IARI-J/InB-002/2025

भाकृअनुप
ICAR

भारतीय कृषि अनुसंधान संस्थान- झारखंड
Indian Agricultural Research Institute - Jharkhand

सफर एक दशक का...
Journey of a Decade...
2015 – 2025

भा.कृ.अनु.प.-भारतीय कृषि अनुसंधान संस्थान - झारखंड
गौरिया करमा (खेरोन), हजारीबाग – 825405
ICAR-Indian Agricultural Research Institute-Jharkhand
Gauria Karma (Kheron), Hazaribag, Jharkhand 825405

Citation

ICAR-IARI Jharkhand: Journey of a Decade (2025). ICAR-Indian Agricultural Research Institute-Jharkhand, Gauria Karma (Kheron), Hazaribagh, Jharkhand 825405, pp 66p.

Editors

Dr Dipak Kumar Gupta
Dr Krishna Prakash
Dr Sougata Bhattacharjee
Dr Anima Mahato
Dr Pankaj Kumar Sinha
Dr S K Mahanta
Dr Narendra Singh
Dr Shantesh Kamath
Dr Kashinath Teli
Dr Niranjan Kumar
Dr Abhay Giri

Concept and Design

Prof. (Dr) Vishal Nath
Officer on Special Duty
ICAR-Indian Agricultural Research Institute-Jharkhand
Gauria Karma (Kheron), Hazaribagh-825405

Published by

Dr Ch. Srinivasa Rao
Director-cum-Vice Chancellor
ICAR-Indian Agricultural Research Institute-Jharkhand
Gauria Karma (Kheron), Hazaribagh-825405

Contents

PREFACE

ICAR-Indian Agricultural Research Institute-Jharkhand was established with the aim of promoting excellence, fostering high-standard research for holistic agrarian development and orienting educational programmes towards future needs. It was inaugurated by the Hon'ble Prime Minister of India on 28th June 2015 at Gauria Karma, Hazaribagh, in the state of Jharkhand.

The mission of the institute was set for bringing the second green revolution in the country with sustainable use of the available natural resources, hardworking population and by bringing prosperity to the area with intervention of improved technologies and practices.

The institute started with modest pace and has now completed a decade of its existence. If we look back the journey of institute in last 10 years it is quite satisfying at the moment. The research programmes have been developed and being implemented with available resource. On the other hand, the education programmes are taking a new dimension. The outreach activities of the institute are making impact on improving the livelihood of general public.

The institute is still in a nascent stage of its development where infrastructures are being developed at faster pace. The 10 years journey of the institute has been documented in this booklet which will help in retrospection and proper planning in future.

I am very pleased to present this document before you all and look forward to your critical inputs and suggestions to take this journey forward. I would like to congratulate all the staff of the institute and thank the authorities of the council for their great efforts and making the institute established.

Thank you all.

Regards,

Dr Ch. Srinivasa Rao
Director-cum-Vice Chancellor
ICAR-Indian Agricultural Research Institute-Jharkhand
Gauria Karma (Kheron), Hazaribagh-825405

GENESIS OF IARI-JHARKHAND

The seed for the establishment of Indian Agricultural Research Institute-Jharkhand was sown in the "2014-2015 Budget Speech" of Minister of Finance Shri Arun Jaitley on July 10, 2014 with a view to make India largely self-sufficient in providing food for growing population. It was felt that to make farming competitive and profitable, there is an urgent need to step up both public and private investment mainly in agro-technology development and creation and modernization of existing agri-business infrastructure. The Indian Agricultural Research Institute (IARI), Pusa has been at the forefront of research in this area. However, since independence only one such centre has been established. Therefore, Union Government announced to establish two more such institutions of excellence on similar pattern in Assam and Jharkhand with an initial sum of 100 crores in the 2014-15 financial year (Referred to *Budget 2014-2015, Speech of Arun Jaitley, Minister of Finance, July 10, 2014, Page: 15, section III, Serial Number 75*).

A total of 1000 acres of land was transferred to the ICAR, Government of India by the Government of Jharkhand for the establishment of IARI-Jharkhand through passing resolution in a Cabinet Meeting (Item number-06) of the Government of Jharkhand held on June 09, 2015. This resolution was then published in Gazette (Extraordinary, Number 408) of Government of Jharkhand on June 15, 2015. The land was transferred in the name of Secretary, ICAR through the land mutation *(case number: 51/2015)* on June 19, 2015. The Hon'ble Prime Minister Shri Narendra Modi laid the foundation stone of the second Indian Agricultural Research Institute (IARI) on June 28, 2015 at Gauria Karma village of Barhi block, Hazaribagh, Jharkhand. The IARI-Jharkhand started to take its shape after the Union Cabinet chaired by the Prime Minister Shri Narendra Modi gave its approval for the 12th Plan Proposal of the DARE/ICAR Plan Scheme of the establishment of Indian Agricultural Research Institute (IARI)-Jharkhand on 1,000 acres of land provided by the Government of Jharkhand at the Gauria Karma village with estimated outlay of Rs. 200.78 crores (100% ICAR share) on January 18, 2017.

The press note of Press Information Bureau, Government of India, Ministry of Agriculture & Farmers Welfare dated 18-January-2017 stated that, "IARI-Jharkhand would be a unique Institution, which would possess all the hallmark identities as that of IARI at New Delhi including all sectors of agriculture like field crops, horticultural crops, agro-forestry, animal husbandry, fisheries, poultry, piggery, silk and lac rearing, honey production etc. IARI-Jharkhand would work on the agrarian challenges and complexities of Eastern India with all existing Central and State Government R&D institutions and Private sector enterprises. It will undertake research, education and extension programmes in its mission towards developing quality human resource, generation of farmer friendly technologies to enhance productivity, quality and profitability. It will also promote agro-based industries and generate employment opportunities for holistic and sustainable development of the agriculture sector in the eastern region. It will be an off-campus of IARI, New Delhi and integrated multi-disciplinary research would be undertaken in School mode, *i.e.* Schools of Crop Sciences, Natural Resource Management and Animal Sciences."

MANDATE

The objectives of the IARI-Jharkhand have been framed in the "EFC Document (2021-26)" of the institute with a view to cater the needs of the resource rich Eastern part of the country through harnessing the potential of agriculture, animal sciences, fisheries, horticulture and forestry keeping in mind the requirements of Eastern Indian States. The IARI Jharkhand is functioning with the broad objective of Research, Outreach and Human Resource Development.

Vision

Tapping the inherent potential of Eastern states to bring a second green revolution in the country.

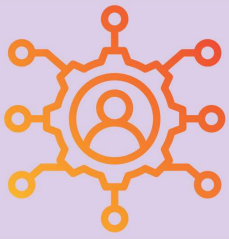
Mission

Establishment of a State-of-Art Indian Agriculture Research Institute-cum-Deemed to be University in Jharkhand to cater for the needs of resource rich eastern part of the country through science and technology for effective and sustainable harnessing of available potential in agriculture, animal husbandry, fisheries, horticulture and other allied sciences.

Mandates

Conducting basic, strategic and anticipatory research and development of quality human resources for academic excellence in frontier areas of agriculture and allied sector for enhanced productivity, quality and livelihood security.

Functions



1) To conduct farming system-based research that leads to sustained agriculture productivity in harmony with the environment.
2) To serve as an institution of higher learning in agriculture and allied sectors.
3) To promote rural entrepreneurship and commercialization of agriculture to make it more profitable.
4) To fuel and promote technology-driven growth of agro-industries through first-generation entrepreneurs of the region with a view to develop ancillary industries for enhancing rural employment and economic empowerment.
5) Ushering in an evergreen revolution for enhancing productivity, profitability and sustainable agriculture in the region through need-based efficient technology generation, quality Undergraduate and Post-Graduate education in agriculture and allied sectors with gender equity for ensuring overall prosperity in the Eastern part of the country.

OBJECTIVES

Education

1. To promote excellence, foster high standard research for holistic agrarian development and orient the educational programme towards future needs and opportunities.
2. To strengthen non-formal training to promote entrepreneurial skills and commercialization of agriculture.

Research

1. To develop varieties/hybrids of major agri-horticultural crops and breeds of animals and fishes to increase the productivity in the eastern states.
2. To utilise water resources through multi-disciplinary research on water harvesting, micro-irrigation, enhancing WUE to achieve higher factor productivity.
3. To develop alternate cropping systems to attain multiple cropping and increase the productivity in the eastern states.
4. To develop integrated farming system models for the eastern states keeping in view of the specific requirements of the region.
5. To develop horticulture and animal husbandry-based diversification systems to promote rural entrepreneurship.
6. Post-harvest management and value-addition in agri-produce to enhance the farm income and longer period of availability.

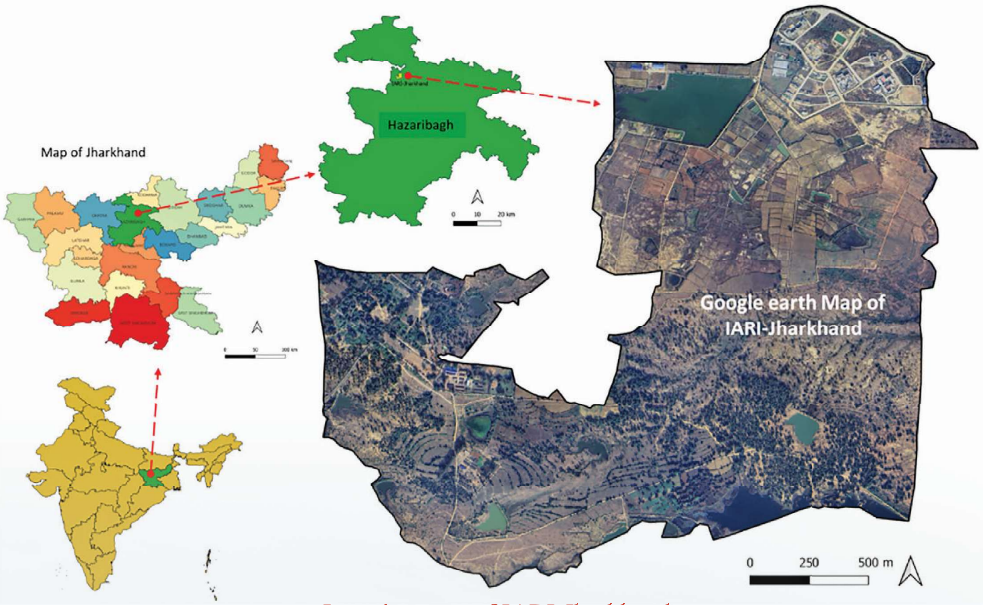
Outreach

1. To generate innovative extension models, dovetail them to developmental models, and disseminate them through KVKs, state agricultural universities and state extension and development departments of different states of the Eastern India.
2. To promote client oriented on-farm research and technology assessment, refinement and transfer through participatory approaches and by promoting the Institute-Village Linkage Programme.
3. To foster development in communication research and linkages with rural development programmes and strengthen micro-planning through inter-departmental and participatory approaches.

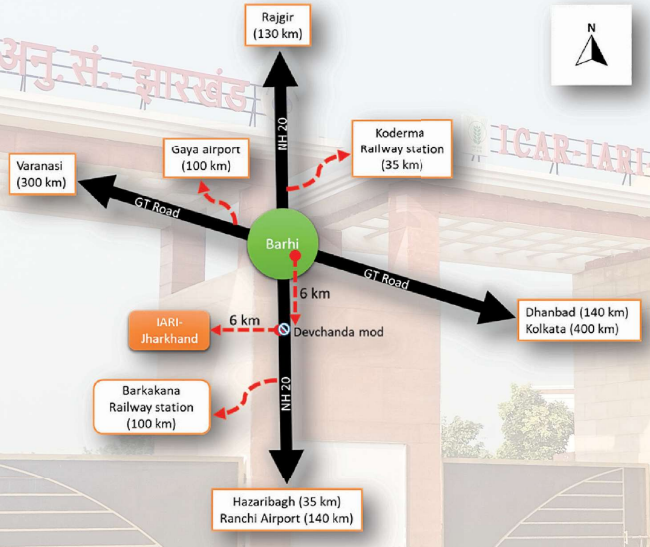
These objectives are being achieved by the three schools *viz*. (i) Crop Sciences, (ii) Natural Resource Management (iii) Animal Sciences and Fisheries

LOCATION AND CLIMATE

The present campus of the Institute is spread over an area of 1000 acres and located at 24°17'5.87"N 85°21'36.43"E and about 320 meter above mean sea level at Gauria Karma village of Barhi block, Hazaribagh, Jharkhand-825405. It falls under the Central North-Eastern Plateau Agro-climatic zone and is characterized by humid and sub-humid tropical monsoon. The average rainfall of the district is about 1250 mm and mostly is received during June-September. The minimum annual temperature of the district varied from 15.3 ^{0}C to 20.6^{0}C while maximum annual temperature varied from 27.4^{0}C to 31.1^{0}C. The coolest month is January, while April and May are the hottest months. It is located about 35 km North of Hazaribagh town, 100 km North of Barkakana Railway Station, 150 km North of Ranchi Airport, about 35 km South of Koderma Railway Station, 100 km South-East of Gaya Airport and 140 km West of Dhanbad Railway station.



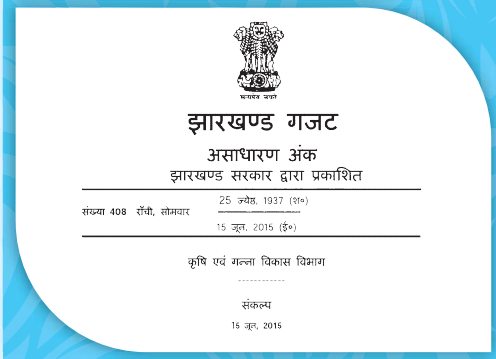
Location map of IARI-Jharkhand



Distances of important locations from IARI-Jharkhand, Gauria Karma

IMPORTANT MILESTONES

1. Announcement of establishment of Indian Agricultural Research Institute (IARI)-like institutes in Jharkhand and Assam by the then Hon'ble Finance Minister in his maiden budget speech
   (July 10, 2014)
2. Free of cost transfer of 1000 acres land to the ICAR by Government of Jharkhand for the establishment of IARI-Jharkhand
   (June 09, 2015)
3. Resolution for transfer of land to ICAR got published in Gazette (extraordinary, number 408) of Government of Jharkhand
   (June 15, 2015)
4. Mutation of transferred land (case number: 51/2015-16) on the name of Secretary, ICAR
   (June 19, 2015)
5. Laying of foundation stone of IARI-Jharkhand by the Hon'ble Prime Minister, Shri Narendra Modi
   (June 28, 2015)
6. Start of first academic session of M.Sc. of IARI-Jharkhand with teaching facilities at IARI-New Delhi
   (August 2015)
7. Approval of establishment of IARI-Jharkhand by Union Cabinet with estimated outlay of Rs. 200.78 crores
   (January 18, 2017)
8. Start of construction work (Boundary wall and Academic-cum-Administrative Building) at Gauria Karma by the CPWD
   (April 2017)
9. Inauguration of the Academic-cum-Administrative Building and laying of the Foundation Stone of the Guest House by Shri Radha Mohan Singh, Union Minister of Agriculture and Farmers' Welfare
   (January 27, 2019)
10. Posting of first batch of 10 scientists at IARI Jharkhand
    (May 26, 2020)
11. Strat of research trials for the evaluation of varieties/germplasm of rice
    (June 2020)
12. Inauguration of Guest House and naming of Academic-cum-Administrative Building after Late Dr Shyama Prasad Mukherjee through video conference by Shri Narendra Singh Tomar, Union Minister of Agriculture & Farmers' Welfare, Rural Development & Panchayati Raj
    (July 06, 2020)
13. Start of M.Sc. teaching at IARI Jharkhand, Gauria Karma
    (October 20, 2021)
14. Start of B.Sc. (Agriculture) teaching at IARI Jharkhand, Gauria Karma
    (June 08, 2023)
15. Inauguration of Girls Hostel "Mahua", Boy's Hostel "Kadamb" and staff residential colony "Palash Vihar" by Shri Arjun Munda, Union Minister of Agriculture & Farmers' Welfare and Tribal Affairs
    (March 01, 2024)



झारखण्ड गजट

असाधारण अंक

झारखण्ड सरकार द्वारा प्रकाशित

संख्या 408 राँची, सोमवार 25 ज्येष्ठ, 1937 (शक)
15 जून, 2015 (ई०)

कृषि एवं गन्ना विकास विभाग

संकल्प

16 जून, 2015

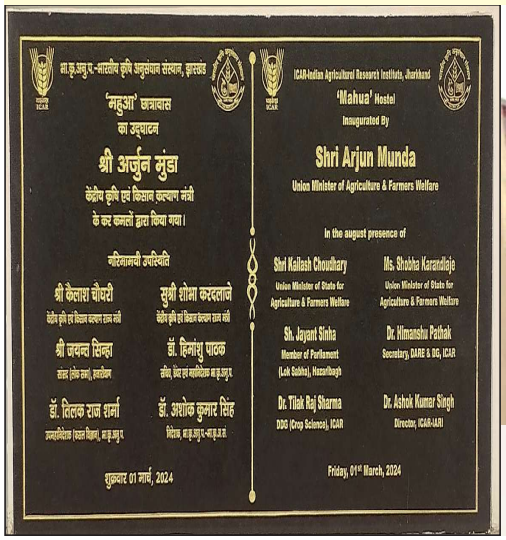
INFRASTRUCTURES AND FACILITIES

The laying of foundation stone for the establishment of IARI-Jharkhand at Gauria Karma village of Hazaribag, Jharkhand on June 28, 2015 by the Honourable Prime Minister Shri Narendra Modi followed by cabinet approval for its establishment on January 18, 2017 open the path for building a new and robust ecosystem of Agricultural Education, Research and Extension in the Eastern India. IARI-Jharkhand begins it journey and started to add many new flowers in its basket of 1000 acres land over the past 10 years. The master plan for shaping IARI-Jharkhand was chocked out under the able guidance of scientists of IARI and ICAR. The CPWD started to construct boundary wall in 44-acres land followed by construction of Academic-cum-Administrative Building during May 2017. Presently, IARI-Jharkhand has developed many infrastructure facilities like Academic-cum-Administrative Building, Guest House, Staff's Residential Quarters, Boys' and Girls' Hostels, Farm Building, Boundary Wall, Roads, Laboratories, Library etc. equipped with modern tools and techniques which led to start of Education, Research and Outreach activities at IARI-J Gauria Karma. Many more facilities are under construction like Residential Quarters, Examination Hall, Sports Complex, Shopping Complex, Dispensary, Animal Shed and Laboratories etc., which will further enhanced the efficiency of IARI-J for achieving its objectives.

