जैव प्रौद्योगिकी का अनुप्रयोग, सब्जियों पर वातावरणीय विषमताओं का प्रभाव, सब्जी फसलों में होनेवाली दैहिक विकृतियां, सब्जियों की गुणवत्ता युक्त कृषि पद्धति, कार्बनिक/जैविक खेती एवं प्रमाणीकरण, सब्जियों की संरक्षित व जल खेती, सब्जियों में समन्वित पोषण प्रबन्धन, सब्जी फसलों में पादप वृद्धि नियामकों व सूक्ष्म पोषकतत्वों का प्रयोग, सब्जियों में जल प्रबन्धन सब्जी फसलों में समन्वित खरपतवार प्रबंधन, सब्जियों में समन्वित कीट एवं सूत्र कृषि प्रबंधन, सब्जियों में समन्वित रोग प्रबन्धन, सब्जी फसलों की तुड़ाई पूर्व एवं उपरान्त प्रबन्धन, सब्जियों की पैकिंग, श्रेणीकरण, विपणन, निर्यात एवं भण्डारण, सब्जियों का प्रसंस्करण एवं परिरक्षण तथा सब्जी बीज उत्पादन से सम्बन्धित राष्ट्रीय एवं अंतर्राष्ट्रीय परिदृश्य आदि पर विस्तृत जानकारी संकलित की गयी है। पुस्तक में उपयुक्त प्रजातियों की प्रजनन पद्धति, पौधशाला प्रबन्धन, खाद एवं उर्वरकों का उपयोग, सूक्ष्म तत्वों एवं पादप वृद्धि नियामकों का प्रयोग, हानिकारक रोगों/कीटों/सूत्रक कृमियों, आदि से बचाव के लिये सुरक्षित कृषि रसायनों के प्रयोग पर विवरण दिया गया है जिसके कार्बनिक/जैविक पद्धतियों को समाहित कर गुणवत्ता युक्त एवं विषमुक्त सब्जियों का उत्पादन किया जा सके। राजभाषा में किसानों से जुड़े कृषि विज्ञान केन्द्रों, राज्य की सरकारी एवं गैर सरकारी संगठनों के लिये इस पाठ्य पुस्तक की उपलब्धता उनके प्रचार–प्रसार मे मील का पत्थर साबित होगी और वैज्ञानिकों के शोध परिणामों को सब्जी वैज्ञानिकों एवं उत्पादकों तक पहुंचाने में सहायता करेगी।

डॉ. शिव प्रसाद
प्रधान वैज्ञानिक (एनआरएम)

उत्कृष्ट हिंदी लेखन हेतु 2014 का डॉ. राजेन्द्र प्रसाद पुरस्कार डॉ. शिव प्रसाद, प्रधान वैज्ञानिक (एनआरएम) को दिया गया है।

पिछले दशक से प्रदूषण और जलवायु परिवर्तन ऐसी दो प्रमुख चुनौतियां रही हैं जो कृषि उत्पादकता के लिए खतरा बनी हुई हैं। यह पुस्तक इन चुनौतियों को ध्यान में रखते हुए लिखी गयी है। यह पुस्तक पर्यावरण, कृषि और जलवायु परिवर्तन से जुड़े पहलुओं से संबंध रखती है और इसे 4 भागों में बांटा गया है जिसमें 13 अध्याय शामिल हैं। इसका प्रथम भाग पर्यावरण और कृषि के बारे में है जिसमें रूचिकर वैज्ञानिक तथ्य हैं। भाग द्वितीय में हरित गृह गैसों के उत्सर्जन, उनके न्यूनीकरण विकल्प, जलवायु परिवर्तन और कृषि संबंधी पहलुओं के बारे में विचार–विमर्श किया गया है। तीसरे भाग में कृषि के संदर्भ में जैव ईंधनों की ऊर्जा संभाव्यता के बारे में चर्चा की गयी है और वायु गुणवत्ता को सुधारने तथा जलवायु परिवर्तन के प्रतिकूल प्रभाव को कम करने में इसकी भूमिका के बारे में प्रकाश डाला गया है। पुस्तक के भाग चतुर्थ में पर्यावरणीय प्रदूषण से संबंधित तथ्यों, उनके प्रभावों और अपनाए जाने वाले नियंत्रण विकल्पों को स्पष्ट किया गया है। पुस्तक में शामिल वैज्ञानिक तथ्यों तथा आंकड़ों ने पुस्तक को स्वतः वर्णित तथा उपयोगी बनाया है। यह पुस्तक संकाय सहित स्नातक और स्नातकोत्तर छात्रों के लिए उपयोगी होगी और समाज में पर्यावरण के प्रतिजागरूकता बढ़ाने में सहायक होगी।