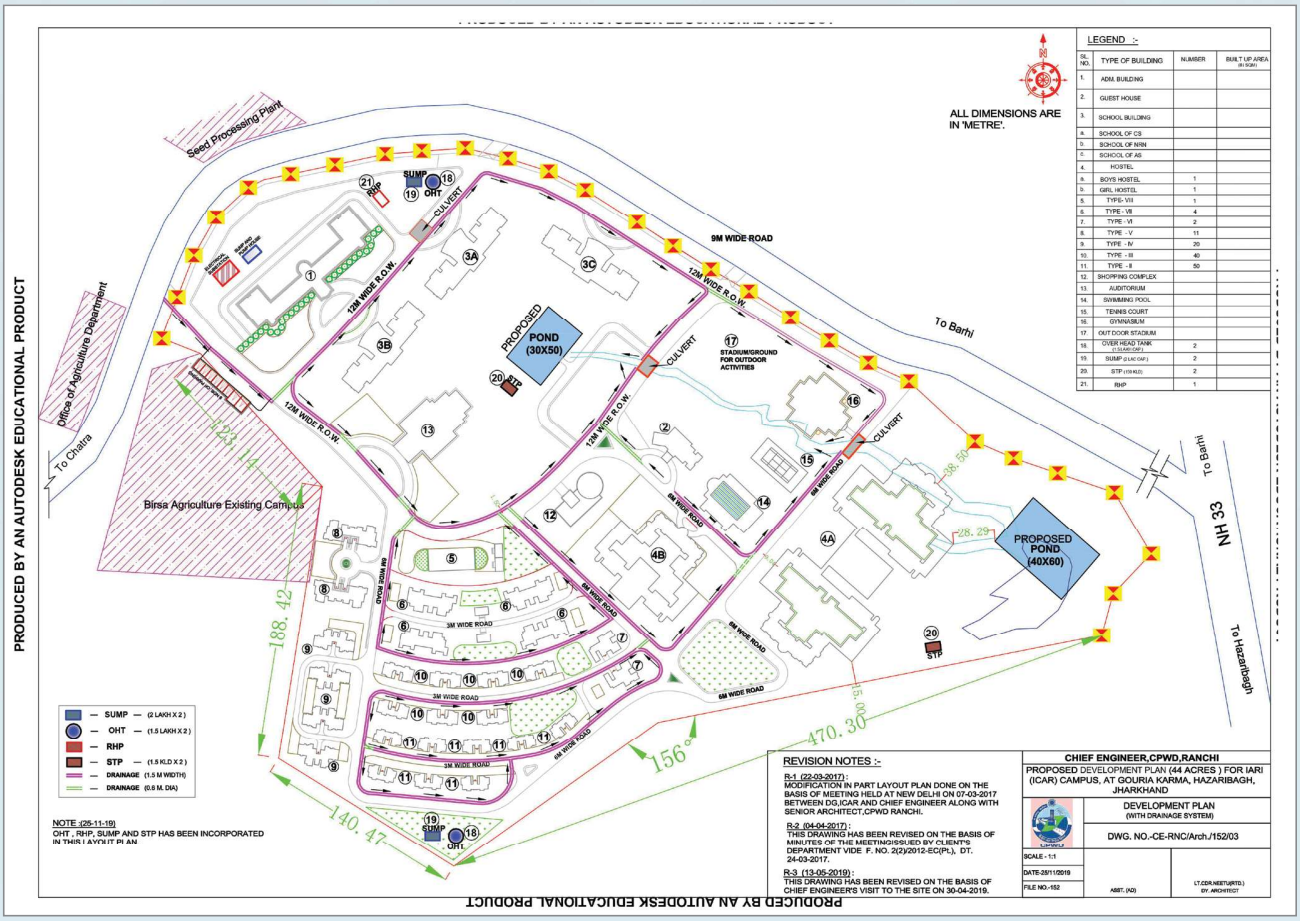
Hon'ble Prime Minister of India Shri. Narendra Modi digitally laid out the foundation stone of IARI-Jharkhand at Gauria Karma village of Hazaribag, Jharkhand on June 28, 2015

Part of Foundation Day Speech of Honourable Prime Minister

Amid rising population and increasingly fragmented land-holdings, the need of the hour for the *nation is a second green revolution without any delay, which could only happen in eastern India.* Proper research is required in all agro-climatic zones of the country. This would ensure best results, as well as greater acceptability among farmers. This required the spread of agricultural research and education in various regions therefore Union Government is committed to the development of this region.



Inauguration of Girls Hostel "Mahua", Boy's Hostel "Kadamb" and staff' residential colony "Palash Vihar" by Shri Arjun Munda, Union Minister of Agriculture & Farmers' Welfare and Tribal Affairs on **March 01, 2024**



Proposed master plan for development of 44 acres area encompassing office, academic and residential buildings

Dr Shyama Prasad Mukherjee Bhavan
(Academic-cum-Administrative Building)
(03 Laboratories, 01 Library, 01 Conference Hall, 07 Classrooms and 33 Rooms for the Staffs)

Guest House
(02 VIP Suits, 08 Double Bed Rooms, 01 Conference Hall, 01 Meeting Hall & 01 Kitchen and Dining Hall)

Mahua Girls' Hostel

(Single Room with Attached Toilet: 48 Rooms; Single Room with Common Toilet: 120 Rooms; TV Room, Yoga Room; Sports and Gymnasium Room; Recreation Hall; Dinning Hall; Saloon Room; Laundry Room; Outdoor Badminton Court 02; Parents Waiting Hall; Cycle and Scooter Parking place; Reception; Warden's Residence)

Kadamb Boys' Hostel

(Single Room with Attached Toilet: 48; Single Room with Common Toilet: 128; TV Room; Sports Gymnasium Room; Recreation Hall; Reading Room; Yoga Room; Dinning Hall; Saloon; Laundry Room; Outdoor Badminton Court: 02; Parents Waiting Room; Reception; Warden's residence)

Palash Vihar Residential Colony

(01 T-VII, 02 T-VI, 02 T-V, 04 T-IV, 08 T-III and 08 T-II quarters are operational)
(16 T-IV and 16 T-III quarters, 01 overhead water tank and water sink are under construction)

Farm Building

(One farmer's classroom and two farm store hall)

Farmers' Hostel

(Six room with four bed in each and one kitchen and dining space)


Vishal Sarovar

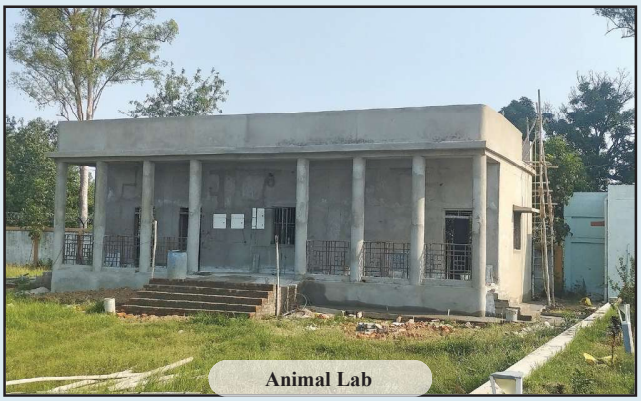

Animal Shed


Classroom cum Exam. Hall


Dispensary


Sports complex


Shopping complex


Animal Lab


Type-IV Quarters

FARM FACILITIES

IARI-J has 1000 acres of land, out of which 44 acres land was initially demarcated for in housing buildings related to administration, academic and residential purposes. The remaining about 950 acres land is dedicated for research trials and demonstration; seed production; fisheries and animal husbandry; poultry farming system models; conservation of germplasm and natural resources, development of infrastructure related to farm activities and any future extension of office and residential complex. However, no such planning was done for the development of this farm area. The masterplan for the development was conceived and developed by the scientists of IARI-J in able guidance of the OSD and Director during 2021. The masterplan of farm development was gradually translated by laying out and making of about 7000 m "Approach Path" in the farm to reach out at various research and conservation blocks of the farm followed by shaping of the "Research Plots" of various blocks with available resources and scientific endeavour under the supervision of OSD and Farm-In-Charge. Now we can reach at every block of farm through the developed unpaved (kachcha) approach path. Presently about 400 acres area of the farm has been fenced by masonry boundary wall and barbed wire; three sides of Bahadur dam has been fenced by chain-link fence; and electric lamp post has been installed in about 1200 m length of farm road near Bhadur Dam by the CPWD. About 300 acres land were initially debushed, cleaned and reshaped; the natural drainage line of about 1000 m length has been shaped and properly guided; eight small scale ponds has been rejuvenated through proper shaping and deepening for conservation of water and fish trials and research. Several basic farm machinery and equipment were procured in last 10 years, it includes tractors (3), laser land leveller (01), 5000 L water tank (02); tractor trolley (02); multi-crop thresher (01), rotavator, seed drill, water pump, cultivator etc.

Farm Facilities Developed

IMD Automatic Weather Station

Horticulture Nursery

Fodder Germplasm Block

Mother Plantation Block

Vermicompost Unit

Tractor

Water Tanker (5000 L)

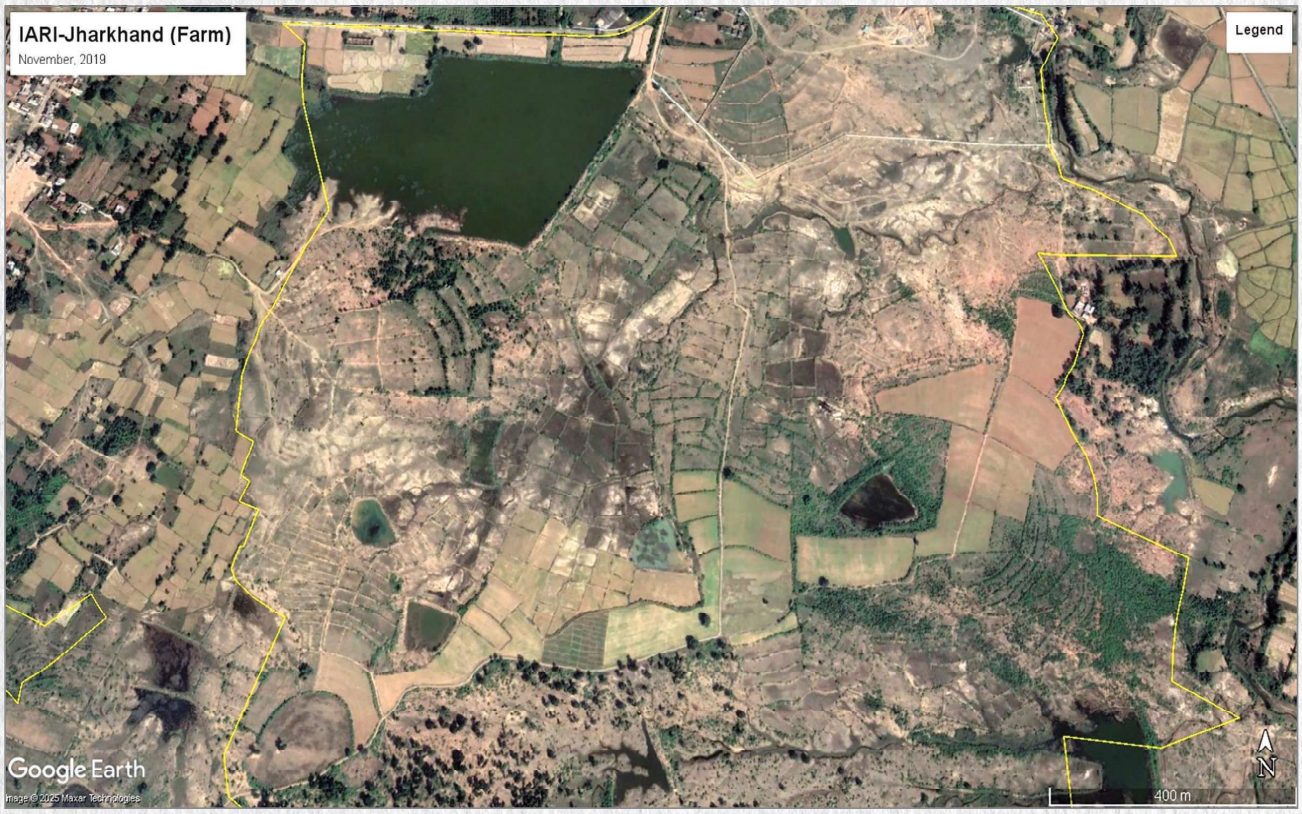
Laser land Leveller

Multi-crop Thresher

TEMPORAL CHANGES: A GOOGLE EARTH VIEW OF IARI-J LANDSCAPE

Google earth view of IARI-J office premise in December 2015 (Transfer of land to ICAR in June 2015)

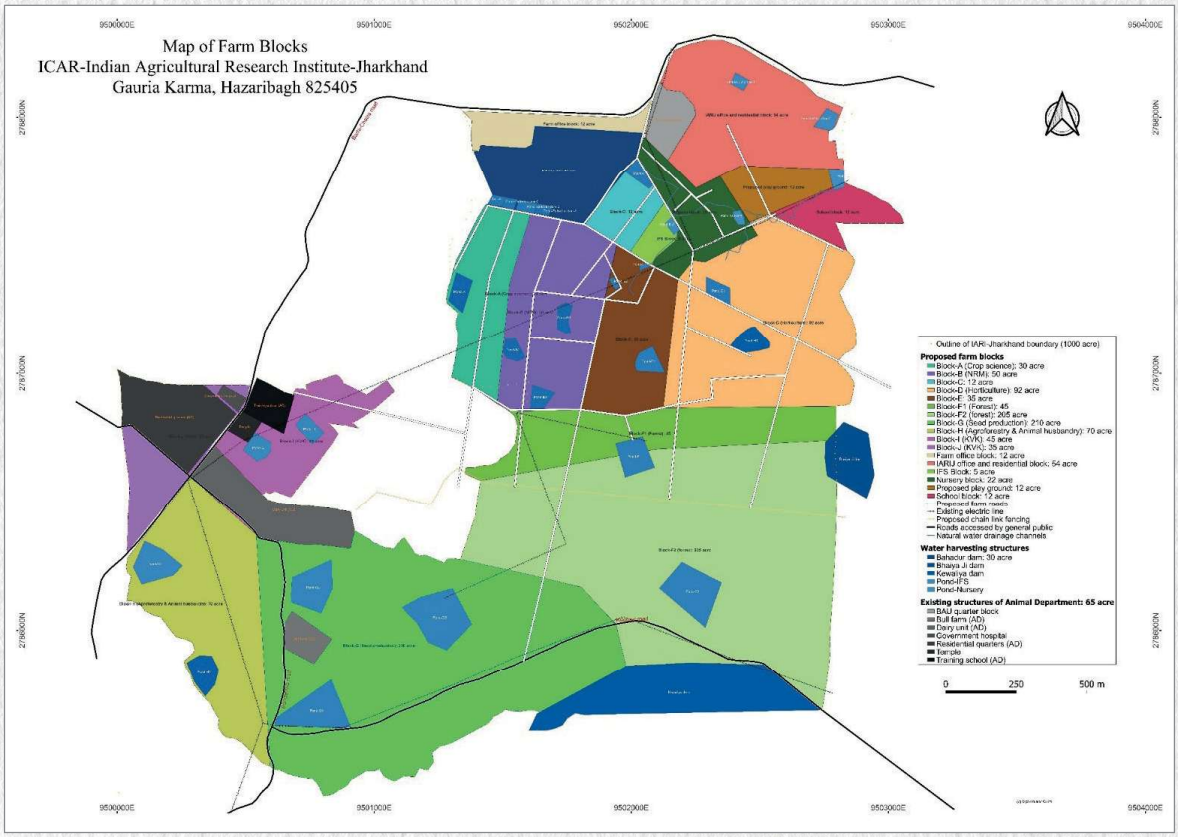
Google earth view of IARI-J office premises in December 2024



Google earth view of IARI-J farm in November 2019

Google earth view of IARI-J farm in December 2024

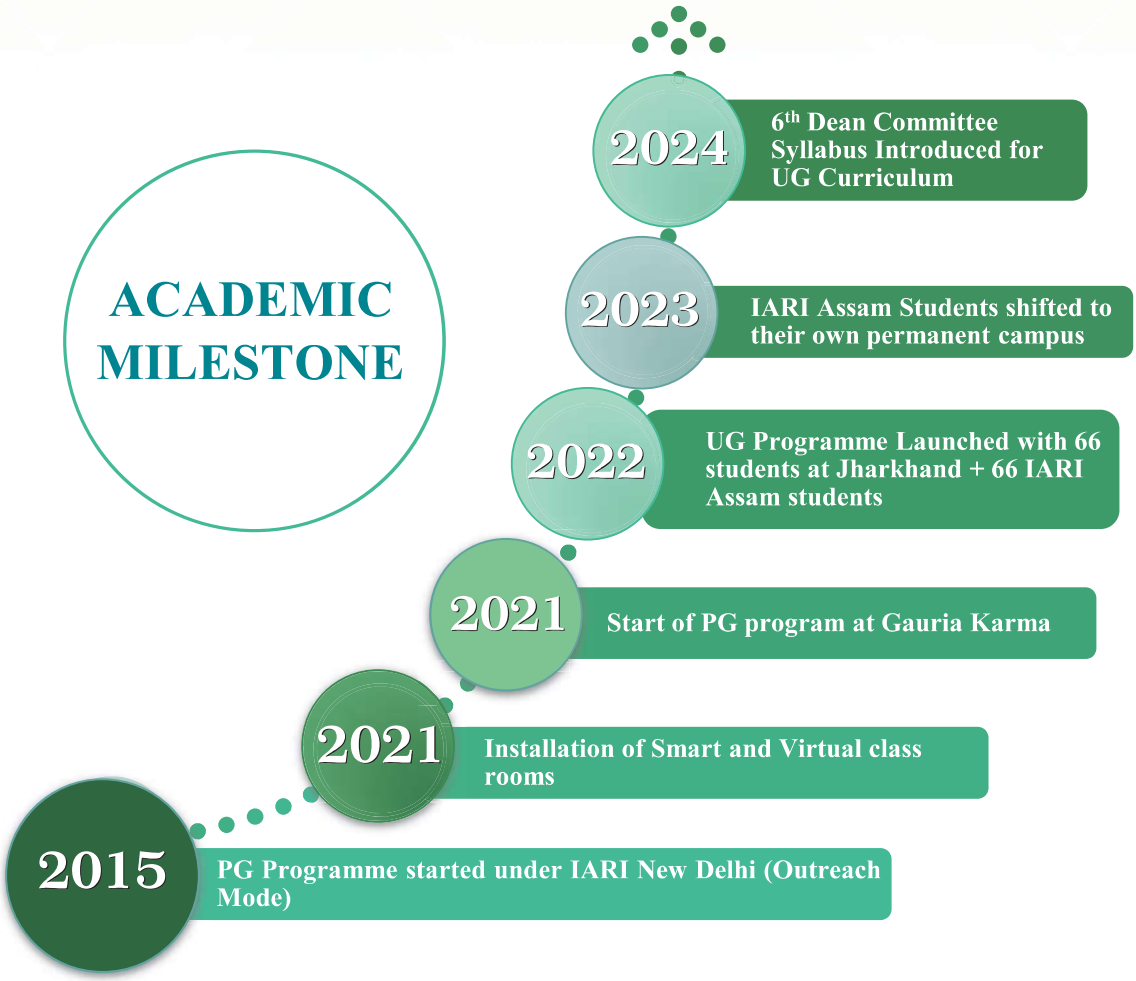
Google earth view of IARI-Jharkhand (Whole Campus) in December 2024



Master plan for development of farm area of IARI-Jharkhand

SALIENT ACHIEVEMENT: EDUCATION

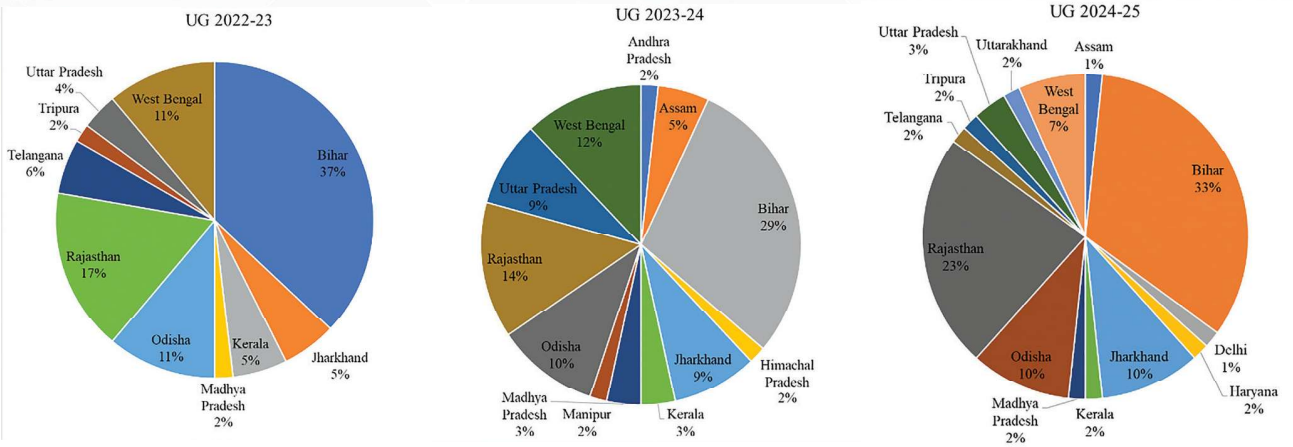
ICAR-IARI Jharkhand commenced its academic journey from its foundation year, 2015 by starting the M.Sc. programme during the first academic session (2015-16) under the aegis of the Post Graduate School, IARI New Delhi. However, students were provided accommodation, teaching and research facilities at IARI, New Delhi. The inauguration of the Academic-cum-Administration Building, Joining of Scientists, Construction of Guest House and Residential Quarters paved the path for conducting the M.Sc. program at Gauria Karma. The first batch of M.Sc. students arrived at Gauri Karma during the 6th academic session (2020-21) in the year 2021. IARI-J further expanded its educational endeavour by introducing B.Sc. (Agriculture) in its 8th academic session (2022-23) with an intake of 66 students. To date, 102 students have successfully completed their M.Sc. degrees across various disciplines of agriculture. Currently, 36 students are pursuing their M.Sc. in the disciplines of Genetics & Plant Breeding, Vegetable Science, Fruit Science and Soil Science & Agricultural Chemistry. At present, three batches of B.Sc. (Agriculture) students (consisting of 169 students in the 1st, 2nd and 3rd year of B.Sc.) are residing inside the campus and pursuing their studies. IARI-J has started to gain popularity and excellence in the field of agricultural education. Students with top ranks in the CUET examination from various states have preferred IARI-J over the existing institutions and have shown keen interest in taking admission to IARI-J. Initially the courses offered were based on the 5th Deans Committee report; however, on the adoption of the 6th Deans Committee report by ICAR, IARI has successfully switched over the course curricula from the 5th Deans Committee report to the 6th Deans Committee report from the 10th academic session (2024-25).