VASANTRAO NAIK AWARD FOR OUTSTANDING RESEARCH AND APPLICATION IN DRYLAND FARMING SYSTEMS 2014

Award 2014

In order to provide recognition for outstanding research and application leading to improvement of dryland farming systems, ICAR instituted an annual Vasantrao Naik Award for Research and Application in Dryland Agriculture-2014 of ₹1.00 lakh which is given to a scientist or an extension worker who has made outstanding contribution in the areas of Water Conservation and Dryland Farming. The award has been named after Late Sh. Vasantrao Naik (1913-1979) who is regarded as Father of Green Revolution in Maharashtra. 5 eligible applications were received in response to the open advertisement and the winner is:

Dr. B.K. RAMACHANDRAPPA
Chief Scientist & Agronomist ORP
AICRP on Dryland Agriculture
UAS, GKVK, Bangalore

Dr. B.K. RAMACHANDRAPPA, Chief Scientist & Agronomist ORP, AICRP on Dryland Agriculture, UAS, GKVK, Bangalore and his associates including Dr. M.A. Shankar, Dr. M.N. Thimmegowda, Dr. A. Sathish, Mr. B.N. Jagadeesh and Dr. Ch. Srinivasa Rao were conferred Vasant Rao Naik Award for Research Application in Agriculture 2014. The team has done meritorious work on livelihood enhancement under dry zones of Southern Karnataka (10 districts) with systematic research and technological application attended by AICRP for dryland agriculture, Bangalore. NRM based activities viz., *In-situ* and *Ex-situ* rain water conservation to improve its use efficiency, recharge pit for defunct bore well, crop diversification through intercropping and double cropping to enhance system productivity under bimodal rainfall distribution, soil health management through INM, SSNM, green manuring, micro nutrient management, mechanization through custom hiring center for timely operation and livestock based IFS activity have improved productivity of crops ranging from 14.92 to 143.41% and the profitability by 2-4 folds across crops. Value addition in pulses through *dhal* making and storage techniques for pulses avoided distress sale and contributed additional income. The outcomes of research and technological applications under the project were taken for upscaling through 'Bhoochetana and Krishibhagya' flagship programs in Govt. of Karnataka across 23 districts of dry farming.

SWAMI SAHAJANAND SARASWATI OUTSTANDING EXTENSION SCIENTIST AWARD 2014

The Council has instituted the Swami Sahajanand Saraswati Outstanding Extension Scientist Award in order to provide recognition to outstanding agricultural extension work done by agricultural scientists and teachers in the ICAR-SAU system and to provide incentive for excellence in agricultural extension scientist/teacher. Two individual award have been provided. An individual award would consist of ₹1.00 lakh in cash and a citation. The award has been assigned across the disciplines in agriculture and allied sciences. The award has been named after Late Swami Sahajanand Saraswati (1889-1950) a social reformer and the first president of All India Kisan Sabha. A total of 12 eligible applications were received in response to the open advertisement and the winners with their significant contributions are:

Dr. RAKESH KUMAR YADAV
Subject Matter Specialist (PP)
Rajmata Vijayaraje Scindia
Krishi Vishwa Vidyalaya
Krishi Vigyan Kendra, Jhabua (MP)

Dr. RAKESH KUMAR YADAV, Subject Matter Specialist (PP), Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Krishi Vigyan Kendra, Jhabua (MP) was conferred Swami Sahajan and Saraswati Outstanding Extension Scientist Award 2014. His contribution is related to working in Jhabua with 87% tribal farming community for the upliftment of status of tribal farmers, improve the livelihood and prevention of migration through diversified agriculture and skill development activities by poultry (Kadaknath) farming, dairy, vegetable production, crop diversification, fruit plantation of Mango, Aonla, Papaya, sapota, citrus under National agricultural Innovation Project. Further to solve problems a considerable number of the OFTs, FLDs and trainings were carried out for sustainable enhancement in productivity and profitability, management of natural resources through low cost measures, income generation through empowerment for entrepreneurship, value addition, transportation and marketing.