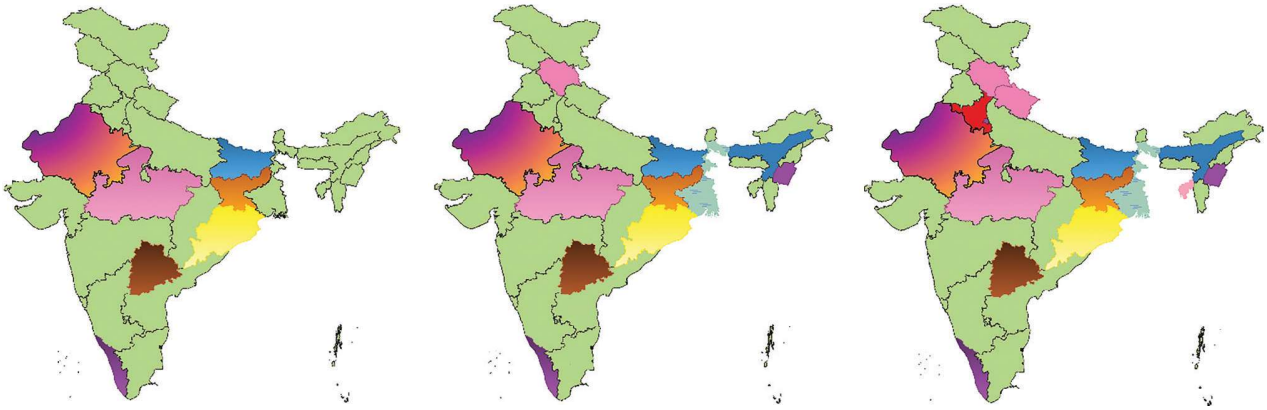


Numbers of M.Sc. and B.Sc. students enrolled and passed out from IARI-Jharkhand

Degree	Academic Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
M.Sc.	Students admitted	9	10	11	11	12	30	29	20	20	18
	Students Passed out			9	10	10	10	12	30	28	
B.Sc. (Ag.)	Students admitted								66	63	59
	Students Passed out										

Representation of students from various parts of India





2022 (10) 2023 (12) 2024 (14)

Academic Excellence

IARI Merit Medal

Mr. Satyam Rawat, M.Sc. (Agronomy), 2021-2023 batch was honoured with the **IARI Merit Medal** for his outstanding academic performance during the **62nd Convocation held in 2024**. His research work titled *"Effect of Nano-Urea on Maize Productivity and Nitrogen Use Efficiency in Acid Soil of Jharkhand"* addressed a critical aspect of sustainable nutrient management in challenging agro-ecosystems. His exemplary academic record and impactful research reflect the institute's commitment to nurturing scientific talent and addressing region-specific agricultural challenges.

Dr S.P. Raychaudhury Gold Medal and Best M.Sc. Student of the Year

Mr. Arijit Chowdhuri, M.Sc. (Soil Science), 2022-2025 batch brought laurels to the institute by securing two prestigious gold medals in recognition of his exemplary academic performance. He was conferred the **Dr S. P. Raychaudhury Gold Medal** for his outstanding M.Sc. thesis. Additionally, he was awarded by **Dr K. N. Synghal Memorial Gold Medal**, being recognized as the **Best M.Sc. Student of the Year**, a testament to his academic excellence, dedication and leadership. His achievements reflect the high standards of scholarship nurtured at ICAR-IARI Jharkhand.

Professional achievement by some of the passed out PG students of IARI-Jharkhand

Name	Discipline	Current position
Ankit Kumar Verma	Environmental Science	Technical Assistant, FCI
Surender P	Environmental Science	Forest Range Officer, Tamil Nadu
Saikat Bera	Soil Science & AC	Field Officer, Coconut Development Board
Chandu Anagani	Plant Pathology	Technical Assistant, FCI
Komal Verma	Plant Pathology	SDAO, Haryana
Priyabarta Sahu	Soil Science & AC	Asst. Agriculture Officer, Govt Of Odisha
Nagaraju Thogata	Agril. Extension	Asst. Manager, NABARD
Soumyadarshi Muduli	Agronomy	Assist. Manager, NABARD
S. Shyam	Microbiology	Scientist, Silk Board
Sayan Goswami	Agronomy	Technical Assistant, FCI
Indrani Saha	Seed science and Technology	AFO Union Bank Of India
Balakrishna Reddy	Environmental Science	Group II, PSC, Andhra Pradesh
Tanmay Das	Agronomy	Assistant Director Agriculture, West Bengal

Many students have joined PhD program in the institutes of national and international repute like IARI, New Delhi; IIHR, Bangalore; IIT, Dhanbad; RPCAU, Pusa; Navsari Agricultural University, Gujrat; CCSHAU, Hisar; and GBPUAT, Pantnagar etc.

Teaching Facilities

Smart Classroom

Academic Cell

Library

Study room at hostel

Natural Resource Management Laboratory

Crop Science Laboratory

Horticulture laboratory

Microbial culture room

Facilities for students

Ambulance

Bus

Playground

Volleyball court

Badminton court

Table tennis room

Mess area

AR/VR Classroom

Glimpses of Exposure Visits & Educational Tours

ICAR-Central Rainfed Upland Rice Research Station(CRURRS), Hazaribagh

Vinoba Bhave University, Hazaribagh

Food Corporation of India (FCI), Gaya

Birsa Agricultural University, Ranchi

Koderma Thermal Power Station, Koderma

ICAR-RCER, Palandu, Ranchi

Parasnath Wildlife Sanctuary, Giridih

BAU Farm, Gauria Karma

Glimpses of Students' Activities

Celebration of Holi

IARI Jharkhand Sports meet

Plantation drive

Rangoli Competition

Republic Day Celebration

Cultural Meet

Students receiving awards for Painting competition at Barhi

Diwali Celebration

Yoga Day Celebration

SALIENT ACHIEVEMENT: RESEARCH

Research at IARI-Jharkhand, Gauria Karma started during July 2020 after posting of a batch of 10 scientists in May 26, 2020. The initial phase of research started with the evaluation of 11 varieties of rice, 25 genotypes of pigeonpea, 20 genotypes of tomato, 41 lines of mustard and 124 lines of lentil along with survey of agricultural practices in the various blocks of Hazaribagh during the *Kharif* season 2020. With the subsequent increase in the number of scientists and students, the number of in-house as well as externally funded research projects gradually increased. The first IRC of the institute was held during 17-15 June 2021 for proposal, monitoring and evaluation of ongoing project. Currently, the institute is conducting 18 in-house research projects and 06 externally funded research projects. In last 10 years, IARI-Jharkhand has made a notable research outcome in the field of Natural Resource Management, Germplasm Collection, Crop Improvement (cereals, pulses, oil seeds, fruits, vegetables and flowers), Post-harvest management, Livestock Management and Fisheries Management for enhancing sustainability and economy of eastern region. The salient finding are as follow

Natural Resource Management

Land Use Map of IARI-Jharkhand

The exhisting land use map of IARI Jharkhand has been developed follwed by analysis and mapping of land related properties. About 35% area is under forest tree cover with higly eroded land and ravines. About 3.5% area is subjected to water logging during *kharif* and mid *rabi* season. The residential and office premises are spread over about 5.5% land. About 6% area is covered by water body mainly Bhadoor Dam and Kevalia Dam in addition to small farm ponds. About 10% area is still in use by Animal Husbandry Department, Government of Jharkhand. The about 20% area has been brought under field and horticultural crops experimentation over the period of time.

Elevation and contour Map of IARI-Jharkhand

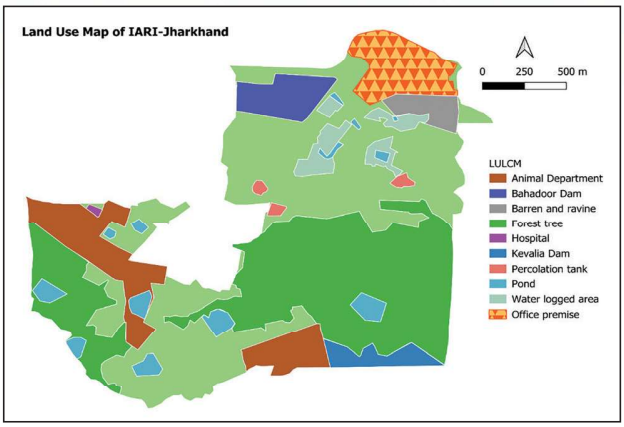
Elevation and Contour map of IARI-Jharkhand was developed using CartoSAT Digital Elevation Model (DEM) with spatial resolution 30 m. The elevation of IARI-J land surface ranged from 320-361 m above MSL. The DEM and Contour Map superimposed on hill shed clearly showed that the topography of IARI-J land surface is undulating having two micro watershed with runoff accumulation zones in western part of the IARI-J. The land feature can be classified into low land, mid land and upland toposequence. Bahadur Dam and Kevaliya Dam are two major surface water bodies present in the campus. Bhadur Dam has spread over about 13 ha area and having shallow water depth and is main source of irrigation for the research trials during *rabi* season. Kevalia Dam is spread over about 95 ha of land, out of these about 10 ha area falls under the boundary of IARI-J.

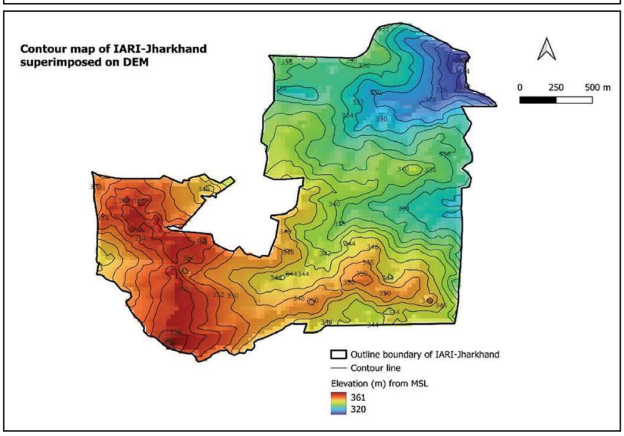
Tree diversity of IARI Jharkhand

The area under tree cover (F1 block) of IARI-J was surveyed for identification of tree species and their counting follwed by geo-tagging of the tree. About 17 tree species were identified and geo-tagged in the F1-Block of IARI-J.

1.	*Madhuca longifolia* (Mahuwa)
2.	*Terminalia elliptica* (Aasan)
3.	*Terminalia chebula* (Harre)
4.	*Terminalia bellirica* (Baheda)
5.	*Acacia catechu* (Khair)
6.	*Terminelia arjuna* (Arjun)
7.	*Lagerstroemia parviflora* (Sida)
8.	*Buchanania cochinchinensis* (Chironji/Piyar)
9.	*Butea monosperma* (Palash)
10.	*Anogeissus pendula*
11.	*Anogeissus pendula* (Kendu)
12.	*Syzygium cumini* (Jamun)
13.	*Ficus benghalensis*
14.	*Tamarindus indica*
15.	*Bombax ceiba*
16.	*Ceiba pentandra*

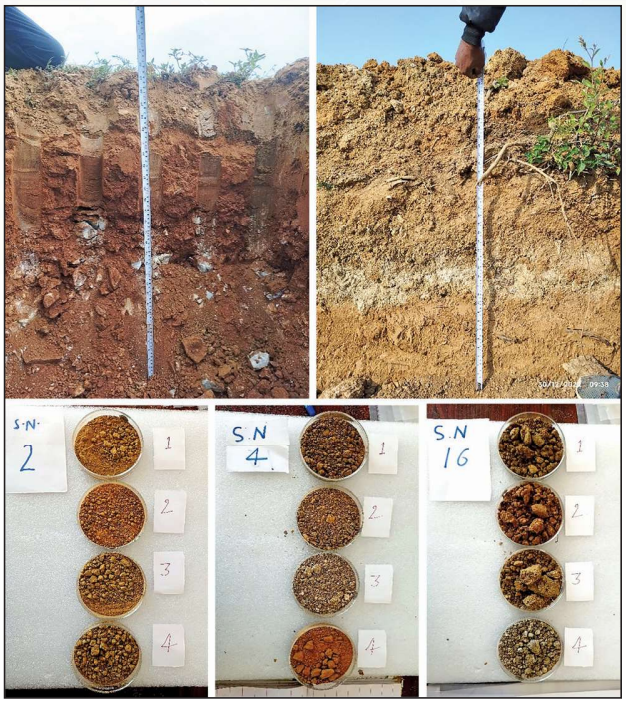
Some important tree species found in F1 block of IARI-Jharkhand

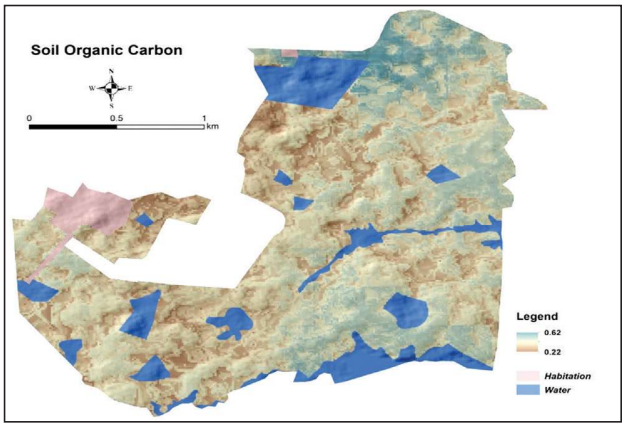




Soil map of IARI-Jharkhand

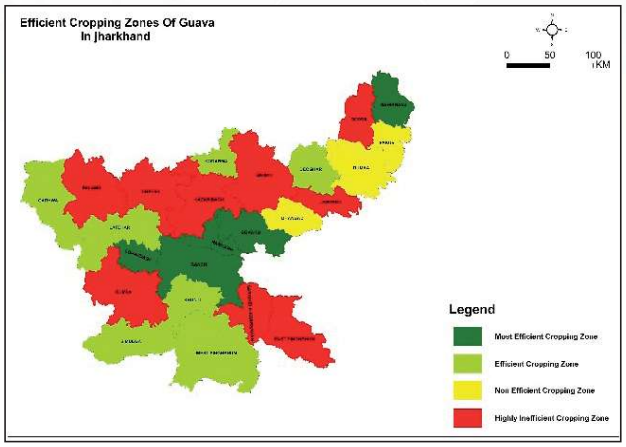
Large variations have been found in the physico-chemical properties of soil of IARI-Jharkhand due to presence of undulating topography. Majority of soil is acidic in nature with pH between 4.5 and 7.4 except in few low land areas where pH is around neutral condition. The soil greatly varied in colour, texture, depth and profile. The soil depth of the farm varied from shallow (<50 cm) to moderatly deep (50-90 cm) soil. Soil texture vary from sandy loam to sandy clay loam depending upon the topo-sequence. The soils exhibited low to medium available Nitrogen (80-400 kg/ha), Phosphorus (03-23 kg/ha) and Potassium (50-250 kg/ha). The characteristics of soil profile greatly vary among the various landforms. One the basis of colour, the deepest soil horizon has four distinct horizon layers.

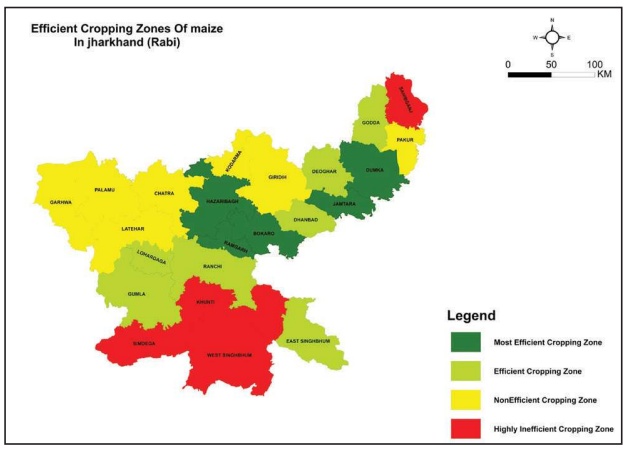




Spatial distribution of soil organic carbon as identified by Random Forest technique

Efficient Cropping Zone in Jharkhand: A methodological study was made at the ICAR-IARI, Jharkhand and ICAR-NBSSLUP, Nagpur during 2024-25 to identify the potential districts for cultivation of maize *(rabi)*, wheat, pigeonpea, lentil, potato and guava in Jharkhand. In Jharkhand, five districts were found to be most efficient regions for maize *(rabi)*, nine districts for wheat, six districts for pigeonpea, three districts for lentil, six districts for potato and five districts for guava as in these areas both the RSI (Relative Spread Index) and RYI (Relative Yield Index) were high. In some of the districts, RSI is more for a particular crop, while the RYI is low indicating non suitability of that crop. However, due to other factors such as market demand and value of the produce, farmers cultivate the crops that are not suitable for their location which relates in high RSI with low RYI.





Biochar enhances soil pH and crop productivity in acidic soil: A two-year field experiment (2020-21 and 2021-2022) was undertaken to evaluate the impact of rice straw biochar on greenhouse gas emission and crop yield under rice-wheat cropping system. The experiment consisted of five treatments [farmer's practice of fertilizer application (T1), Recommended dose of fertilizer (T2); T2 along with biochar @ 5 t/ha (T3), T2 along with biochar @ 10 t/ha (T4) and; control without fertilizer and biochar (T5)]. The soil pH was found 12.8-16.9% higher in biochar-applied soil compared to the initial soil pH. The global warming potential was found to be lower in biochar-applied treatment compared to non-biochar-applied treatments. The wheat yield was found about 25% and 45% higher under biochar treatments @ 5t/ha and 10 t/ha, respectively. Slightly higher yield was observed in rice yield however difference was insignificant.