Dr. S.K. METI
Professor & Head
Deptt. of Agricultural Extension
University of Agricultural Sciences
Raichur, Karnataka

Dr. S.K. METI, Professor & Head, Deptt. of Agricultural Extension, University of Agricultural Sciences, Raichur, Karnataka was conferred Swami Sahajanand Saraswati Outstanding Extension Scientist Award 2014. His contribution is related to redefining of the transfer of technology system by convergence of different organization and stake holders for the benefit of SC-ST farm women capacity building through education, training and field demonstration on dairy and vermicompost for sustainable income. In this regard awareness creating programmes, training and field demonstration were conducted for capacity building among the selected SC/ST farm women.

CHAUDHARY CHARAN SINGH AWARD FOR EXCELLENCE IN JOURNALISM IN AGRICULTURAL RESEARCH AND DEVELOPMENT 2014

Award 2014

Chaudhary Charan Singh Award for Excellence in Journalism in Agricultural Research and Development was instituted by the ICAR in 2000 in order to recognize the outstanding contribution in Journalism in the field of Agricultural Research and Development in the country. The award carries a cash value of ₹1.00 lakh and is given annually for the outstanding contribution in Journalism in Agriculture and Allied Science through Hindi/English newspapers/magazines/ journals published in India. From 2010, an award for Journalist from electronic media, has also been added. From this year the total number of awards has been increased to six (2 each in Hindi & English Journalism and 2 for electronic media). An individual who has made significant contribution by way of writing/analysing/reporting for enhancement/promotion of Indian Agriculture is eligible for this award. The award has been named after Late Shri Chaudhary Charan Singh (1902-1987) who was the Seventh Prime Minister of India. Twenty One (21) applications were received by the Council in response to the open advertisement and the recipients of the awards with their contributions are:

Sh. ARVIND KUMAR SINGH

श्री अरविंद कुमार सिंह हिंदी के प्रतिष्ठित लेखक और पत्रकार हैं। वे तीन दशकों से खेती–बाड़ी, कृषि अनुसंधान और संचार–परिवहन क्षेत्र पर काम कर रहे हैं। जनसत्ता दैनिक से अपना कैरियर आरंभ करने वाले श्री सिंह अमर उजाला और हरिभूमि जैसे कई प्रतिष्ठित अखबारों से जुड़े रहे हैं। 2 अगस्त 2011 से राज्य सभा टीवी में वे संसदीय और कृषि संबंधी विषयों के प्रभारी हैं। हिंदी अकादमी, इफको हिंदी सेवी सम्मान और भारत सरकार के शिक्षा पुरस्कार समेत कई पुरस्कारों से सम्मानित श्री सिंह कई पुस्तकों के लेखक भी हैं। ये पुस्तकें हिंदी और अंग्रेजी के अलावा भारतीय भाषाओं में भी प्रकाशित हैं। वर्तमान में कृषि पत्रकारिता पर भी एक पुस्तक लिख रहे हैं। उनकी रचना एनसीईआरटी के आठवीं कक्षा के हिंदी पाठ्यक्रम में भी पढाई जाती है।

श्री सिंह कृषि अनुसंधान और खेती–बाड़ी से जुड़े सवालों पर 1983 में अपनी पत्रकारिता के आरंभ से लिखते रहे हैं। राज्य सभा टीवी में खेती के ज्वलंत सवालों पर उनके द्वारा बनायी गयी स्पेशल रिपोर्टें काफी चर्चा में रहीं। किसी विषय को उठाते समय उसकी गहराई तक जाने की वे हमेशा कोशिश करते हैं। देश की सभी प्रमुख भारतीय कृषि अनुसंधान संस्थाओं और विश्वविद्यालयों का वे अवलोकन भी कर चुके हैं। उन्होंने मलेशिया, नेपाल, सिंगापुर ,पाकिस्तान, ताजिकिस्तान, भूटान और श्रीलंका जैसे देशों का भ्रमण भी किया है।