Greenhouse gas and ammonia emission from dung of crossbred and indigenous cattle: A study was conducted to quantify greenhouse gas (GHG) and ammonia emissions from static stockpiling (common farmers practice) (SP), stockpiled manure with turning at regular interval (SPWT) and vermicomposting (VC) of manure obtained from indigenous breed (IB) cattle and cross breed (CB) cattle available in Hazaribagh district of Jharkhand. The GHG and NH_3 emission was found significantly higher from the dung of Crossbreed (CB) compared to Indigenous breed (IB) cattle in

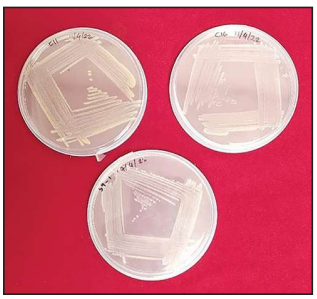
all the composting experiment. The global warming potential (GWP) due to emission of CH_4 + N_2O was about 1.7- 2.3 times higher for CB cattle compared to IB cattle.

Soil microbes "Native Diazotrophs" and its consortium for Acidic Soils of Jharkhand: Three diazotrophic bacteria-*Brucella oryzae*, *Brucella ciceri*, and *Pseudomonas nitroreducens*-were isolated from acidic soils in Jharkhand, demonstrating strong nitrogen-fixing and plant growth-promoting capabilities. Wheat inoculation trials in these soils showed notable improvements: seed vigour increased by 46.8%, soil nitrogen and organic carbon rose by 15-30%, and physiological traits like chlorophyll, carotenoids, glutamine synthetase activity and IAA levels improved significantly. Crucially, inoculation allowed for a 25% reduction in nitrogen fertilizer use without compromising yield, making these bacteria promising bioinoculants for sustainable wheat production in acidic environments. Vermiculite + paddy straw compost-based diazotrophic consortium (*Brucella oryzae, B. ciceri, Pseudomonas nitroreducens*) was developed to enhance rice productivity in acidic soils under DSR and TPR planting methods. Field and pot trials demonstrated superior plant growth, enhanced soil enzyme activity and improved nutrient availability, enabling a 25% nitrogen saving.

Acidic, osmotic and dual stress tolerance bacterial isolates: Twenty-five bacterial isolates from acidic soils at ICAR-IARI Jharkhand were screened for tolerance to acidic, osmotic and dual stress conditions. Among them, five dual-stress tolerant isolates were identified and tested for their effect on wheat seed germination and seedling vigour under *in-vitro* acidic and osmotic stress. Inoculation with three isolates significantly improved wheat seed germination and vigour. The two most promising isolates-*Bacillus rugosus* ANI4 and *Achromobacter kerstersii* NNI2 demonstrated multiple plant growth-promoting traits.

Osmotolerant Bacteria and Irrigation Effects on Wheat in Acidic Soil: Field trials at ICAR-IARI, Jharkhand assessed three osmotolerant Bacillus-Azotobacter consortia under three irrigation regimes (3, 4, 5 irrigations) on wheat varieties HD 2967 (drought-susceptible) and HD 3171 (drought-tolerant) in acidic soil (pH 5.7). Consortium 3 (MKS-6 + MRD-17 + Azotobacter W5) with five irrigations showed the greatest improvements in vegetative growth and yield. Overall, all consortia enhanced wheat performance compared to controls, with Bacillus sp. MKS-6 consistently improving growth and productivity across irrigation levels, highlighting its potential for resilience and yield enhancement in acidic, drought-prone conditions.

Rhizobacterial inoculant and lime application for chickpea production: A study on chickpea cultivation in acidic soils (pH 5.7) assessed the combined effects of osmotolerant rhizospheric bacterial inoculants (*Bacillus sp*. MKS 6, *Bacillus sp*. MRD 17, *Bacillus aryabhattai* NRSSS-1) and lime application to mitigate drought stress, a major yield constraint in Eastern India. Results showed significant improvements in plant biochemical parameters, including relative water content (RWC), non-enzymatic antioxidants, growth and yield in inoculated plants compared to control. Among the tested inoculants, *Bacillus sp*. MKS 6 combined with lime application emerged as a promising climate-resilient strategy for enhancing chickpea productivity in low-fertility, acidic soils.



Optimized Maize Yield through Nano-Urea Spray

It was found that fertilizer N rates and Nano-fertilizers influenced significantly on grain yields of maize. Averaged over fertilizers, grain yield under control was 2.33 t/ha, which was increased to 6.78 t/ha with the application of 120 kg/ha + 2 spray of Nano-fertilizer. Yield increased due to incremental N was significant up to the highest application rate. One-season results indicated the possibility of increasing grain yield in maize consequent to use of Nano-urea (2 Sprays) over and above of recommended dose of nitrogen application through prilled urea.

Influence of Planting Density and Nitrogen Management on Hybrid Maize: The planting of hybrid maize with 67 thousand plants per ha with improved N placement (application of first split of N at knee high stage as sub surface banding) gave significantly higher yield and net returns over farmer practice and recommended surface banding. This treatment combination resulted in significantly higher resource use efficiency as well.

Row arrangements in maize-pulse based intercropping: Results showed that grain yields at pure stand of maize, green gram and cowpea were 7.03 t/ha, 1.84 t/ha and 1.25 t/ha respectively; while, the system productivity in terms of maize equivalent yield was maximum of 10.70 t/ha at the 'Additive stand of maize + cowpea' followed by 'Additive stand of maize + green gram'(T_4) (10.63 t/ha). Performance of intercrops at different cropping geometries showed maximum yield benefit at the 'Replacement stand-II stands accounting 1.85 t/ha of cowpea followed by 1.58 t/ha of green gram. Therefore, the study could suggest intercropping maize with cowpea at 'Additive stand' of cropping geometry for higher system productivity at the Eastern India.

Natural farming practices with organic nutrient management: In the pearl millet-chickpea system, applying 75% nutrients via chemical fertilizers and 25% via FYM significantly improved key traits in pearl millet, including plant height, ear head length, head girth, seed count, test weight and grain yield. For chickpea, maximum test weight and grain yield were observed with ghanjeevamrit (5q/ha) and two sprays of jeevamrit, outperforming the control. The experimental soils at ICAR-IARI, Jharkhand are acidic, with low organic carbon, nitrogen and phosphorus, low to medium potassium and a sandy loam texture.

Moderate electric field assisted enzymatic hydrolysis of starch from jackfruit (*Artocarpus heterophyllus* L.): kinetic analysis and modelling using machine learning: Starch from the Malay variety of jackfruit seeds was treated with thermostable alpha enzyme and moderate electric field (MEF) under controlled conditions. MEF-assisted enzymatic treatment was conducted at varying field strengths (5, 15 and 25 V/cm, 50 Hz), treatment durations (20-80 min), and temperatures (50-70°C). FTIR and XRD analyses revealed structural modifications, with relative crystallinity decreasing from 58% to 38% as the field strength increased from 0 to 15 V/cm. These changes enhanced starch granule properties, making it suitable for food and pharmaceutical applications.

Crop Improvement (Field Crops)

Wheat breeding line for acidic soil condition: The wheat improvement project of IARI-Jharkhand has been initiated in *Rabi* 2020-21 in collaboration with ICAR-IARI, New Delhi, focuses on enhancing wheat quality and optimizing the cropping system. Forty-

five advance breeding lines were evaluated for yield and associated traits under acidic and limed soil condition, out of which one line *viz.,* GK-16 was identified to be superior as compared to the check, HD 2967.

Wheat varieties for low phosphorus tolerance: Ten potential wheat varieties were evaluated against low phosphorus tolerance based on biological yield, yield attributing traits and phosphorus use efficiency. DBW 335 and HD 3360 were identified to be superior varieties under +P and -P conditions, respectively.

Maize inbred lines for acidic soil: The maize improvement project was initiated in 2020, focuses on enhancing maize genetics to withstand drought and soil acidity. More than 100 maize inbred lines were evaluated under neutral (pH 6.7) and acidic (pH 4.8) soil. Inbreds P53, P66, P37, P100, P60, P90, P59, and P36 showed better adaptation to acidic soil, making them suitable as parental lines for hybrid development. Additionally, hydroponics screening of 250 maize inbred lines identified aluminium (Al) toxicity-tolerant genotypes IMR349, IMR543, IMR534, and IMR476, which exhibited minimal root growth reduction under stress. These identified lines can be used in breeding programs to enhance maize tolerance to acidic soil conditions.

Elite Maize inbred lines: Thirty-eight elite maize inbred lines have been developed using local landraces and private-sector hybrids through rigorous cycles of phenotypic selection and self-pollination. These lines hold promising diversity for yield traits, stress resilience and wider adaptability and, will serve as a valuable genetic resource for hybrid breeding, specifically suited to agro-climatic conditions of Eastern India.

High-yielding Baby corn hybrids: Multi-location evaluation of 122 baby corn hybrids was carried out across diverse agro-climatic zones in two separate trials which identified hybrids CR105, CR174, CR99, CR168, CR70, and CR87 as superior performers in terms of yield stability and fodder production across the locations.

High yielding maize hybrids: Elite maize hybrids were tested in different zones of Jharkhand under state coordinated trials for yield and attributing traits along with the standard checks. Four hybrids (DMRH 1419, IMH-8-101, IQPMH-18-2, and DMRH 1417 (SMH-5)) out yielded the check variety and found to be moderately resistant to all the major diseases and insect pests.

Mungbean germplasm for low phosphorus tolerance: The Pulse Improvement Project, initiated in 2020 in collaboration with ICAR-IARI, New Delhi, aims at genetic enhancement to boost yield and improve abiotic stress resistance in mungbean and lentil. Mungbean is highly vulnerable to low phosphorus, especially during the reproductive stage, causing yield losses. A diverse collection of 228 mungbean accessions, from acidic zones of Jharkhand, Bihar, Odisha, West Bengal, Andhra Pradesh and North-Eastern states, were evaluated for 11 phosphorus use efficiency (PUE) related traits, identifying nine superior accessions (IC0105576, IC0392343, IC0398988, IC0400063, IC0400174, IC0565278, IC0623693, IC0639817, IC0610380) with enhanced phosphorus use efficiency compared to tolerant and susceptible checks.

Lentil germplasm for low phosphorus tolerance: A set of 150 lentil accessions from acidic zones across India was assessed for PUE. The top five efficient genotypes identified were IC0623666, IC78460, IC260897, IC78449, and IC78455. These accessions offer promising diversity for yield and stress resilience traits, making them a valuable genetic resource for improving lentil adaptation to acidic soil conditions in Eastern and North-Eastern India.

Lentil RIL population for aluminium toxicity and low phosphorus tolerances: A set of 150 F7 recombinant inbred lines (RILs) from BM-4 × L-4602 were assessed for yield traits in acidic soil (pH 4.85-5.52) during 2021-2023. Hydroponic screening of the same RILs against Al stress and combined Al & P stress, was also carried out with the help of our collaborating institutes. The screening identified five top-performing RILs - RIL 37, RIL 22, RIL 63, RIL 135, and RIL 144 - for further use in lentil breeding programs targeting aluminium toxicity and low phosphorus tolerance.

QTLs for aluminium and/or P tolerances in lentil: Three QTLs - qAlt1.1, qAlt2.1, and qAltP1-were mapped on linkage group 1 for Al and P tolerance under hydroponic condition. Additionally, two QTLs - qAltdf1.1 and qAltdm1.1 - were identified for flowering and maturity duration under acidic field conditions. This work was carried out in collaboration with ICAR-IARI, New Delhi.

Lentil varieties for Jharkhand: The lentil varieties PDL-1 and PSL-9, developed at IARI, New Delhi, were initially notified and released for cultivation in Haryana and Uttar Pradesh but have shown promising yield potential in Jharkhand's agroclimatic conditions. Since 2022-23, multi-location yield trials, have been conducted in collaboration with BAU, Ranchi, aim to promote these varieties for state release and area expansion under the state varietal release committee.

Promising lentil varieties for the rice fallow ecosystem: *Station trials of lentil in collaboration with IARI-New Delhi:* A station trial of lentil has been conducted every year in collaboration with IARI, New Delhi, aimed to identify promising candidates for the rice fallow ecosystem. Two potential entries, PAL 14 and PAL 15, have been selected for further evaluation under All India Coordinated Trials on *Rabi* pulses.

Pigeonpea: Approximately 50 pigeonpea germplasms were procured, maintained and evaluated for yield and its associated traits under rainfed conditions. Two sets of early segregating MAGIC populations, Varietal Magic-1 (VM1) with 42 lines and Varietal Magic-2 (VM2) with 35 lines, received from our collaborating institute, were characterized and screened under rainfed conditions.

Validation of GMFS (Genetically Modified Female Sterile) Pigeonpea line identified by IARI New Delhi: Unique segregants exhibiting monogenic inheritance for male and female sterility were observed in F2 populations (~325 plants) at IARI, New Delhi. These were maintained in a heterozygous state across generations. In RIL-derived NILs, the inheritance pattern remained consistent,

following a 3:1 (F:S) ratio.

Multilocation testing of pigeonpea entries in Jharkhand: Multilocation trials are being undertaken for advance breeding lines and other breeding line in collaboration with ICAR-IIPR, Kanpur and BAU, Ranchi for identifying cultivars suitable for cultivation under agro-climatic conditions of Jharkhand. Across different AICRP trials, IPA 15-21 recorded a pooled yield of 2083 kg/ha, 9.1% superior to all checks. In Jharkhand state centres (Ranchi & Chianki), IPA 15-21 displayed an impressive 55.84% yield superiority (2288 kg/ha) over the best check IPA-203. The entry has been subjected to multilocation testing across different locations in Jharkhand and will be proposed for state release under SVRC.

Tissue culture protocol for regeneration and transformation in pigeonpea: A tissue culture-based regeneration and transformation protocol has been successfully developed using the embryo axis of pigeonpea (*Cajanus cajan*). Shooting efficiency was 82% for Pusa 992 and 77% for Asha, with nearly 100% rooting efficiency in half-strength MS medium containing 15 g/L sucrose and 0.5 mg/L IAA. Regenerated plants showed 90% survival after transplantation into pots.

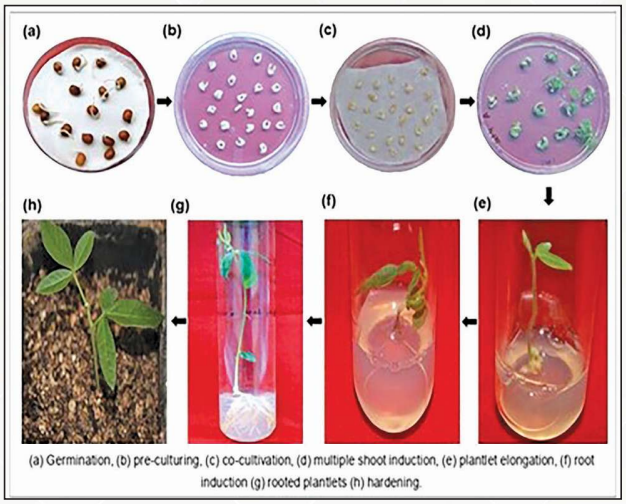


Figure: Summary of plant transformation and regeneration in pigeonpea

Transcription-factor-derived functional SSR markers in soybean: A total of 1138 transcription-factor-derived SSR markers were identified in soybean (*Glycine max*) using in silico analysis. Coding sequences were sourced from PlantTFDB, and SSRs were localized using the MISA tool. Flanking primers were designed, followed by chromosomal distribution and gene ontology searches via BLAST2GO. Twenty SSR markers were validated for cross-species transferability, and a genetic diversity study was conducted. These SSR markers were mapped to 20 G. max chromosomes, with an SSR motif frequency of one per 4.64 kb. Trinucleotide repeats were most abundant, while tetra- and penta-nucleotide repeats were least frequent. Gene Ontology analysis highlighted the diverse functional roles of SSR-containing transcription factors in soybean. This work was carried out in collaboration with ICAR-CRIJAF, Kolkata, and ICAR-VPKAS, Almora.

Crop Improvement (Horticultural Crops)

Germplasm collection: The germplasm/varieties of potential fruit crops have been collected from different places of the country and established in the research farm of IARI, Jharkhand for their performance evaluation

Fruit Crop	Fruit crops and their varieties conserved at IARI-Jharkhand
Mango (38 genotypes)	**Variety** (1) Totapuri, (2) Swarnarekha, (3) Banganapalle, (4) Neelam, (5) Chausa, (6) Dashehari, (7) Langra, (8) Malda, (9) Kesar, (10) Arka Neelachal Kesari, (11) Zardalu, (12) Bombay Green, (13) Himsagar, (14) Kisan Bhog, (15) Sukul, (16) Imam Pasand, (17) Raspuri, (18) Alphonso, (19) Paharpur Sindhuria **Hybrids** (1) Manjeera, (2) Neeleshan, (3) Neeleswari, (4) Neelgoa, (5) Mahmood Bahar, (6) Arunika, (7) Ambika, (8) Amrapalli, (9) Mallika, (10) Pusa Arunima, (11) Pusa Sreshtha, (12) Arka Puneet, (13) Pusa Peetamber, (14) Pusa Lalima, (15) Pusa Pratibha, (16) Arka Uday, (17) Akra Suprabhat, (18) Pusa Manohari, (19) Pusa Deepsikha
Guava (12 genotypes)	(1) Lucknow 49, (2) Allahbad Safeda, (3) Arka Kiran, (4) Arka Mridula, (5) Pusa Prateeksha, (6) Pusa Arushi, (7) CISH Lalit, (8) CISH Sweta, (9) CISH Dhawal, (10) CISH Lalima, (11) Arka Poorna, (12) Arka Rashmi
Jamun (3 genotypes)	(1) CISH-J-37 Jamvant, (2) CISH J-42, (3) Dhupdal
Litchi (7 genotypes)	(1) Shahi, (2) Rose Scented, (3) China, (4) Gandaki Yogita, (5) Gandaki Sampada, (6) Gandaki Lalima, (7) Late Bedana
Ber (3 genotypes)	(1) Apple Ber, (2) Gola, (3) Umran
Sapota (5 genotypes)	(1) Cricket Ball, (2) Kalipatti, (3) Murabba, (4) DSH-1, (5) DSH-2
Custard apple (3 genotypes)	(1) Akra Neelachal Vikram, (2) Arka Sahan, (3) Balanagar
Jackfruit (2 genotypes)	(1) Siddhu, (2) Shankara
Citrus (13 genotypes)	**Lemon:** Kagzi Kalan **Sweet orange:** Mosambi, Pusa Round and Pusa Sharad **Lime:** Seedless, Kagzi lime, Pusa Abhinav, Pusa Udit **Mandarins:** Kinnow, Coorg Mandarin **Pummelo:** Arka Ananatha, Arka Chandra, Pusa Arun, Devanhalli
Grapes (4 genotypes)	Pusa Aditi, Pusa Trishar, Pusa Navrang, Pusa Urvashi
Bael (5 genotypes)	(1) CISH B1, (2) CISH B2, (3) NB 5, (4) NB9, (5) Swarna Vasudha
Aonla (6 genotypes)	(1) Chakaiya, (2) Kanchan, (3) Krishna, (4) NA-6, (5) NA-7, (6) NA 10

Papaya germplasm collected from hot-spot area: A papaya gene pool was identified in tribal backyard gardens across hot-spot regions of Jharkhand. A fine-grid survey in Bandgaon, Murhu, Karra, and Khuntpani documented 28 diverse papaya types with varied fruit shapes, sizes (0.76-3.9 kg), and TSS (10-15° Brix). Plant characteristics, including fruit color, cavity shape, aroma, and eating quality, were recorded. Seeds were extracted and seedlings are being raised for large-scale evaluation. A designated papaya block has been prepared, with planting schedule for this season.

Evaluation of Papaya germplasm: Progeny from JHP-4, JHP-5, and JHP-6, along with 14 other materials collected at various locations of Jharkhand, were planted in a nursery plot. Based on yield potential, JHP-4, JHP-5, and

JHP-6 were selected. Significant variability in growth, yield, and quality traits was observed, providing valuable genetic diversity for future papaya improvement programs.