श्री सुरेंद्र प्रसाद सिंह दैनिक जागरण के नेशनल ब्यूरो, नई दिल्ली में डिप्टी ब्यूरो चीफ हैं। पिछले दो दशक से अधिक समय से पत्रकारिता कर रहे सिंह ने उत्तर प्रदेश, हरियाणा, पंजाब और देश के अन्य राज्यों के ग्रामीण जनजीवन को नजदीक से देखाए परखा और शासन प्रशासन तक उसे पहुंचाने के लिए समाचार, लेख व संपादकीय लिखते रहे हैं। स्वतंत्र भारत, अमर उजाला और दैनिक जागरण जैसे हिंदी अखबारों में कृषि क्षेत्र की समस्याओं व उपलब्धियों का अपने समाचारों में शामिल किया। इसके साथ आकाशवाणी, दूर दर्शन और अन्य निजी चौनलों में खेती किसानी और ग्रामीण क्षेत्रों के ज्वलंत मुद्दों पर होने वाली चर्चाओं में बढ चढ़कर हिस्सा लिया। कृषि विषयों पर विदेशों में आयोजित सेमिनार व सम्मेलनों में भाग लेने अमेरिका, यूरोप व अन्य एशियाई देशों की यात्रा भी की है। आधुनिक खेती में प्रौद्योगिकी के समर्थक रहे सिंह जैविक खेती को भी समान महत्त्व देते रहे है।

Sh. SURENDRA PRASAD SINGH

Ms. MADHVI SALLY has been covering agriculture and allied sectors including food, policy for The Economic Times since the year 2006. She has a decade of work experience. During her career, she has worked in country's agriculture hubs - Punjab and Haryana, commodity trade centre and dairy capital Gujarat before moving to the National Capital. She is a postgraduate diploma holder in mass communication from Bhavan Vidyalaya and masters in Defence and National Security Studies from Panjab University, Chandigarh. She has travelled to USA, Israel, Thailand, Singapore and Pakistan to meet farmers, government authorities and agencies engaged in agriculture sector.

Ms. MADHAVI SALLY

Ms. GARGI PARSAI

Ms. GARGI PARSAI is an award winning journalist. She is Associate Editor with The Hindu newspaper. She has been writing with distinction on the crucial subjects of agriculture, food security, water resources and rural development for over two decades. She also covers politics and Parliament for her newspaper. In a career spanning 37 years, she has brought to light various issues relating to farm research and development, environment and food sector that have made a difference. She is the winner of the Prem Bhatia Award in Journalism, FAO Award for Best Writing and named amongst the Women of the Millennium for her reporting. She represented India in a Press Fellowship in the United States of America and was invited by former Prime Minister Deve Gowda for her views on agrarian crisis. She believes that all journalistic writing should be people-centric.

Sh. ARVIND KUMAR SINGH

श्री अरविंद कुमार सिंह ने पिछले डेढ़ दशक में स्वतंत्र भारत–लखनऊ, दैनिक जागरण–लखनऊ, अमर उजाला–दिल्ली और दैनिक हिंदुस्तान–दिल्ली में विभिन्न पदों पर कार्य किया है। पत्रकारिता के क्षेत्र में उच्च मापदंड स्थापित करते हुए सामाजिक, राजनीतिक मुद्दों पर प्रमुखता से काम किया है। देश के कृषि क्षेत्र के विकास में सतत् प्रयत्नशील हैं। आधुनिक तकनीक से खेतीबाड़ी और पशुपालन, मछली पालन आदि से सुदूर ग्रामीण क्षेत्र के स्थानीय निवासियों, आदिवासी, सीमांत किसानों को आर्थिक संपन्नता संबंधी खबरों को महत्व दिया है। जिससे इसका लाभ देश के अन्य लोगों को मिल सके। फसल बीमा की जटिलताएं, इसके प्रति किसानों में जागरुकता लाना, मुआवजा वितरण में तकनीकी व व्यवहारिक दिक्कतों को अपनी खबरों में प्रमुखता से उठाया है क्योंकि यह ज्वलंत मुद्दे सीधे तौर पर किसानों को प्रभावित करते हैं।

Sh. JAI PRAKASH SINGH

Sh. JAI PRAKASH SINGH, a renowned Agriculture Journalist, is currently working as senior producer in ETV's popular feature ANNADATA. As media expert he excels in electronic media window visual based informative value addition in agriculture and allied sectors for skill development of farming communities of the country a job which he is continuously performing since 2008. As an Agricultural Journalist, his main focus is to project Agriculture Scientist adapted farmers' research and success stories especially in high value and midseason income generating crops for ensuring nutritional and economic security of small and marginal farmers of the country. His areas of choice include, improved scientific farming technologies on agriculture like improved crop varieties, horticultural crops, cropping systems, low cost technologies and allied activities and coverage from Scientists, subject matter specialists, agriculture officers of Krishi Vigyan Kendra, ICAR, Line Departments of State Govt. also innovative Farmers. He has to his credit over 125 in-house voice-over stories, documentaries and scripts during past 3 years.

NASI-ICAR AWARD FOR INNOVATION AND RESEARCH ON FARM IMPLEMENTS 2014

Award 2014

The Indian Council of Agricultural Research (ICAR) and National Academy of Sciences India (NASI) has instituted NASI-ICAR Award for Innovation and Research on Farm Implements from the year 2013 in order to reduce drudgery of farm women by development of farm implements and to encourage researchers and innovators to develop farm implements for farm women. The award carries a cash price of ₹1.00 lakh and is given annually. A total of 3 applications were received in response to the open advertisement, the recipient of award is:

Dr. RAVINDRA NAIK
Senior Scientist, Central Institute of Agricultural Engineering Regional Centre
Industrial Extension Project
TNAU Campus, Coimbatore

Dr. RAVINDRA NAIK, Senior Scientist, Central Institute of Agricultural Engineering Regional Centre, Industrial Extension Project, TNAU Campus, Coimbatore has been conferred NASI-ICAR Award for Innovation and Research on Farm Implements 2014. He has developed equipments which cater to the specific requirements of the farm women working in the agriculture sector. Sugarcane bud chipping, filling of portray and planting of bud chip seedling technique is a major step towards the development of mechanization package for sugarcane bud chip technology and has become quite popular. Extraction of aloevera gel is a very tedious and time consuming process. The equipment developed has been commercialized and is being adopted by many users. The package of equipment for banana central core minimal processing has made an impact on the development of post-harvest mechanization package for banana central core. Banana pseudo stem chipper shredder is used for making vermicompost from banana pseudo stem by size reduction thus obviating the need for burning there by minimizing the environmental hazard. All these developments will go a long way in reducing the drudgery, improving the working efficiency, income and quality of life of farming families.

HARI OM ASHRAM TRUST AWARD FOR BIENNIUM 2012-13

Award 2014

The Council has instituted the Hari Om Ashram Trust Award in order to recognize the outstanding research on long term problem in agricultural and allied sciences. Four individual awards have been instituted, each consists of ₹1,00,000 (Rupees One lakh only). All scientists engaged in research in the field of Crop / Horticultural sciences, Natural Resource Management / Agricultural Engineering, Animal / Fisheries sciences and Social Sciences in India shall be eligible for the award. The award is open to individual scientists as well as team of scientist. The award is biennial. 30 eligible applications were received in response to an open advertisement and the selected awardees are:

Dr. AMARESH CHANDRA
IISR, Lucknow, U.P.

Dr. AMARESH CHANDRA, Principal Scientist & Head, Dr. Radha Jain (Associate), Principal Scientist and Dr. S. Solomon (Associate), former Director, IISR, Lucknow, U.P. have been conferred Hari Om Ashram Trust Award 2012-13 for Crop & Horticulture Sciences. They achieved improved Physiological Efficiency (PE) in terms of early and higher germination of sugarcane by sett priming with low dose of biochemicals including ethrel eventually leading to high tiller survival and increased cane yield by 20-25%. Sequential application of GA3 increased inter-node length leading to improved tiller survival (10-15%). Rapid multiplication of seed (sett) was achieved with Bud chip technology to improve seed quality for wider spread and replacement of old/ rejected varieties. Post-harvest sucrose loss was minimized by 0.5 unit with chemical formulations (BKC + SMS), which inhibited invertase activity and checked *Leuconostoc* sps growth causes that causes fast deterioration of cane quality. Development of >3000 CISP markers for molecular breeding, molecular detection tool (LAMP) to detect red rot infested cane simply with change of colour, and expression study of SPS, SAI, CWI and SuSy genes involved in sucrose accumulation addressing, source-sink communication in sugarcane are some important research contributions to ultimately improve cane and sugar yield especially in sub-tropical part of the country.