Tomato: Heterosis and combining ability studies in hybrids: A line × tester mating design with 8 parents (3 lines, 5 testers) was conducted in 2021 to evaluate 15 F1 hybrids and their parents for combining ability and heterosis across 17 quantitative traits, including six fruit quality traits. Eight hybrids outperformed their superior parent in total yield. Pusa Ruby and DT1504 (female), along with DT911 and DT804 (male), were strong general combiners.

Brinjal: Evaluation and characterization of advance breeding lines: A set of 45 advanced brinjal breeding lines, including round and long-type genotypes from ICAR-IIVR, Varanasi, were evaluated at ICAR-IARI, Jharkhand under natural field conditions. Data from 20 quantitative and qualitative traits showed significant variability among genotypes. The high-yielding lines BWT-44 (28.43 t/ha), BWT-16 (28.01 t/ha), and BWT-3 (26.85 t/ha) were identified as elite candidates for further varietal testing and development.

Pointed guard germplasm collection and conservation: Eighteen pointed gourd germplasm were collected from farmers' fields and research institutions and maintained at the institute farm. Plant growth traits and floristic characteristics were studied, leading to the identification of two promising genotypes (GKP-3 and HARP-63) suitable for generating variability and hybrid crosses. These genotypes underwent further evaluation for enhanced results.

Okra: Heterosis and combining ability studies in hybrids: A total of 36 okra hybrids were developed using a Line × Tester mating design (12 lines, 3 testers) and evaluated across summer and *kharif* seasons for performance and viral resistance. Significant variation was observed in 10 quantitative traits. Kashi Kranti and DOV-7 were identified as top parents for yield, while the hybrid KRK/GKLF-20 × Pusa Sawani excelled in branches per plant and yield, exhibiting high positive heterosis over mid-parent (32.84%), better parent (31.37%), and commercial check (31.37%).

Animal Husbandry and Fisheries

Goat farming-Baseline survey in Hazaribagh district of Jharkhand: A baseline survey on goat farming in Hazaribag, Jharkhand revealed that the semi-scavenging system is widely practiced, especially near forest land, barren, or uncultivable areas. However, most goat farmers are resource-poor and lack awareness of scientific management and health care practices. Addressing these gaps through training and extension programs could enhance productivity and improve farm sustainability.

Rearing of goats by resource poor tribal farmers in Kundwa village

Pig farming-Status in Hazaribagh district of Jharkhand: Indigenous pigs farrowed at 15-16 months, while crossbred pigs did so earlier at 12-14 months. Litter sizes were 6-10 for indigenous pigs and 10-14 for crossbred pigs. Growth performance varied significantly, with indigenous pigs reaching 35 kg and crossbred pigs 70 kg at 12 months. Poor diet quality-mainly low-protein crop by-products was a key factor in slow growth. Despite challenges, pig farming remains profitable, as local feed resources have low or no opportunity cost, and women primarily handle pig care. However, limited scientific knowledge on feeding, breeding, and health care, along with poor feed storage and disease management, are major hurdles for tribal farming communities. To improve traditional pig production, participatory, need-based programs are essential to enhance resource use efficiency, herd health and productive crossbreeding.

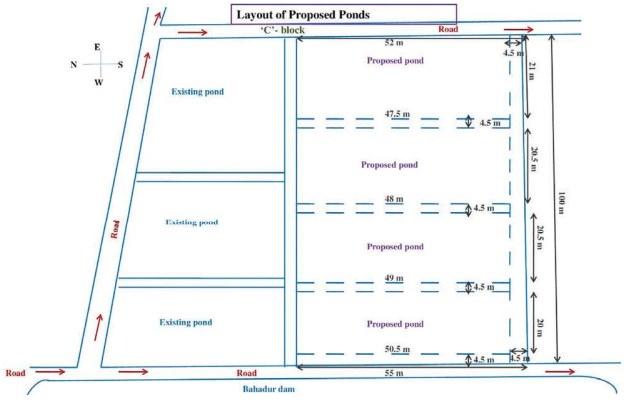
Fodder-Performance of Bajra x Napier hybrid varieties: Four genotypes (Kamdhenu, CO1, CO5 and IGFRI-10) of Hybrid Napier were evaluated for forage yield performance. Kamdhenu performed better for forage production as it had the maximum mean forage yield (77 kg per plot/cut). As the age of the crop progressed, Kamdhenu was found to be very good for forage yield production, followed by CO1, CO5, and IGFRI-10. The institute recorded yield potentials of 140 to 200 tons/ha for these varieties. Feed alone constitutes about 65-70% of the total cost of milk production, which can be reduced to 30-40% by providing these inexpensive and quality green fodders in Jharkhand.

Fodder Cowpea (*Vigna unguiculata*) for Enhanced Livestock Nutrition: Cultivation practice of several fodder cowpea varieties, namely UPC-9202, UPC-628, UPC-622, Kohinoor, MFC-08-14, MFC-09-1, Bundel Lobia, and Bundel Lobia-2, was undertaken

with the intention to measure the potential of this fodder crop in the acidic soil conditions prevalent in the region. The total seed production from the demonstration plots for different varieties of cowpea, *i.e.*, UPC-628, UPC-9202, MFC-08-14, UPC-622, MFC-09-1, and Bundel Lobia, was found to be 2.52 kg, 4.93 kg, 5.43 kg, 6.24 kg, 6 kg, and 7.42 kg, respectively. The highest seed production yield was observed in Bundel Lobia, suggesting its strong potential and scope for exploiting this fodder variety for both seed and fodder in Jharkhand. Its integration into the existing farming systems can play a crucial role in narrowing the significant gap between the demand and supply of green fodder in Jharkhand, thereby enhancing livestock productivity and farmer income.

Location specific animal advisory services: A livestock survey in Hazaribagh district revealed several challenges: no defined breed rearing of cattle and goats, with some crossbreds raised in large commercial farms. Due to limited irrigation, fodder cultivation is absent, and animals rely on open grazing, with no supplemental feeding due to lack of nutrition knowledge. Farmers follow the traditional Macha system for shelter. Common cattle diseases include FMD, HS, and BQ, while goats frequently suffer from PPR, Enterotoxaemia, and FMD. Anoestrus and repeat breeding were major concerns in cattle. While farmers rely on Indigenous technical knowledge for treatment, they are aware of vaccination and deworming programs led by the state animal husbandry department.

Freshwater fish-performance evaluation of important varieties under captivity conditions: A prototype experimental aquaculture farm was developed at ICAR-IARI, Jharkhand, featuring nursery, rearing, and grow-out units for freshwater fish species. The scientifically designed earthen ponds were constructed after site suitability assessment and included monk structures with metallic sheets and wire mesh screens to ensure controlled water flow. Given the sandy soil texture with high rock content, innovative pond designs were implemented to improve water retention, stability, and erosion control. A clayey shoreline was left undisturbed to enhance natural productivity and live food bloom. On 27.02.2024, a field survey of fish farms in Barhi verified stocks of Indian major carps, common carp, grass carp, pangas and tilapia. Experimentation involved stocking five carp varieties *viz*., catla (*Catla catla*), rohu (*Labeo rohita*), common carp (*Cyprinus carpio*), grass carp (*Ctenopharyngodon idella*), and black carp (*Mylopharyngodon piceus*) in triplicate at 4 fish/m². They were fed floating pelleted feed at 3% of biomass, with indigenous bamboo floating frames (ITK) designed to prevent feed drift due to water currents.

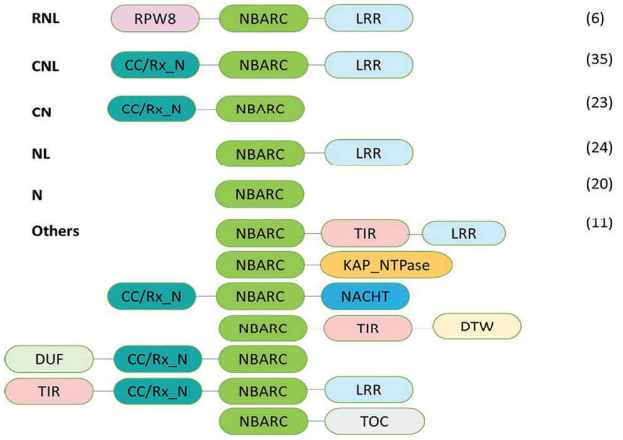


Layout map of aquaculture units

Design of pond and dyke including inlet, outlet and top drain water channels

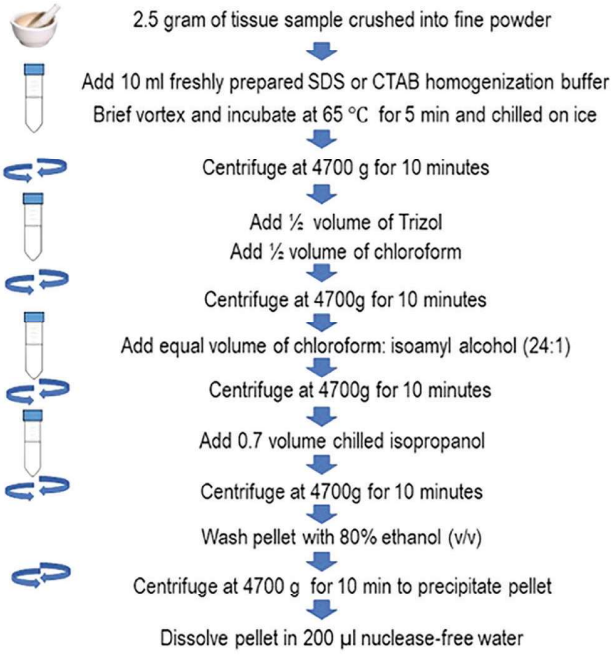
R-Gene Identification of Garden pea

A comprehensive genome-wide analysis of the NBARC domain-containing resistance (R) gene family in *Pisum sativum* (garden pea), a globally important pulse and vegetable crop. Utilizing genomic and transcriptomic datasets, 119 NBARC domain-containing candidate R-genes were identified and characterized. These genes were phylogenetically classified into eight clades and structurally grouped into six domain types, with the CNL (CC-NBARC-LRR) class being predominant. The genes showed considerable structural diversity, including variation in exon-intron organization and domain composition, indicating evolutionary complexity and possible functional divergence. Chromosomal mapping revealed uneven distribution, with chromosome 5 harboring the highest number of R-genes and a significant proportion arranged in 25 gene clusters, suggesting gene duplication events. Most genes displayed nuclear localization, supporting their role in transcriptional regulation of defence responses. Expression profiling across 22 tissues showed that while many genes exhibited low or no expression, a few demonstrated high or tissue-specific expression, implying potential roles in developmental or stress-responsive pathways. This in silico study enhances the understanding of disease-resistance gene architecture in *P. sativum*, providing a valuable resource for resistance breeding. Further functional validation through transcriptomics and proteomics is recommended to fully explore their role in plant immunity. *(A work in collaboration with ICAR-CRIJAF, Kolkata and ICAR-VPKAS, Almora)*



Improved RNA isolation protocol for under ground storage tissue

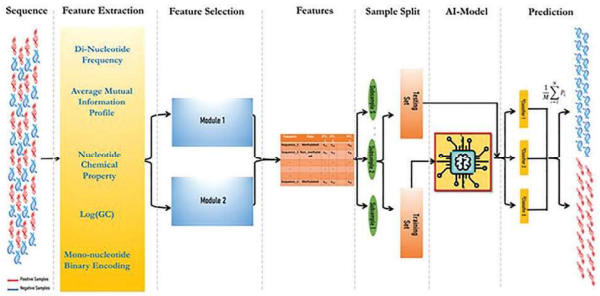
RNA isolation is critical for transcriptome-based studies, but plant tissues rich in starch and secondary metabolites pose challenges to obtaining high-quality RNA. Common methods, like Trizol or commercial kits, often fail with underground storage organs such as potato, carrot, and beet. A modified CTAB-SDS-based homogenization protocol combined with standard phase separation for improved RNA extraction has been developed. The method yielded high-quality RNA with ideal A260/A280 and A260/A230 ratios (~2.0). Suitability for downstream applications was confirmed through successful cDNA synthesis and amplification of reference genes. This cost-effective protocol proved more efficient than existing methods for metabolite-rich plant tissues. (*A work in collaboration with ICAR-NIPB and ICAR-IARI New Delhi*)



Development of tools for 6mA methylation site in plants

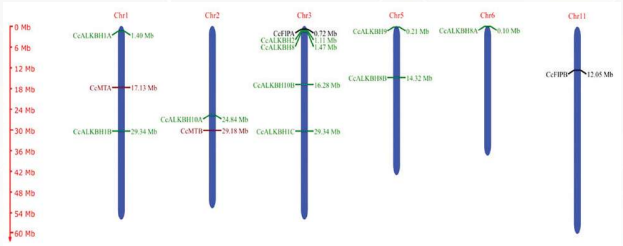
Lateral Organ Boundaries Domain (LBD) genes are plant-specific transcription factors essential for organ development, defense, anthocyanin synthesis, and nitrogen metabolism. Understanding their regulation via DNA

methylation, particularly at promoter regions, is vital for crop research. We have introduced *MethSemble-6mA*, a user-friendly prediction tool for 6mA methylation sites, utilizing Binary Encoding of Mono-nucleotide DNA. Achieving 93.12% accuracy, it outperformed existing tools. Using this model, we analyzed promoter regions of LBD genes in *Triticum aestivum* and its relatives. On average, four 6mA sites were detected per species, with methylation frequency decreasing over evolutionary time, though some sites remained conserved. These patterns highlight how methylation contributes to gene birth and functional divergence. Given DNA methylation's role in key processes like imprinting and gametogenesis, our findings offer important insights into epigenetic regulation. *MethSemble-6mA* (http://cabgrid.res.in:5799/) is a valuable tool for plant breeders exploring epigenetic strategies for crop improvement. (*A work in collaboration with ICAR-NIPB and ICAR-IARI New Delhi*)



Methylation regulators of pigeon pea

RNA methylation–demethylation dynamics, particularly m6A methylation, play key roles in plant biological functions, including stress responses. A genome-wide study for identification and characterization of methylation-associated genes were conducted in pigeon pea using *Arabidopsis* sequences as references. Two methyltransferases (CcMTA70, CcMTB70), two adaptor proteins (CcFIPA, CcFIPB), and ten demethylases (CcALKBH family) were identified. Phylogenetic, structural, motif, domain, chromosomal, and subcellular localization analyses categorized these genes into distinct groups. Expression profiling revealed highest transcript levels in leaves and the lowest in roots. Methyltransferases and FIPs shared similar expression patterns, while CcALKBH10B consistently showed the highest expression across tissues, and CcALKBH2 the lowest. Notably, CcALKBH8 responded strongly to heat stress, and CcALKBH10B was highly induced under drought, salt, and *Helicoverpa armigera* infestation. These findings provide a foundation for understanding the role of m6A methylation in pigeon pea and offer insights into its regulatory functions in plant development and stress adaptation. (*A work in collaboration with ICAR-NIPB and ICAR-IARI New Delhi*)



Validation of Anti florigen gene in pigeon pea

CEN-like protein 2 of pigeon pea, a candidate anti-florigen gene and a close homolog of *AtTFL1* (*Arabidopsis Terminal Flower 1*) of the PEBP family, has been characterized through constitutive expression in tobacco, which showed delayed flowering. Silencing the gene in the pigeon pea genomic background could be a potential target for the early flowering trait. (*A work in collaboration with ICAR-NIPB and ICAR-IARI New Delhi*)

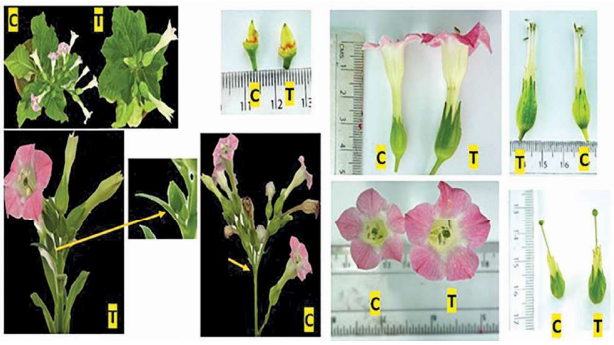


Figure: Delayed flowering and larger flower size with elongated flower tube and ovary in tobacco transgenic plants.

SALIENT ACHIEVEMENT: EXTENSION

With the start of the functioning of IARI Jharkhand since 2020, the institute started its outreach activities through survey and organising various programs like Kisan Goshthi, Farmers Fair, Input distribution, Demonstration and Training etc. Gradually the extension activities has led to widespread recognition of IARI-Jharkhand in and around the state. The first extension activity of IARI Jharkhand was base line survey of various blocks of Hazaribagh district for understanding existing practices of cultivation and identifying researchable issues. For this survey, primary and secondary data were collected from 800 farmers (25 farmers from each village of 4 different Panchayat of 8 blocks) of different socio-economic background. A total of 32 randomly selected villages have been surveyed during data collection using semi-structured interview schedule and focussed group discussion.

Salient findings of preliminary survey of Hazaribagh district

Rice was found major crop during *kharif* season occupying more than 70% of available cultivable land followed by maize, pigeonpea, blackgram, til, and vegetables. During *rabi* season more than 80% cultivated area remain fallow due to unavailability of assured irrigation and proper fencing to protect crop from grazing by village cattle. The major crop during *rabi* season were wheat (30%), potato (40%), and vegetables (30%). The main sources of seeds either cereals or vegetables are private shops. Majority of farmers (>90% respondent) uses hybrid variety for rice cultivation while for wheat and pulses traditional variety were most common. The mechanization was found poor due to small land holding and poor availability of money for rent. Still >60% area were ploughed by bullock with traditional wooden plough.

IARI-Jharkhand has successfully reached and imprinted its image among the farmers of many districts of Jharkhand mainly Hazaribagh, Bokaro, Chatra, Ramgarh, Koderma, Giridih, Khunti, Simdega through various extension mechanism like Survey, Kisan Gosthi, Field Day, Farmers Fair and Farmers Training under various scheme like SCSP, TSP, Research Projects and Institute mandate. IARI-Jharkhand has successfully organised first Farmer's Fair "Kisaan Samrudhi Mela 2024" within the premises of IARI-Jharkhand, Gauria Karma on 28th January, 2024 followed by Kisan Gosthi on 1st March 2024. The institute has played an active role in organising Regional Agriculture Fair for Eastern Region organised by ICAR-NISA, Ranchi at KVK Khunti during 3-5th February 2024 and at Simdega, organised by IARI, New Delhi during 10-12, March 2024.

More than 300 demonstration and field days were conducted at farmer's field across Hazaribagh district to showcase the improved technologies of maize and pulse cultivation, besides participatory seed production of mungbean, lentil, chickpea and maize under NABARD funded projects. This led to increase in area of cultivation of these crops by more than hundreds of acres in the three years duration of the project. More than ten farmers training and workshop were organised to impart knowledge of improved and scientific cultivation practices of pulses and maize.

1st Farmer's fair at IARI-J

On January 28, 2024, a Farmer's fair was organized at ICAR-IARI, Jharkhand sports ground with the sponsorship of NABARD, Hazaribagh. The Chief Guest of the program was Honourable Member of Parliament and Chairman of Standing Committee of Finance, Govt. of India, Shri Jayant Sinhaji. More than **5000** visitors turned up in the event and witnessed the stalls and display exhibits to aware and sensitize farmers of the state on improved agricultural practices including livestock and fish farming.

Kisan Gosthi cum Farmers Fair

On 1st March 2024, a Kisan Gosthi-cum-Farmers fair was organized by ICAR-IARI, Jharkhand in which Shri Arjun Munda, Former Union minister of Agriculture and Farmer's Welfare was Chief Guest. The event was coincided with Inauguration of institute Boys and Girls Hostel and Staffs Residential Quarters. Approx. **10,000** visitor footfalls were recorded in the farmers fair to gain the knowledge of improved technologies in agriculture through visiting stalls, displays, and interactive sessions during the event.