Dr. CHERUKUMALLI SRINIVASA RAO
Director, ICAR-CRIDA
Hyderabad

Dr. CHERUKUMALLI SRINIVASA RAO, Director, ICAR-CRIDA, Hyderabad and Dr.B.Venkateswarlu (Associate), Vice-Chancellor, VNMKV, Parbhani, Maharashtra have been conferred Hari Om Ashram Trust Award 2012-13 for Natural Resource Management & Agricultural Engineering. Dr. Ch. Srinivasa Rao and Dr. B. Venkateswarlu made significant contributions in the development and implementation of carbon positive soil management strategies for arresting soil organic carbon depletion based on long term field experiments in major rainfed production systems in India. Critical carbon input requirements were computed for rainfed production systems to maintain soil organic carbon at antecedent levels. They determined the extent of productivity enhancement of maize, upland rice, groundnut, pearl millet, soybean, castor, finger millet per each tone of carbon sequestered in diverse soil types. The technologies developed and validated in 210 villages: are on-farm generation of organic matter for soil incorporation such as glyricidia green leaf manuring, community and house-hold vermicomposting units, cover crops incorporation, tank silt supplication, Soil Health Card driven nutrient management strategies, reducing crop residue burning, residue recycling for soil health, Conservation Agriculture (CA) practices etc. These technologies impacted in higher crop productivity, income and livelihoods positively besides environmental benefits of carbon and energy balance and drudgery reduction in resource poor households in 210 villages representing several rainfed districts of the country. These carbon positive technologies are being implemented in 123 model villages in 120 districts of the country, and carbon balance is estimated through FAO Ex-ante Model. Some of these technologies are being implemented through National Mission on Sustainable Agriculture (NMSA), Govt. of India.

Dr. JASHBHAI BHIKHABHAI PRAJAPATI
Professor & Head
Dept. of Dairy Microbiology
SMC College of Dairy Science
AAU, Anand, Gujarat

Dr. JASHBHAI BHIKHABHAI PRAJAPATI, Professor & Head, Dept. of Dairy Microbiology, SMC College of Dairy Science, AAU, Anand, Gujarat has been conferred Hari Om Ashram Trust Award 2012-13 for Animal & Fisheries Sciences. His research contributions include characterizing potential probiotic strain to genomic level and patenting it. The strain MTCC 5463 has been studied for adaptability and probiotic properties by *in vitro* tests, animal models and human clinical trials. Suitable product matrix and technologies were optimized to get higher viability of probiotic bacteria and better stability and acceptability of the product. A wide array of probiotic and symbiotic preparations were developed. The strain has been licensed for commercial use and the first product employing this strain has been launched. The product has significant potential health benefits to the humans and is of industrial importance.

BEST KRISHI VIGYAN KENDRA AWARD 2014

In order to recognize outstanding performance by Krishi Vigyan Kendras at national level & zonal level and provide incentives for outstanding KVK performance, promote a sense of institutional pride in KVK for developing models of Extension Education and Technology application, the ICAR has constituted Best Krishi Vigyan Kendra Awards (National & Zonal) 2014. For National level there is one award comprising of ₹3.00 lakh + ₹3.00 lakh for infrastructural development + ₹1.00 lakh for sharing among staff + ₹5.00 lakh for overseas training of Programme Coordinator.

At zonal level there are total eight awards: one for each zone of KVKs. Each award consists of ₹1.00 lakh + ₹2.00 lakh for infrastructural development + ₹1.00 lakh for sharing among staff + ₹1.00 lakh for training in Indian Institute for Programme Coordinators.

10 applications for National Award and 27 applications for Zonal Awards were received in response to the open advertisement and the winnersare:

NATIONAL

The efforts of KVK BENGALURU mandated activities like OFT, FLD, Training, etc. have resulted in over 30% adoption of improved technologies, with substantial increase in crop production (20%) and quality. This has led to 40% higher income and improved economic status of for the farmers. External funding of ₹2.45 crores was mobilized through effective linkage with line departments. About 60,000 farmers were sensitized on advanced technologies through 2,288 outreach programmes. The KVK has motivated 61 rural youth for self employment through vocational trainings who are now recognized as rural master trainers in farmer led extension. Impact studies revealed landslide change in livelihood security and socio-economic status by adopting IFSD model. Effective market linkage was assured through empowering 11 Commodity Based Associations and 49 SHGs in value addition, branding and marketing of food products. Twelve awards were received by KVK staff for outstanding extension outreach activities. Thus, KVK has made significant impact in developing agriculture and allied sectors of the district.

ZONAL

ZONE - I

KVK KULLU has created mass awareness for speedy technology transfer. It has developed French bean variety *'Palam Mridula'* recommended for cultivation in Himachal Pradesh. Improved varieties of cereals have been developed. The KVK has developed diversification of agriculture, intensification and shift to cash crop farming, introduced pomegranate as a substitute for apple which has provided a new cash crop for better returns, encouraged group mobilization of women self help groups towards secondary agriculture, improved milk production through scientific management practices and integrated farming system models.

ZONE - II

KVK SARAN, Bihar, though situated in a remote place, maintains good communication between scientists and farmers. As a consequence, productivity of the farmers has increased manifold which resulted in doubling of overall income. By adopting scientific agricultural techniques like conservation agriculture, crop diversification, crop intensification, medicinal and aromatic plants, vegetable cultivation, dry farming and organic agriculture, the farmers are involved in agriculture not for subsistence but for income generation and as enterprise. All the technologies recommended by the KVK have resulted in increase in cropping intensity, yield, economic returns, socio-economic status of the farmers and overall the amalgam of different government activities through convergence.

ZONE - III

KVK NALBARI has been doing commendable job in the area of percolating the tested agricultural technologies to the Esser Groups- a testimony of which is the emergence of a group of young entrepreneurs pursuing technology led agriculture in the district. Farmers trained and supported by the KVK have earned wide appreciation through print and electronic media due to their ability of using science in scaling up their production and productivity.

ZONE - IV

KVK SARGATIA, Seorahi regularly monitors farming situation and provide need-based advanced technologies and training to the farming community. These changed the attitude of the farmers, increasing their knowledge and skill level. This has increased socio-economic status of the farmers.

ZONE - V

KVK YAGANTIPALLE, Kurnool is serving as a lighthouse with supply of technology and inputs like quality seed, seedlings, poultry, ram lambs, mineral mixture, animal feed, biopesticides, vermicompost, implements and soil testing. The KVK has reached to almost all surrounding villages and facilitated farmers. The KVK is the nodal agency for vermicompost technology in the district and vocational trainings for rural adolescent girls sponsored by women development and child welfare department and other NGOs. The activities and programmes carried out by KVK have resulted in positive impact on various strata's of rural people. The activities and the functioning of demonstration units have attracted the colleges in the district and it became a compulsory exposure cum learning visit to science students and rural work experience centre for Home Science and agriculture graduates. The adoption of improved, innovative technologies by the farmers has empowered them in terms of production, productivity, increased income and quality of livelihood.

ZONE - VI

KVK BANSWARA, Rajasthan has directed its efforts towards agricultural development in the district and bringing entrepreneurship and skills among practitioners of agriculture and rural youth with a view to ensure livelihood security. The KVK has developed excellent liaison with the state department and industries in the region. Due to KVk's efforts along with line departments, the majority of farmers in the district are using quality seeds which have increased productivity. Excellent infrastructure have been developed in respect of demonstration units which have helped in ensuring quality of trainings, and resulted in economic empowerment and nutritional security of farmers.

ZONE - VII

KVK SURGUJA is working as resource and knowledge centre of agricultural technology for supporting initiatives of public, private and voluntary sectors. The KVK is engaged with its mandate of technology assessment, refinement and demonstration of products. The LVK has provided in-service training to agriculture officials and established coordination with line department, NGOs and district administration which is vital to carry out the programmes and sorting out the problems. It has diversifies the cropping by motivating the farmers to replace up-land uneconomic rice with profitable maize hybrids, pulse, oilseeds and vegetables. This resulted in productivity enhancement of major crops.