Glimpses of A Scientist-Farmer Interface: Organized under SCSP, Chief Guest: Dr Ch. Srinivasa Rao, Director cum Vice-chancellor, IARI-Jharkhand and Guest of Honour: Dr Viswanathan C., JD(R), IARI-New Delhi interacting and felicitating a farmer of Barhi

Glimpses of Kisan Gosthi cum Inauguration Ceremony

Glimpses of Kisaan Samrudhi Mela

Viksit Krishi Sankalp Abhiyan

The IARI-Jharkhand successfully organized Viksit Krishi Sankalp Abhiyan during 29 May to 12 June, 2025 in Hazaribag and Koderma District. Twenty-four scientists from ICAR-IARI, Jharkhand and sixteen ATM and BTM officials were part of the visits. Each day, three teams visited nine villages, ensuring widespread outreach and direct farmer interaction. This campaign successfully covered 127 villages across 16 blocks, with a total farmer participation of 14,923, including an impressive 61% participation of female farmers. Over the past 15 days, interactions with farmers across Hazaribagh district have provided valuable insights into the challenges they face in agriculture. The discussions highlighted several pressing issues affecting crop production, market access, technology adoption, and livestock management.

Activities under Schedule Caste Sub Plan

IARI Jharkhand has successfully implemented Scheduled Castes Sub-Plan (SCSP) project in the various district of Jharkhand. Initial focus was to enhance income of the schedule caste farmers by enhancing their agricultural productivity and reducing cost of cultivation through supply of quality inputs like seed, fertilizer, farm tools followed by imparting training and demonstration. IARI-J has successfully organised more than 30 Kisan Gosthis, Awareness Camps, Farmer's Field Visit and Scientist-Farmer Interface programs to motivate the farmers for adopting new technologies in the agriculture and allied sector. With increase in the number of staff and training facilities at the institute, 23 capacity building training programs have been organised in 2024 and 2025. The main domain of training were nursery management, Improved package and practices of *rabi* and *kharif* cereals, pulses and oil seeds; improved techniques of vegetable cultivation; poultry farming, mushroom cultivation, importance of soil testing and soil health card, vermicomposting technique, biofertilizer etc. A total of 1173 scheduled caste beneficiaries from six blocks of Hazaribagh were benefited with these training. A One-Day Animal Health Camp was also organized on March 29, 2025, at Nichitpur, Gauria Karma. The camp provided essential livestock health services to around 100 farmers, offering routine check-ups and treatment for their animals.

Milestone of seed distribution program under SCSP

Year	Item name	Quantity	No. of beneficiaries	Locations
2021	• **Seed** (Wheat and Chickpea)	4.25 quintals	200	Nichitpur, Kajra (Barhi)
2022	• **Seed** (Paddy and Wheat)	55 quintals	550	Gauria Karma, Kedarut (Barhi)
2023	• **Seed** (Paddy, Wheat, Chickpea, Arhar, Moong, Lentil, Mustard, Vegetable) • **Vegetable kits**	1281 quintals 11,000 No.	12,000	Ten blocks of Hazaribagh and one block each of Chatra, Koderma, Ramgarh, Bokaro
2024	• **Seed** (Moong, Maize, Paddy, Arhar, Millet crops, Wheat, Mustard, Lentil, Chickpea) • **Vegetable kits**	1600 quintals 11000 No.	20,000	Hazaribagh, Bokaro, Chatra, Ramgarh Koderma and Giridih districts of Jharkhand
2025 (Summer)	• Maize and Moong seed • **Vegetable kits**	65 quintals 1800 No.	1,800	Chauparan, Barhi, Barkattha, Vishnugarh, Tatijhariya

Activities under Tribal Sub Plan

Through Tribal Sub-Plan (TSP) the institute is actively engaged in enhancing the farm income of tribal farmers through providing improved quality seeds and training programs to increase their agricultural productivity. Tribal farmers were motivated for farming of rice, maize, specialty corn, vegetables, wheat, chickpea, greengram, horsegram and other crops of their region through adopting the improved practices. Since 2021, every year during crop season, a series of Kisan Goshthi and Training-cum-Seed Distribution Programs were organised to import knowledge and quality seeds of various crops among scheduled tribe farmers of Hazaribag. So far 24 such programs have been organised at institute or in the respective villages. To support rural livelihoods in scheduled tribe community, during January 2025, total 2500 Vanaraja chicks were distributed to 50 trained TSP farmers of Hazaribagh, enabling them to enhance poultry farming and generate sustainable income. In addition, a specialized training program on Backyard Poultry and Quail Farming Practices was conducted at ICAR-Central Avian Research Institute, Izzatnagar, Bareilly, from January 8-10, 2025, equipping 25 ST farmers with essential knowledge for efficient poultry management.

Year	Item name	Quantity	No. of beneficiaries	Locations
2021	• Seed (Wheat, Chickpea) • Vegetable kits	5.8 quintals 500 No.	262	Daudwa, Kundawa, Khorahar of Barhi block
2022	• Seed (Paddy, Maize, Kulthi) • Vegetable kits	147 quintals 1000 No.	2800	Barhi, Churchu, Dadi, Keredari, Barkagaon, Tatijhariya, Vishnugarh
2023	• Seed (Wheat, Paddy, Maize, Okra, Onion) • Vegetable kits	356 quintals 4000 No.	3000	All blocks of Hazaribag districts

Glimpses of Extension Activities

Farmers Field Day

Seed Distribution Programme

Chick Distribution to Farmers

Nursery and vermicomposting tools distribution

Vegetable Kit Distribution

Exposure visit at IIMR and RMRSPC, Begusarai

अनुसूचित जाति उपपरियोजना अंतर्गत भारतीय कृषि अनुसंधान संस्थान गौरियाकरमा ने किया धान बीज का वितरण

संध्या प्रहरी — हजारीबाग — 06

अनुसूचित जाति के किसानों को सशक्त बनाने की पहल, 325 किसानों को वितरित किए गए बनराजा मुर्गी के चूजे

संध्या प्रहरी — बरही — 16

अनुसूचित जनजाति उप योजना के तहत भारतीय कृषि अनुसंधान संस्थान द्वारा कृषि प्रशिक्षण सह बीज वितरण कार्यक्रम का हुआ आयोजन

चौपारण में किसानों के बीच कृषि यंत्र का किया गया वितरण

हजारीबाग के अनुसूचित जनजाति समुदाय को आत्मनिर्भर बनाने की दिशा में बड़ा कदम, 150 किसानों के बीच वितरित किए गए बीज और सब्जी किट

निचितपुर में आईसीएआर ने लगाया पशु स्वास्थ्य शिविर, लगभग 100 पशुधन की जांच

HUMAN RESOURCE DEVELOPMENT

Human Resource Development has remained one of the major activities of IARI-Jharkhand since the start of Research, Education and Outreach Programme from 2020 onwards. The institute has successfully trained farmers, officials of state departments and students of other universities in the field of improved practices of cereals, pulses, oilseeds, vegetables and fruit cultivation, mushroom cultivation; vermicomposting, biofertilizer, soil health management, backyard poultry farming, post-harvest techniques, nursery management, agroforestry systems etc.

List of some important HRD Program organised at IARI-Jharkhand

Topic	Duration	Date	Sponsor/ Collaborator	No. of Beneficiaries
Mushroom Cultivation and Production	One Day	13th October 2020	IARI Jharkhand	25 Farmers
Oyster Mushroom Cultivation for Livelihood Improvement	One Day	6th November 2020	IARI Jharkhand	50 Farmers
Techniques of Vermicomposting of Cow Dung Manure	Three Days	6-8th January 2022	Animal Husbandry Department, Gauria Karma	05 staffs of Animal Department
Canopy Management Training	One Day	4th February 2022	State Agriculture Department, Hazaribagh	30 Farmers
Rural Agriculture Work Experience (RAWE) program	10 Days	30th Nov. – 9th December 2022	College of Agriculture, Ranchi, BAU, Jharkhand	B.Sc. (Agri.) students
Rural Horticulture Work Experience (RHWE) Program	15 Days	9-24th December 2022	College of Horticulture, Khuntpani, BAU, Ranchi, Jharkhand	B.Sc. (Hort.) students
झारखण्ड में गुणवत्तायुक्त प्रोटीन मक्का के एकल संकर मक्का बीज उत्पादन की तकनीक	Three Days	30th May – 1st June 2022	NABARD, Ranchi	60 Farmers/ FPO members
10 Nos. of Need Assessment-cum-Sensitization Workshops followed by vocational training programs for NEET women under Balika Shivir program in Jharkhand	Three Days each training	May – July 2023	Plan India International	400 NEET women
Model Training Course on Techniques of Agroforestry and Watershed management	Six Days	16-21st January 2023	Forester and Forest Guard Training School, Hazaribagh	71 Forest Guards
Experiential Learning/Hands-on Training Programme on Techniques of Agricultural Waste Management, Crop Breeding, and Nursery Management	10 Days	23rd May – 1st June 2023	Sam Higginbottom University of Agriculture, Technology and Sciences, Paryagraj, UP	11 B.Sc. (Ag./ Hort.) students

Topic	Duration	Date	Sponsor/ Collaborator	No. of Beneficiaries
Training on Chickpea and Lentil Cultivation and Seed Production in Rice Fallow Ecosystem	One Day	18th March 2023	NABARD, Ranchi	50 Farmers of Hazaribagh district
माली प्रशिक्षण कार्यक्रम (200 hours gardener training programme)	25 days	24 Nov – 23 December 2023	District Horticulture Office Hazaribag/ Ragarh	35 gardeners from Hazaribagh and Ramgarh
Backyard Poultry Farming	Three Days	13-15th March 2024	SCSP Project	82 SC Farmers
Use of Microbial Biofertilizers	Three Days	18-20th March 2024	SCSP Project	76 SC Farmers
Protected Cultivation of Vegetable crops	Three Days	18-20th March 2024	SCSP Project	75 SC Farmers
Seed Treatment with Chemical and Biological Agents	Three Days	20-22nd March 2024	SCSP Project	76 SC Farmers
Scientific Goat Farming Practices	Three Days	13-15th March 2024	SCSP Project	76 SC Farmers
Nursery management of horticultural crops	Three Days	19-21st March 2024	SCSP Project	75 SC Farmers
Vermicomposting of Agricultural waste	Three Days	27-29th March 2024	SCSP Project	75 SC Farmers
Pesticide doses and poisoning awareness	Three Days	21-23rd March 2024	SCSP Project	75 SC Farmers
Fish Farming for production of table size fish	Three Days	26-28th March 2024	SCSP Project	75 SC Farmers
गुणवत्तायुक्त प्रोटीन मक्का के संकर बीज उत्पादन और मूल्य संवर्धित उत्पाद बनाने के उन्नत तकनीकें	Three Days	17-19th May 2024	NABARD, Ranchi	63 Farmers
क्वालिटी प्रोटीन मक्का: महत्त्व, वैज्ञानिक पद्धति से मक्का उत्पादन और संकर बीज उत्पादन की तकनीक	Three Days	26-28th September 2024	NABARD, Ranchi	300 Farmers
Backyard Poultry Farming	Three Days	16-18th December 2024	TSP project & CARI, Bareilly	25 ST farmers
माली प्रशिक्षण कार्यक्रम 200 hours Certificate Course on Gardener Training	25 Days	5 September – 5 October 2024	District Horticulture Office, Hazaribag/ Ramgarh	49 gardeners from Hazaribagh and Ramgarh
Biofertilizer Application for Promoting Organic Farming in Eastern India	One Day	28th March 2025	SCSP Project	50 SC Farmers
Integrated Pest Management in crops	One Day	3rd March 2025	SCSP Project	50 SC Farmers
Vermicomposting of Agricultural Waste	One Day	4th March 2025	SCSP Project	43 SC Farmers
Scientific Goat Production Practices	One Day	7th March 2025	SCSP Project	50 SC Farmers

Topic	Duration	Date	Sponsor/ Collaborator	No. of Beneficiaries
Cultivation of Important Freshwater Fish Varieties	One Day	8th March 2025	SCSP Project	42 SC Farmers
Weed Management Aspects in Crops	One Day	10th March 2025	SCSP Project	48 SC Farmers
Mushroom Cultivation and Value Addition Techniques	Three Days	9-11th March 2025	SCSP Project & DRPCAU, Bihar	30 SC Farmers
Application of Microbial Biofertilizers in Crops for Sustainable Agriculture	Three Days	17-19th March 2025	SCSP Project	25 SC Farmers
Livestock and Poultry Production and Management	Three Days	19-21st March 2025	SCSP Project	25 SC Farmers
Integrated Fish Farming for Sustainable Livelihood and Income Generation	Three Days	19-21st March 2025	SCSP Project	25 SC Farmers
Nursery Management of Horticultural crops	Three Days	24-28th March 2025	SCSP Project	25 SC Farmers
Techniques of Vermicomposting for efficient management of Agricultural Waste	Three Days	26-28th March 2025	SCSP Project	25 SC Farmers
Seed Production Technologies in Rabi Crops	Five Days	3-7th March 2025	SCSP Project & IIMR RS, Begusarai, Bihar	25 SC Farmers
Scientific Vegetable Cultivation Practices	Five Days	24-28th March 2025	SCSP Project	25 SC Farmers

Glimpses of Human Resource Development

Farmers trainign on Mushroom cultivation

Farmers trainig on Vermicomposting

Farmers training on Biofertilizer and Bioagents

Farmers training on Backyard Poutry Farming at ICAR-IIVR, Izatnagar

Farmers training on Protected Horticulture

Farmers training on Processing & Value-Addition of Fruits & Vegetable

Training of Forest Guards of Gov. of Jharkhand

RAWE & RHWE for B. Sc. (Agri.) & B. Sc. (Hort.) students

ARVR Training to Students of IARI-Jharkhand

न्यूज पोर्टल संध्या दैनिक | संध्या प्रहरी | हजारीबाग | 02

नाबार्ड ने आईएआरआई गौरियाकरमा के सहयोग से एफपीओ निदेशकों की क्षेत्रीय स्तरीय आवासीय कार्यशाला का किया आयोजन

संध्या प्रहरी : बरही

नाबार्ड के द्वारा सात जिलों के 40 से अधिक एफपीओ (प्रोड्यूसर कंपनियों) के 80 निदेशकों के लिए आईएआरआई गौरियाकरमा में तीन दिवसीय आवासीय कार्यशाला का आयोजन किया। इस कार्यशाला का विभिन्न हितधारकों के साथ अधिकाधिक समन्वय और बैंक ऋण के सहयोग और विशेषकर आईसीएआर के द्वारा विकसित तकनीकों और फसल-किस्मों, नस्लों से किसानों को लाभ पहुँचने वाली विभिन्न गतिविधियों के आधार पर बिजनस विकास के लिए क्रमबद्ध कार्य-योजना बनाना था। इस कार्यक्रम में नाबार्ड द्वारा 7 जिलों (हजारीबाग, गढ़वा, लातेहार, बोकारो, पूर्वी सिंहभूम, सराईकेला खरसावाँ और छात्र) में गठित और विकसित किए जा रहे 40 एफपीओ के कुल 80 निदेशक, संभावित क्षेत्रों में विशिष्ट उत्पादों में प्रोसेसिंग के द्वारा अच्छे मार्केट में पैठ बनाने की योजना बनाने पर कार्य करेंगे।

इसके अलावा प्रशिक्षु निदेशक एक मॉडल एफपीओ के कार्यालय प्रबंधन, खाता प्रबंधन और व्यापार प्रबंधन के मॉडल कार्यक्रम के दौरान निदेशकों ने विभिन्न सत्रों में आईएआरआई के कार्यकारी निदेशक डॉ विशाल नाथ पाण्डेय, वरीय वैज्ञानिक डॉ. पंकज कुमार सिन्हा और अन्य वैज्ञानिकों तथा जिला कृषि पदाधिकारी और उनके कार्यालय के अनुभवी प्रशिक्षकों से मार्गदर्शन प्राप्त करने के साथ आईएआरआई में उपलब्ध और नयी तकनीकों से लाभान्वित हुआ। इस कार्यक्रम के सफलतापूर्वक सम्पन्न करने में आईएआरआई के नोडल पदाधिकारी वैज्ञानिक डॉ. पंकज कुमार

SUCCESS STORIES

Success story 1: Adoption of Techniques for Vermicomposting of Cow Dung Manure by state-run Animal Husbandry Farm, Gauria Karma: Vermicomposting technique uses earthworms to decompose organic matter, creating a nutrient-rich compost called vermicompost. It is a faster and efficient composting technique and the product can be incorporated in all types of soil to enrich the fertility status. After attending training program on "Techniques of Vermicomposting of Cow Dung Manure" organised by IARI-Jharkhand during 06-08 January 2022, the Dairy Unit of Animal Husbandry Department, Gauria Karma successfully converted about 25-40% of generated cow dung manure into the vermicompost and produced about 50 quintals of vermicompost per year.

Success story 2: Popularization of dual-purpose Vanraja poultry bird in Jharkhand: ICAR-IARI, Jharkhand, under its Scheduled Caste Sub Plan (SCSP), successfully introduced improved backyard poultry practices. A total of 323 farmers were trained, and Vanaraj chicks, a robust, dual-purpose poultry breed were distributed. Though initially reluctant, farmers gradually embraced the Vanaraja breed, due to superior performance. The adoption of Vanaraja significantly improved household incomes. With each bird fetching Rs 900-950 and eggs selling at approx. Rs 20 each, even small-scale rearers earned an additional Rs 4,000 per cycle per household, which is a significant income boost compared to indigenous breeds.

Success story 3: Popularization of Quality Protein Maize (HQPM-5), an improved hybrid in Jharkhand: Under the initiative to popularize biofortified maize hybrids, a total of 200 demonstrations and field days were successfully conducted for Pusa HQPM-5 Improved hybrid on farmers' fields across 200 villages in Hazaribagh. Field days were strategically organized during the grain filling stage of the crop to ensure the most impactful visualization of the hybrid's performance. The demonstrations played a significant role in creating awareness among farmers regarding the importance of adopting biofortified maize hybrids in Jharkhand for ensuring better productivity, enhanced nutritional security, and improved farm income.

EXTRA-CURRICULAR ACTIVITIES

Since its inception, ICAR-IARI Jharkhand has recognized the importance of holistic student development beyond academic excellence. Over the past decade, the institute has actively organized and celebrated events of national and international importance, variety of extra-curricular, patriotic, environmental, wellness, and cultural activities to promote social responsibility, physical fitness, environmental consciousness, and national pride among its students, faculty, and staff. These activities have played a crucial role in fostering a vibrant and inclusive campus culture.

1. World Environment Day (5th June)

The institute celebrated World Environment Day every year on 5th June since 2020 with awareness and plantation drives, slogan-writing competitions, and lectures on sustainable agriculture and climate change. Students and faculty take part in rallies and plantation activities within and around the campus to promote environmental stewardship.

2. World Soil Day (5th December)

Observed annually on 5th December, this day is dedicated to raising awareness about soil health and its critical role in agriculture. The institute organizes soil health campaigns, exhibitions, expert lectures, and student competitions like poster presentations and model demonstrations to highlight sustainable soil management practices.

3. Republic Day (26th January) and Independence Day (15th August)

These two important days are commemorated with flag hoisting, inspiring speeches by faculty and students, student-led parades, poetry recitation and patriotic songs highlighting the contributions of freedom fighters. The entire campus gathers to celebrate the democratic spirit and national unity, reinforcing a strong sense of citizenship among the IARI community.

5. International Yoga Day (21st June)

With a strong emphasis on health and wellness, Yoga Day is celebrated through mass yoga sessions under expert supervision. Students and staff participate enthusiastically in learning various asanas, pranayama, and meditation, fostering physical and mental well-being.

6. Swachhata Abhiyan

In alignment with the national Swachh Bharat Mission, ICAR-IARI Jharkhand has been actively involved in cleanliness drives both on and off campus. Regular awareness programmes, waste management training, and cleanliness campaigns are conducted by students and staff to instill the value of hygiene and sanitation.

7. Plant4Mother (एक पेड़ माँ के नाम) campaign

IARI Jharkhand organized two plantation drives by planting 330 tree saplings on 30 August and 17 September 2024 under Plant4Mother **(एक पेड़ माँ के नाम)** campaign launched by Hon'ble Prime Minister of India. The photographs of the events have been uploaded on the Meri LiFE portal (https:/ qr.erilife.$ic.in) on the same day of drive by Nodal officer Dr Dipak Kumar Gupta, Senior Scientist (Environmental science).

8. Hindi Divas (17th September) and Hindi Pakhwada

Each year, the institute used to organise Hindi week cum workshop/Hindi Pakhwada to celebrate Hindi Divas on 17th September. Programs like speeches by experts, workshops, competitions, debates etc. are organized to promote Hindi.

8. Annual Sports Day

The Institute organized sports events for students as well as staffs on several occasions like republic day. The institute organized first Annual Sports Day for Students during 19-21 February 2025 a much-awaited event fostering teamwork, sportsmanship, and physical fitness. Students participate in various athletic events, cricket, volleyball, badminton, and indoor games. The IARI-Jharkhand is participating in ICAR-Sports tournament for Eastern Zone continuously since 2023.


Students and Scientists celebrating Sports Event

9. Cultural Fest

The cultural fest of ICAR-IARI Jharkhand is a vibrant display of talent, creativity, and diversity. Events include dance, music, drama, debates, quiz competitions, and traditional dress shows. The fest not only promotes cultural awareness but also strengthens camaraderie among students from diverse regions.



10. Religious activities

Saraswati Puja Celebration

Worship of Bargad Tree (*Ficus benghalensis*) Vatt Savitri Puja

11. New Year Celebration

VISIT OF DIGNITARIES

Plantation by **Dr Ch. Srinivasa Rao,** Director-cum-Vice Chancellor, ICAR-IARI Jharkhand and Dr C. Viswanathan, Joint Director Research, ICAR-IARI, New Delhi on 4th April, 2025 along with Team IARI-Jharkhand

Dr Himanshu Pathak, Secretary, DARE and DG, ICAR. Welcoming by Dr A.K. Singh, Director-cum-Vice Chancellor, ICAR-IARI Jharkhand; Dr D.K. Yadav, ADG, Seed and Dr Vishal Nath, OSD, IARI-Jharkhand on 1st March, 2024

Shri Arjun Munda, Union Minister of Agriculture & Farmers' Welfare and Tribal Affairs during Inauguration of Girls Hostel "Mahua", Boy's Hostel "Kadamb" and staff residential colony "Palash Vihar and Kisan Gosthi, 1st March, 2024

Plantation by **Shri Shivraj Singh Chouhan**, Union Minister of Agriculture & Farmers' Welfare on 2nd October, 2024

Visit of QRT team (**Dr J.C. Katyal; Dr S.S. Baghel; Dr S.N. Puri and Dr K.K. Narayanan,** Member QRT, ICAR-IARI, New Delhi) visited the institute along with Dr A.K. Singh, Director, ICAR-IARI, New Delhi and Jharkhand; Dr C. Viswanathan, Joint Director Research, ICAR-IARI, New Delhi and Dr D.K. Singh, Professor and Chairman Works Committee, ICAR-IARI, New Delhi) on 1st November, 2023

Plantation by **Dr T.R. Sharma,** Director-cum-Vice Chancellor, ICAR-IARI Jharkhand on 30th July 2024

Plantation by **Dr Sujay Rakshit**, Director, ICAR-IIAB, Ranchi on 30th July 2024

Plantation by **Dr Abhijit Kar**, Director, ICAR-National Institute of Secondary Agriculture, Ranchi on the 9th Foundation day, 28th June, 2023.

Plantation by **Dr O.N. Singh,** Vice-Chancellor, Birsa Agricultural University, Ranchi as Chief Guest of 9th Foundation day, 28th June, 2023.

Dr SC Dubey, Vice-Chancellor, Birsa Agricultural University, Ranchi as Chief Guest on the occasion of of 10th Foundation day 28th June 2024.

INSTITUTIONAL PUBLICATIONS

Sl. No.	Title and Issue No.	Editors	Year
1	ICAR IARI- Jharkhand Newsletter. Volume 1, No. 1	Preeti Singh, Ashok Kumar, Krishna Prakash, Manoj Chaudhary, Ranjit Singh, Santosh Kumar, Shilpi Karketta, S.K Mahanta, Vishal Nath, Asha Kumari	Jan.-Dec. 2021
2	ICAR IARI- Jharkhand Newsletter. Volume 2, No. 1	Preeti Singh, Santosh Kumar, Krishna Prakash, Manoj Chaudhary, Himani Priya, Shilpi Kerketta, Asha Kumari, S.K Mahanta, Vishal Nath	Jan.-Dec. 2022
3	ICAR IARI- Jharkhand Annual Report	S.K. Mahanta, Niranjan Kumar, Krishna Prakash, Dipak Kumar Gupta, Anima Mahto, Asha Kumari Himani Priya, Shilpi Kerketa, Santosh Kumar Monika M., Nuzaiba P. M.	2023
4	झारखण्ड में एकल संकर मक्का बीज उतपादन की तकनीक। IARI-JH/TM-001/2022	संतोष कुमार, प्रीति सिंह, बहादुर सिंह जाट, सुमित कुमार अग्रवाल, प्रियरंजन कुमार, वीरेंद्र कुमार यादव, नितीश रंजन प्रकाश, तरुण कुमार शर्मा, अशोक कुमार, विशाल नाथ	2022
5	भद्रिका पुंज (राजभाषा पत्रिका)। IARI-Jharkhand 2022	विशाल नाथ, मनोज चौधरी	2022
6	भद्रिका पुंज (राजभाषा पत्रिका)। IARI-Jharkhand 2023	विशाल नाथ, मनोज चौधरी, अनिमा महतो, प्रीति सिंह, शिल्पी केरकेटा, मोनिका एम.	2023
7	बैकयार्ड पोलट्री फार्मिंग। IARI-Jharkhand/Teb/ 2025-001	मोनिका एम, शिल्पी केरकेटा, पंकज कुमार सिन्हा, पवित्रा के एन, विशाल नाथ, सनत कुमार महंता, नुजैबा पी एम, अभय कुमार गिरी	2025
8	भारतिय कृषि अनुसंधान संस्थान। IARI-J/2024/EF-001	विशाल नाथ, सनत कुमार महंता, कृष्ण प्रकाश, दीपक कुमार गुप्ता	2024
9	ICAR-IARI Jharkhand at a Glance. IARI-J/2024/EF-002	Vishal Nath, Sanat Kumar Mahanta, Krishna Prakash, Dipak Kumar Gupta	2024
10	रबी दलहनी फसलों में रोग एवं कीट प्रबंधन। IARI-J/2024/EF-003	अनिमा महतो, शैनन एन संगमा, निरंजन कुमार, मोनू कुमार	2024
11	मसूर एबं चना की खेती में पोशक तत्व प्रबंधन। IARI-J/2024/EF-004	अनिमा महतो, आशा कुमारी, मोनू कुमार, पंकज कुमार सिन्हा, दीपक गुप्ता, सनत कुमार महंता	2024
12	चना एंव मसूर में गुणवत्तापूर्ण बीज उत्पादन। IARI-J/2024/EF-005	अनिमा महतो, मोनू कुमार, हिमानी प्रिया, कृष्ण प्रकाश, प्रियरंजन कुमार	2024
13	कीटनाषकों का विवेकपूर्ण उपयोग। IARI-J/2024/EF-006	निरंजन कुमार, शैनन एन संगमा, नुजैबा पी. एम., आशारानी पटेल, पी .के सिन्हा	2024
14	टमाटर का आर्थिक और पोशक महत्व। IARI-J/2024/EF-007	दामिनी मैथानी, प्रियंका खाती, जीवन बी, स्वाती लोहानी, आशा कुमारी, शैनन एन संगमा, विजया रानी, सौगत भटचार्जी	2024
15	सब्जी में ग्राफ्टिंग करने की तकनीकियाँ फायदे। IARI-J/2024/EF-008	साहेब पाल, कृष्ण प्रकाश, नरेन्द्र सिंह, विशाल नाथ	2024
16	झारखण्ड में बकरी पालन लाभ का धंधा। IARI-J/2024/EF-009	डॉ.शिल्पी केरकेटा, डॉ. सनत कुमार महंता, डॉ.मोनिका एम.	2024
17	नील हरित षैवाल (बीजीए) जैवउर्वरक उत्पादन एवं धान की खेती में इनका उपयोग। IARI-J/2024/EF-010	हिमानी प्रिया, रंजित सिंह, प्रियरंजन कुमार, दीपक कुमार गुप्ता, अनिमा महतो, आकाश ए., प्रीति सिंह, मनोज चौधरी	2024
18	संकर मक्का बीज उत्पादन की तकनीक। IARI-J/2024/EF-011	संतोष कुमार, प्रीति सिंह, आकाश ए., प्रियरंजन कुमार, विशाल नाथ	2024
19	कृशि में लाभप्रदता हेतु बेबी कॉर्न (शिशु मक्का) की वैज्ञानिक पद्धति द्वारा खेती। IARI-J/2024/EF-012	संतोष कुमार, प्रीति सिंह, निरंजन कुमार, शैनन एन संगमा, सनत कुमार महंता	2024
20	मक्के में पोशक तत्वों की कमी के लक्षण एवं आपूर्ति। IARI-J/2024/EF-013	प्रीति सिंह, संतोष कुमार, निरंजन कुमार, हिमानी प्रिया, शैनन एन संगमा	2024
21	कृषि मृदा में बायोचार का उपयोग। IARI-J/2024/EF-014	दीपक कुमार गुप्ता, आरती भाटिया, पंकज कुमार सिन्हा, चन्दन कुमार गुप्ता, विशाल नाथ	2024
22	Botanicals and Their Use in Pest Disease Management. IARI-J/2024/EF-015	Shannon N. Sangma, Niranjan Kumar, Asha Kumari, Pavithra K N , Nuzaiba P M and Asharani Patel	2024
23	कार्प मछली पालन के लिए बेहतर प्रबंधन पद्धतियॉ। IARI-J/2024/EF-016	अभय कुमार गिरी, दीपक कुमार गुप्ता, पंकज कुमार सिन्हा, कृष्ण प्रकाश, निरंजन कुमार, शैनन एन संगमा, एस.के. गुप्ता, डी. बरूआ	2024
24	प्रशिक्षण पुस्तिका: दलहनी फसलों में गुणवत्तायुक्त बीज उत्पादना IARI-J/2024/TEB-001	आनिम महतो, मोनू कुमार, प्रिय रंजन कुमार, सनत कुमार महंता, दीपक कुमार गुप्ता, कृष्ण प्रकाश, पंकज कुमार सिंह, आशा कुमारी	2024

RECOGNITION AND AWARDS

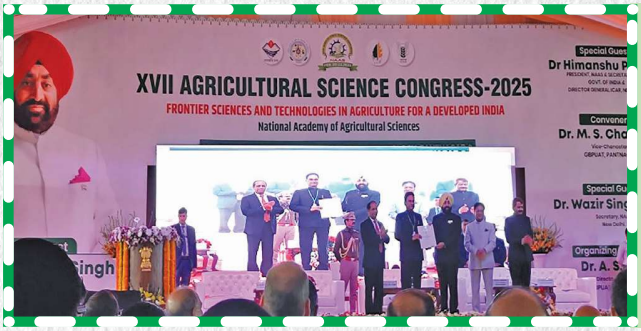
IARI-Jharkhand won silver medal in chess (women) by Dr Preeti Singh during its first participation in ICAR-Zonal Sports Tournament- (Eastern Zone)-2022 held at ICAR–IVRI Izatnagar during 24-27 April, 2023.

IARI-Jharkhand received two bronze medal [long jump men (Dr Pankaj Kumar Sinha) and discuss throw women (Dr Shilpi Kerketta)] in ICAR-Zonal Sports Tournament-(Eastern Zone)-2023 held at ICAR-NRRI, Cuttack during 13-16, December 2023.

IARI-Jharkhand has received runner-up trophy in the cricket tournament of ICAR-Zonal Sports Tournament-(Eastern Zone)-2024 held at ICAR-IVRI, Izatnagar during 06-09 May, 2025

IARI-Jharkhand received best exhibition award in national conference on “Landscape Management for Preventing Flood and Reservoir Sedimentation” held at Birsa Agricultural University, Kanke Ranchi during 22 - 24 September, 2022 organised by Indian association of Soil and Water Conservationists, Dehradun


National Conference on
LANDSCAPE MANAGEMENT FOR PREVENTING FLOOD AND RESERVOIR SEDIMENTATION (LMPFRS-2022)
22 - 24 September, 2022 at Birsa Agricultural University, Ranchi (Jharkhand)
Certificate of Best Exhibition Award
The best exhibition award is confered to the ICAR-IARI, Jharkhand for the exhibition stall putup by the Institute during the Conference organized by the Indian Association of Soil and Water Conservationists, Dehradun in collaboration with ICAR-Indian Institute of Soil and Water Conservation, Dehradun; Birsa Agricultural University, Ranchi; ICAR-Mahatma Gandhi Integrated Farming Research Institute, Motihari; Damodar Valley Corporation, Hazaribag; Directorate of Soil Conservation, Ranchi and Jharkhand State Watershed Mission, Ranchi.
(D. Mandal) Organizing Secretary
(Gopal Kumar) Organizing Secretary
(P.R. Ojasvi) Chairman



Dr Ch. Srinivasa Rao, Director of IARI, has been honoured with the prestigious N.S. Randhawa Award by the National Academy of Agricultural Sciences (NAAS), during the XVII Agricultural Science Congress 2025 held at Pantnagar.

Dr Viswanathan Chinnusamy, Joint Director (Research), ICAR-IARI, has been honoured with the prestigious NAAS Recognition Award during the XVII Agricultural Science Congress 2025, held at Pantnagar, in recognition of his outstanding contributions to agricultural research.

Dr Dipak Kumar Gupta, Scientist (SS) received Rajbhasha Gaurav Award (third) 2019-20 for co-authoring a hindi book "फल वज्ञिान और प्रबंधन" by department of official language, ministry of home affairs, government of India on 14th September, 2021 in presence of Honourable Union Home Minister, Shri Amit shah.

Dr Dipak Gupta received NESA-Distinguished Scientist Award by National Environmental Science Academy, New Delhi during International Conference on Natural Science and Green Technologies For Sustainable Development (NTSD-2022) during 30th November to 2nd December, 2022 at Goa University, Taleigao Plateau, Goa.

Dr P.K Sinha received Young Scientist Award in International Conference on "Natural Science and Green Technologies for Sustainable Development" (NTSD-2022) during 30th November to 2nd December, 2022 at Goa University, Taleigao Plateau, Goa.

Dr Narendra Singh received IARI Merit Medal for the Outstanding Academic Performance during PhD degree program at ICAR-Indian Agricultural Research Institute, New Delhi during the 63rd Convocation held on 22nd March 2025.

The Excellent in Research and Mentoring Award received by Dr Manoj Chaudhary from the International Conference on Innovation, Entrepreneurship, Incubation in Agriculture Science, Commerce and Social Sciences, during March 7-8, 2025 at the Janta College, Bakewar, Etawah, UP.

Dr Manoj Chaudhary was awarded with"Emerging Scientist Award" by Eco Fast Agri Solution in 9th International Agri-Horti Technology Conference and Expo (NAHEP- 2024), during 20th to 22nd December 2024 at the Central Institute of Agricultural Engineering Ground, Bhopal, MP.

Dr Manoj Chaudhary got Best Poster Award in the Global Soil Conference-2024 held at NAAS complex, New Delhi organized by ICAR, ISSS, IUSS and NAAS during Nov.,19-22,2024.

Dr Krishna Prakash received the Scientist of the Year Award in Horticulture at the International Agriculture Conference on Navigating Unique Trends in Agricultural Research, Innovation, Engineering, Nutrition, and Technology ("NUTRIENT-2025"), which took place on February 20–21, 2025. The conference was organized by Agri Meet Foundation Bharat in knowledge partnership with ICAR New Delhi, ICARDA (Lebanon), SFU (Russia), BGGI (Sangrur), NDRI (Karnal), SKLTGHU (Telangana), MHU (Karnal), and MGUVV (Durg, Chhattisgarh).

Dr Himani Priya was recognized with the Best Researcher Award by the Indian Society of Agriculture and Horticulture Research Development (ISAHRD) in Chandigarh, Punjab, India, during the 9th International Conference "Agrinext: Future Trends in Agriculture" (ICANFTA-2025). The conference, organized by the Department of Agriculture at Brainware University, Kolkata, took place from February 10th to 12th, 2025.

Mr. Ranjit Singh, Scientist, ICAR–IARI-Jharkhand, was awarded the prestigious Netaji Subhas-ICAR International Fellowship (2021–22) by the Indian Council of Agricultural Research (ICAR), New Delhi, dated 24th August 2022, to pursue his Ph.D. at the Asian Institute of Technology (AIT), Thailand) under the international fellowship scheme aimed at strengthening global academic exposure and research excellence.

Certificate of Achievement

The 2024 SDG Olympiad

In recognition of outstanding participation and dedication to advancing the Sustainable Development Goals (SDGs) during the 2.5 day SDG Olympiad Award event, held at the Learning Planet Institute in Paris, France.

This award is presented to:

Ranjit Singh

François Grey

François Taddei

SDG OLYMPIAD

Mr. Ranjit Singh, Scientist, recievied certificate of achievement for 2024 SDG Olympiad held at the Learning Planet Institute, Université Paris Cité, Paris, France and UNESCO from September 24th to 27th, 2024,

Dr Preeti Singh was awarded with Training award 2023 by International Humic Substance Society, USA for receiving three months training (05-11-2023 to 01-02-2024) under the guidance of Prof. Mgr. Ing. Jan Frouz, Director, Biology Centre CAS - ISBB Na Sádkách, České Budějovice, Czech Republic on topic “Soil organic matter stability and microbial community in relation to different plant species in restored soil”.

Dr Preeti Singh received a travel grant by the Council of the Indian Society of Soil Science to support her participation in the World Congress of Soil Science 2022, held in Glasgow, UK. The grant was sanctioned to partially cover either travel or registration expenses, enabling her to represent the institute at this prestigious international forum.

OFFICE BEARERS AND IMPORTANT COMMITTEES

Director /Director (In-charge) of ICAR-IARI Jharkhand

Sl. No.	Directors of IARI Jharkhand	Period
1.	Dr Trilochan Mohapatra	28.08.2015 – 21.02.2016
2.	Dr Ravinder Kaur (Acting)	
3.	Dr J. S. Sandhu (Acting)	
4.	Dr Ashok Kumar Singh, DDG Extension, ICAR, New Delhi (Add. Charge)	
5.	Dr Ashok Kumar Singh	18.01.2020 – 30.06.2024
6.	Dr T. R. Sharma, DDG Crop Science, ICAR, New Delhi (Add. Charge)	01.07.2024 – 26.12.2024
7.	Dr Cherukumalli Srinivasa Rao	26.12.2024 – To date

Officer on Special Duty (OSD) of ICAR- IARI Jharkhand

Sl. No.	OSD of IARI Jharkhand	Period
1.	Dr Rangnathan Ramani, Director, ICAR-NISA, Ranchi, Jharkhand	28.06.2015 - 30.06.2016
2.	Dr Dipankar Maiti, Head, CRURRS, ICAR-National Rice Research Institute, Hazaribag, Jharkhand	04.07.2016 - 05.02.2020
3.	Dr Devendra Kumar Yadav, ADG Seed, ICAR, New Delhi	05.02.2020 – 13.07.2021
4.	Dr Vishal Nath, OSD, IARI Jharkhand	14.07.2021- To date

Nodal Officers of IARI Jharkhand

Sl. No.	Nodal Officer of IARI Jharkhand	Period
1.	Dr K. V. Prasad, Professor, Div. of Floriculture & Landscaping, IARI, New Delhi	11.03.2014 – 04.10.2015
2.	Dr Sanjay Kumar Singh, Head, Div. of Fruit Science & Technology, IARI, New Delhi	04.10.2015 – 15.10.2017
3.	Dr A.R. Sharma, Principal Scientist, Div. of Agronomy, IARI, New Delhi	16.10.2017 - 17.07.2018
4.	Dr Tusar Kanti Behera, Prof. Div. of Vegetable Science, IARI, New Delhi	18.07.2018 - 27.04.2021

IMPORTANT COMMITTEES OF IARI JHARKHAND IN PAST 10 YEARS

S.N.	Committee Name	Name of staff	Designation	Period
1.	PME Cell	Dr S. K. Mahanta	Chairman	28.07.2021- To date
		Dr Dipak Kumar Gupta	Member and In charge-Technical cell	28.07.2021-21.08.2023
		Dr Pankaj Kumar Sinha	Member Secretary	28.07.2021- 21.08.2023
		Dr Niranjan Kumar	Member Secretary	22.08.2023- 12.05.2025
		Dr Nuzaiba P.M.	Member Secretary	13.05.2025- To date
		Dr Dipak Kumar Gupta	Co-chairman	13.05.2025- To date
2.	Academic Cell	Dr Vishal Nath	Academic Coordinator	2021 to To date
		Dr B. N. Mandal	PG Coordinator	June 2022 to 08.12.2024
		Dr Dipak Kumar Gupta	PG Coordinator	09.12.2024- To date
		Dr Monu Kumar	UG Coordinator	June 2022 to 08.12.2024
		Dr Sougata Bhattacharjee	UG Coordinator	09.12.2024- To date

S.N.	Committee Name	Name of staff	Designation	Period
3.	Farm Development & Resource Management Committee (FDRMC)	Dr S. K. Mahanta	Chairman	28.07.2021- 20.08.2023
		Dr Dipak Kumar Gupta	In-charge Farm	28.07.2021- 12.10.2022
		Dr Manoj Chaudhary	Chairman	13.10.2022-21.08.2023
		Dr Dipak Kumar Gupta	Co-chairman	13.10.2022-21.08.2023
		Dr Dipak Kumar Gupta	Chairman	21.08.2023- To date
		Dr Narendra Singh	Member Secretary	28.07.2021- To date
		Dr Asha Kumari	Co-chairman	13.05.2025-To date
4.	Institute Technology Management Unit (ITMU)	Dr Vishal Nath	Chairman	21.08.2023- To date
		Dr S. K. Mahanta	Co-chairman	13.05.2025-To date
		Dr Pankaj Kumar Sinha	Member Secretary	21.08.2023- To date
5.	Works & Estate Committee	Dr S. K. Mahanta	Chairman	28.07.2021- 13.05.2025
		Dr Pankaj Kumar Sinha	Co-chairman	28.07.2021-13.10.2022 16.05.2024-To date
		Dr B. N. Mandal	Chairman	13.05.2025- To date
		Sh. Surjit Kumar	Member Secretary	28.07.2021- 16.08.2023
		Sh. Sonu Kumar	Member Secretary	17.08.2023-15.05.2024
6.	Rajbhasha Karykarini Samiti	Dr Manoj Chaudhary	Chairman	28.07.2021- 12.05.2025
		Dr Shilpi Kerketta	Chairman	05.12.2024 - To date
		Dr Asha Rani Patel	Co-chairman	13.05.2025-To date
		Dr Monika M.	Member Secretary	16.05.2024- 12.05.2025
		Sh. Sonu Kumar	Member Secretary	13.05.2025- To date
7.	Purchase Advisory Committee (T)	Dr Priya Ranjan Kumar	Chairman	28.07.2021- 15.05.2024
		Dr Manoj Chaudhary	Co-chairman	17.08.2023-15.05.2024
		Dr Manoj Chaudhary	Chairman	16.05.2024- To date
		Dr Sougata Bhattacharjee	Co-Chairman	16.05.2024- 15.05.2025
		Sh. Surjit Kumar	Member Secretary	28.07.2021- 15.05.2024
		Sh. Sonu Kumar	Member Secretary	16.05.2024- To date
8.	Publication Committee	Mr. Ashok Kumar	Chairman	13.10.2022-16.08.2023
		Dr Niranjan Kumar	Chairman	17.08.2023- 12.05.2025
		Dr Priya Ranjan Kumar	Chairman	13.05.2025- To date
		Dr Dipak Kumar Gupta	Co-chairman	13.05.2025- To date
		Dr Santosh Kumar	Member Secretary	16.05.2024- To date
		Dr Sougata Bhattacharjee	Member Secretary (Annual Report)	16.05.2024- To date
9.	Transfer of Technology unit	Dr Pankaj Kumar Sinha	Chairman	28.07.2021- 12.05.2025
		Dr Abhay Kumar Giri	Chairman	13.05.2025- To date
		Dr Krishna Prakash	Co-chairman	13.05.2025- To date
		Dr Abhay Kumar Giri	Member Secretary	21.08.2023- 12.05.2025
		Dr Kashinath G. Teli	Member Secretary	13.05.2025- To date

S.N.	Committee Name	Name of staff	Designation	Period
10.	Implementation of SCSP, TSP & NEH schemes	Dr Krishna Prakash	Nodal Officer, SCSP	28.07.2021- To date
		Dr Monika M.	Member Secretary, SCSP	13.05.2025- To date
		Dr Santosh Kumar	Nodal Officer, TSP	28.07.2021- 15.05.2024
		Dr Pankaj Kumar Sinha	Nodal Officer, TSP	16.05.2024- 12.05.2025
		Dr Shilpi Kerketta	Nodal Officer, TSP	13.05.2025- To date
		Sh. Sushil Marandi	Member Secretary, TSP	13.05.2025- To date
		Dr Pankaj Kumar Sinha	Nodal Officer, NEH	28.07.2021- 15.05.2024
		Dr Shannon N. Sangma	Nodal Officer, NEH	16.05.2024- 21.02.2025
		Dr Abhay Kumar Giri	Nodal Officer, NEH	13.05.2025- To date
		Dr Shantesh R. Kamath	Member Secretary, NEH	13.05.2025- To date
11.	Seed Production Unit	Dr Priya Ranjan Kumar	Nodal Officer	21.08.2023- 12.05.2025
		Dr Priya Ranjan Kumar	Chairman	13.05.2025- To date
		Dr Dipak Kumar Gupta	Co-chairman	13.05.2025- To date
		Dr Santosh Kumar	Member Secretary	16.05.2024- 12.05.2025
		Dr Akash A.	Member Secretary	13.05.2025- To date
12.	Swatchh Bharat Abhiyan Committee	Dr Himani Priya	Chairman	28.07.2021- 20.08.2023
		Dr Niranjan Kumar	Chairman	21.08.2023- 12.05.2025
		Dr Anima Mahato	Chairman	13.05.2025- To date
		Dr Shilpi Kerketta	Member Secretary	28.07.2021- 12.05.2025
		Dr Nuzaiba P.M.	Member Secretary	13.05.2025- To date
13.	School Coordinators	Dr Priya Ranjan Kumar	School of Crop Improvement	11.10.2021-To date
		Dr Sanat Kumar Mahanta	School of Animal & Fisheries Sciences	11.10.2021-To date
		Dr Manoj Kumar Chaudhary	School of Natural Resource Management	11.10.2021-To date
14.	Library Committee	Dr Krishna Prakash	In-charge Library	28.07.2021- 27.08.2023
		Dr Krishna Prakash	Chairman	21.08.2023- 12.05.2025
		Dr Priya Ranjan Kumar	Chairman	13.05.2025- To date
		Sh. Sushil Marandi	Member Secretary	28.07.2021- To date
15.	Hostel Facilities Management Committee	Dr Pankaj Kumar Sinha	MoHR	21.08.2023- To date
		Dr Santosh Kumar	Chief Warden, Boys Hostel	21.08.2023- 15.05.2024
		Dr Narendra Singh	Chief Warden, Boys Hostel	16.05.2024- To date
		Dr Anima Mahato	Chief Warden, Girls Hostel	21.08.2023- 12.05.2025
		Dr Himani Priya	Chief Warden, Girls Hostel	13.05.2025- To date

S.N.	Committee Name	Name of staff	Designation	Period
16.	AKMU Cell	Dr Vishal Nath	Chairman	21.08.2023- 15.05.2024
		Dr B.N. Mandal	Chairman	16.05.2024- To date
		Dr Dipak Kumar Gupta	Member Secretary	21.08.2023- 15.05.2024
		Dr Pankaj Kumar Sinha	In-charge, Website Development	21.08.2023- 15.05.2024
		Sh. Vikram Verma	In-charge, Website Management	16.05.2024- To date
17.	HRD & Foreign Deputation Committee	Dr Vishal Nath	Nodal Officer	21.08.2023- To date
		Dr Himani Priya	Member Secretary	21.08.2023- 12.05.2025
		Dr Preeti Singh	Member Secretary	13.05.2025- To date
18.	Security Committee	Sh. Dilip Roy	Chairman	21.08.2023-15.05.2024
		Sh. Vikram Verma	Charman	16.05.2024- 12.05.2025
		Dr Priya Ranjan Kumar	Chairman	13.05.2025- To date
		Sh. Sushil Marandi	In-charge Security and Member Secretary	21.08.2023- To date
19.	Sports Committee	Dr Dipak Kumar Gupta	Chairman	21.08.2023- To date
		Dr Preeti Singh	Member Secretary	21.08.2023- 12.05.2025
		Dr Akash A.	Member Secretary	13.05.2025- To date
20.	Cultural Committee	Dr Shilpi Kerketta	Chairman	21.08.2023- To date
		Dr Shannon N. Sangma	Member Secretary	21.08.2023- 21.02.2025
		Dr Kashinath Teli	Member Secretary	13.05.2025- To date
21.	Grievance Redressal Cell	Dr Priya Ranjan Kumar	Chairman	21.08.2023- 12.05.2025
		Dr B.N. Mandal	Chairman	13.05.2025- To date
		Sh. Surjit Kumar	Member Secretary	16.05.2024- To date
22.	Placement Cell	Dr Priya Ranjan Kumar	Chairman	13.05.2025- To date
		Dr Akash A.	Member Secretary	13.05.2025- To date
23.	Exam cell	Dr Abhay Kumar Giri	In-charge	18.07.2023 To date
		Dr Shannon N Sangma	Chairman PG section	02.02.2024 -20-02-2025
		Dr Asha Kumari	Chairman UG section	02.02.2024 To date
24.	Standing committee for Evaluation technical bids	Dr Dipak Kumar Gupta	Chairman	23.01.2024-12.05.2025
		Sh. Sonu Kumar	Member secretory	23.01.2024-12.05.2025
24.	Standing committee for Evaluation financial bids	Dr Dipak Kumar Gupta	Chairman	23.01.2024-12.05.2025
		Sh. Sonu Kumar	Member secretory	23.01.2024-12.05.2025
25.	Special committees for bringing mother plant of fruit crops from various institute	Dr Krishna Prakash	Coordinator	July-September 2022
		Dr Krishna Prakash	FRS, Sangarready and Periakulam; CHES, Godhra	
		Dr Vishal Nath	CISH, Lucknow	
		Dr Dipak Kumar Gupta	CIAH, Bikaner	
		Dr Pankaj Kumar Sinha	IIHR, Bangalore	

TIME LINE OF JOINING OF STAFFS AT IARI-JHARKHAND

Dr Cherukumalli Srinivasa
Director-cum-Vice Chancellor, IARI-Jharkhand
December 26, 2024

Year 2020

Dr Priya Ranjan Kumar
(DOJ at IARIJ: 02/06/2020)
Principal Scientist
(Genetics and Plant Breeding)
ourprk@gmail.com

Dr Monu Kumar
(04/06/2020- 02/06/2025)
Scientist

Dr Santosh Kumar
(DOJ at IARIJ 08/06/2020)
Scientist
(Genetics and Plant Breeding)
saan503@gmail.com

Dr Himani Priya
(DOJ at IARIJ 12/06/2020)
Scientist
(Agricultural Microbiology)
himani20313@gmail.com

Dr Anima Mahato
(DOJ at IARIJ 16/06/2020)
Scientist
(Genetics and Plant Breeding)
anima.mahato87@gmail.com

Dr Krishna Prakash
(DOJ at IARIJ 22/06/2020)
Scientist
(Horticulture)
kprakash8007@gmail.com

Dr Pankaj K. Sinha
(DOJ at IARIJ: 22/06/2020)
Sr. Scientist
(Agricultural Extension)
pk.manvotkarsh@gmail.com

Dr Preeti Singh
(DOJ at IARIJ 22/06/2020)
Scientist
(Soil Science)
singh.preeti8888@gmail.com

Dr Dipak K. Gupta
(DOJ at IARIJ: 26/06/2020)
Sr. Scientist
(Environmental Sciences)
dipakbauiari@gmail.com

Dr Manoj Chaudhary
(DOJ at IARIJ: 26/06/2020)
Sr. Scientist
(Soil Science)
manoj310975@gmail.com

Mr. Surjeet Kumar
(19/08/2020)
Assistant Administrative Officer
surjit.kumar@icar.gov.in

Mr. Sushil Marandi
(01/12/2020)
Assistant Chief Technical Officer
sushil.marandi@icar.gov.in

Year 2021

Dr Shilpi Kerketta
(DOJ at IARIJ 01/04/2021)
Scientist
(Livestock Prod. & Man.)
drspkvet@gmail.com

Dr Ranjit Singh
(DOJ at IARIJ 06/04/2021)
Scientist
Agri. Structure & Process Eng.
86ranjitsingh@gmail.com

Dr Sanat K. Mahanta
(DOJ at IARIJ: 09/04/2021)
Principal Scientist
(Animal Nutrition)
pme.iarijharkhand@gmail.com

Dr Vishal Nath
(DOJ at IARIJ: 14/07/2021)
Officer on Special Duty (OSD)
Principal Scientist (Horticulture)
vishalnath1966@gmail.com

Dr Shannon N. Sangma
(28/09/2021- 21/02/2025)
Scientist
(Agril. Chemicals)

Dr Sougata Bhattacharjee
(DOJ at IARIJ 19/10/2021)
Scientist
(Agricultural Biotechnology)
biotech.sougata@gmail.com

Year 2021

Dr Asha Kumari
(DOJ at IARIJ 21/10/2021)
Scientist
(Plant Physiology)
asha.sasrd@gmail.com

Dr Ashok Kumar
(DOJ at IARIJ 10/12/2021)
Scientist
(Plant Biochemistry)
aks.iari@gmail.com

Year 2022

Dr B. N. Mandal
(DOJ at IARIJ 22/08/2022)
Sr. Scientist
(Agricultural Statistics)
bn.mandal@icar.gov.in

Year 2023

Mr. Dilip Roy
(02.01.2023- 22/01/2025)
Chief Administrative Officer (SG)

Dr Niranjan Kumar
(DOJ at IARIJ 04/03/2023)
Scientist
(Agril. Chemicals)
niranjan0333@gmail.com

Dr Abhay K. Giri
(DOJ at IARIJ: 13/03/2023)
Scientist
(Aquaculture)
abhayaq.maa@gmail.com

Year 2023

Dr R. Bharathi Rathinam
(11/04/2023-11/12/2023)
Scientist
(Fish Health)

Dr Nuzaiba P.M.
(DOJ at IARIJ 11/04/2023)
Scientist
(Fish Nutrition)
nuzaibapmuhammed@gmail.com

Dr Asharani Patel
(DOJ at IARIJ 21/04/2023)
Scientist
(Plant Pathology)
asharani11310@gmail.com

Mr. Rajnish Kumar
(DOJ at IARIJ 05/06/2023)
Finance and Account Officer
mk08511@gmail.com

Dr Saheb Pal
(DOJ at IARIJ 21/07/2023)
Scientist
(Vegetable Science)
saheb.horti@gmail.com

Mr. Akash A.
(DOJ at IARIJ 21/07/2023)
Scientist
(Seed Science and Technology)
akashrao64@gmail.com

Year 2023

Dr Monika M.
(DOJ at IARIJ 21/07/2023-
20/06/2025)
Scientist (Poultry Science)
monikakanimozhi@gmail.com

Dr Pavithra K. N.
(DOJ at IARIJ 21.07/2023)
Scientist (Agricultural
Economics)
pavithraharsha6@gmail.com

Dr Narendra Singh
(DOJ at IARIJ 21/07/2023)
Scientist (Fruit Science)
narendrahorti94@gmail.com

Mr. Sonu Kumar
(01/08/2023)
Assistant Administrative Officer
sonu.kumar2@icar.gov.in

Dr Kashinath G. Teli
(DOJ at IARIJ 30/10/2023)
Scientist
(Agronomy)
kashinath.teli27@gmail.com

Year 2024

Dr Priti Tigga
(DOJ at IARIJ 26/02/2024)
Scientist (Soil Physics)
Prititigga31@gmail.com

Year 2024

Mr Vikram Verma
(DOJ at IARIJ 20/04/2024)
Administrative Officer
vikram2506v@gmail.com

Dr Shantesh Kamath
(DOJ at IARIJ 24/05/2024)
Scientist
Floriculture and Landscaping
shanteshkamath@gmail.com

Mr Arun Kumar Rajak
(24/04/2024), T1
ak437285@gmail.com

Mr Jay Prakash Narayan
(26.04.2024), T1
prakashjnarayan@gmail.com

Mr. Jitendra K. Mandal
(26/04/2024), T1
jmandal765@gmail.com

Mr. Vikash Kumar
(26/04/2024), T1
kumardipusingh@gmail.com

Year 2024

Mr. Satyam Kumar
(26/04/2024), T1
shivomk7274@gmail.com

Mr. Dharmendra K.Yadav
(25/04/2024) T1
dharmendra756293@gmail.com

Dilsad Alam Ansari
(03/05/2024- 12/08/2024)
Technician T1

Mr. Rajendra K. Meena
(07/05/2024) T1
rajendra050588@gmail.com

Mr. Rahul
(08/05/2024), T1
rahul.nitmz@gmail.com

Year 2025

Mr. Omkar Pushp
(07/01/2025), Assistant
omkar.pushp@icar.org.in

Year 2025

Mr Prashant Kumar
(DOJ at IARIJ 03/02/2025)
Comptroller
prashant.kumar@icar.org.in

Mr. Subodh Neeraj
(DOJ at IARIJ 10/02/2025)
Chief Administrative Officer
subodh.neeraj@icar.org.in

Dr Mukesh K. Tiwari
(DOJ at IARIJ: 29/05/2025)
Sr. Scientist
(Land and Water Management)
tiwari.iitkgp@gmail.com

Dr Prabhat K. Guru
(DOJ at IARIJ: 03/06/2025)
Sr. Scientist
(Farm Machinery and Power)
prabhatkumarguru@gmail.com

Dr Nirmal
(DOJ at IARIJ: 6/17/2025)
Sr. Scientist
(Agroforestry)

FIRST BLOOMS OF IARI-JHARKHAND

Barnyard Millet
(Echinochloa esculenta)

Foxtail Millet
(Setaria italica)

Jowar
(Sorghum bicolor)

Ragi
(Eleusine coracana)

Bajra
(Pennisetum glaucum)

Mustard

Potato

Pigeonpea

Chickpea

Papaya
Carica papaya

Mango
(Variety Arunika)

Mango
(Variety Mallika)

Pomegranate
(Variety Bhagva)

Sweet Orange cv. Mosambi

Peach

Mulberries
(Morus spp.)

304_(0625)_Anapurna Press and Process 6287999194

भा.कृ.अनु.प.– भारतीय कृषि अनुसंधान संस्थान - झारखंड

गौरिया करमा (खेरोन), हज़ारीबाग - 825 405

ICAR-Indian Agricultural Research Institute - Jharkhand

Gauria Karma (Kheron), Hazaribagh - 825 405

Contact: 06543 29918; E-mail: iarijharkhand@gmail.com

Website: http://www.iarij.res.in