ZONE - VIII

KVK PALAKKAD has produced a positive impact in all major crops and enterprises in the surrounding areas. The group mechanization strategy evolved by KVK through scientific on-farm trials and propagated through trainings and demonstrations has been the major driving force in spreading mechanization, an important catalyst for sustaining rice cultivation. Technology transfer activities in popularizing application of micro-nutrients for coconut, banana and vegetables during the last few years have started producing results. Close association with farmers, strong functional linkages with line departments and access to new technologies gained through scientific interactions were the major pillars for the KVK to become the technology and resource centre for farmers of the district.

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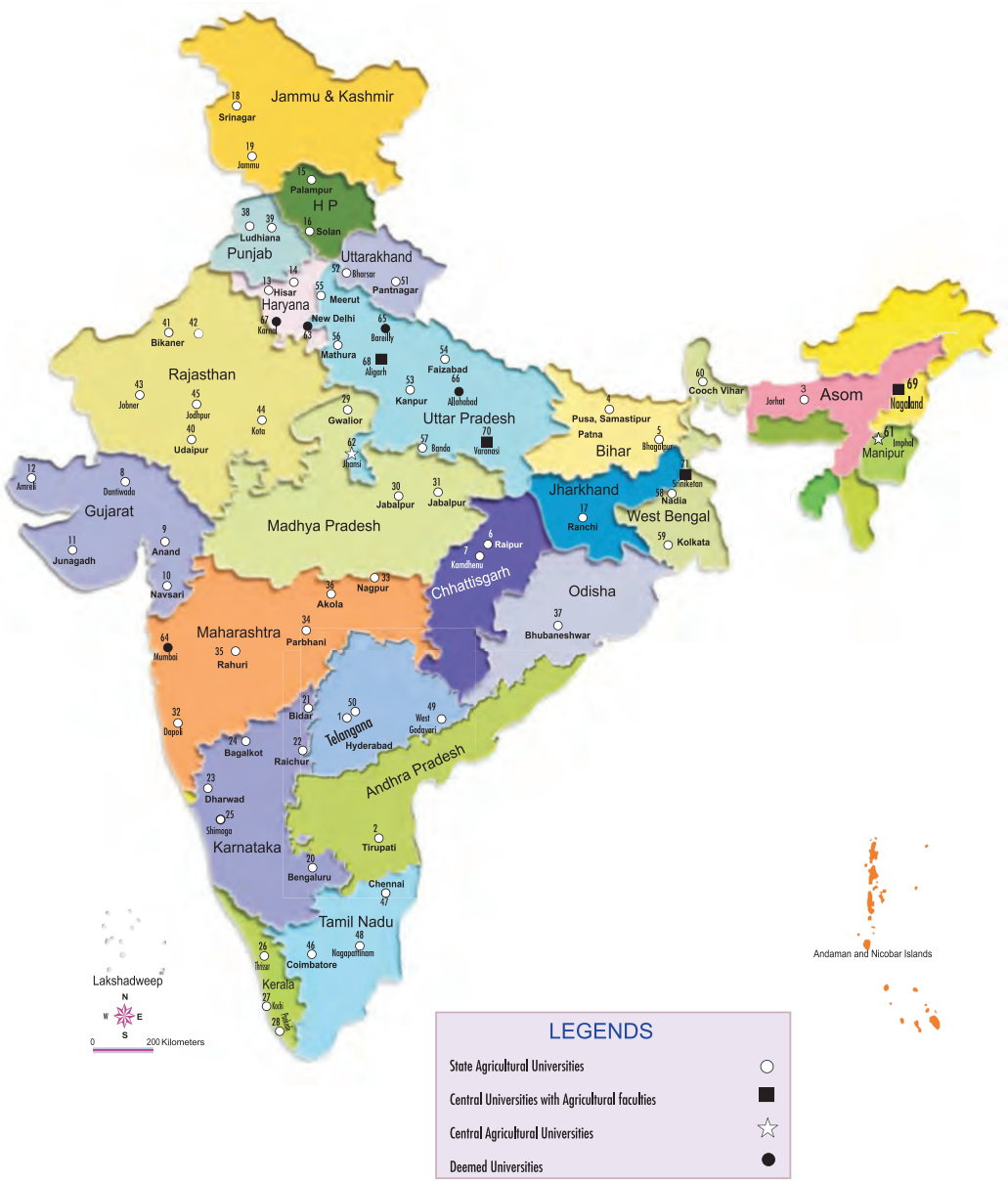

हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch