



Profile of ICAR-AICRP on Tuber crops



All India Co-ordinated Research Project on Tuber crops (other than potato) was initiated during the fourth five year Plan in 1968; for networking research and extension activities in root and tuber crops. The project started working initially at three agricultural universities viz., RAU, Dholi; TNAU, Coimbatore and APAU, Rajendranagar with headquarters at RAU, Dholi. During 1970s, seven more centres were added. The headquarters of the Project shifted to the Regional Station of ICAR-CTCRI, Bhubaneswar during 1983. The headquarters of the Project was relocated at the ICAR Central Tuber Crops Research Institute, Thiruvananthapuram from 1997. At present there are twenty one centres, located in twelve State Agricultural Universities, three ICAR Institutes and two Central Agricultural Universities covering eleven Agro climatic regions. The Director ICAR-CTCRI, Thiruvananthapuram coordinates and supervises the research and extension activities of the centres as the Project Coordinator of AICRP on Tuber Crops.

Vision

Root and tubers for ensuring better health, wealth generation and inclusive growth.

Mission

For generating region-specific improved varieties with quality traits, agronomic interventions and production system technologies including disease and pest management along with creating awareness among the farming community, policy makers and researchers.

Mandate

- Collection of germplasm of root and tuber crops from different regions of the country particularly from the tribal/ hilly areas and maintaining them in the field gene bank.
- Evaluation of germplasm for economically important traits including high yield, quality, short duration, tolerance/ resistance to biotic and abiotic stress and sharing of promising entries among the centres.
- Carrying out regional/ location specific trials to identify improved varieties suitable to different agro-climatic conditions.
- Standardization of suitable agro-techniques and cropping systems for improved varieties of different root and tuber crops in different regions, to enhance the productivity.
- Evolve suitable and effective management tactics for major pests and diseases of tuber crops.
- To popularize and create awareness on the importance and nutritional aspects of major tuber crops.
- To organize production and supply of healthy planting materials of major tuber crops in liaison with State Agri/ Horti. Departments and voluntary agencies like KVKs/ NGOs.

Mandate Crops

Crop	Scientific Name	Family
Cassava	<i>Manihot esculenta</i> Crantz	Euphorbiaceae
Sweet potato	<i>Ipomoea batatas</i> (L.) Lam.	Convolvulaceae
Greater yam	<i>Dioscorea alata</i> L.	Dioscoreaceae
White yam	<i>Dioscorea rotundata</i> Poir.	Dioscoreaceae
Lesser yam	<i>Dioscorea esculenta</i> (Lour.) Burk.	Dioscoreaceae
Aerial yam	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae
Other yams	<i>Dioscorea hispida</i> Dennst.	Dioscoreaceae
	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae
Taro	<i>Colocasia esculenta</i> var. <i>antiquorum</i> (L.) Schott.	Araceae
Dasheen taro (Bunda)	<i>Colocasia esculenta</i> var. <i>esculenta</i> (L.) Schott.	Araceae
Swamp taro	<i>Colocasia stoloniferum</i> (L.) Schott.	Araceae
Tannia	<i>Xanthosoma sagittifolium</i> (L.) Schott.	Araceae

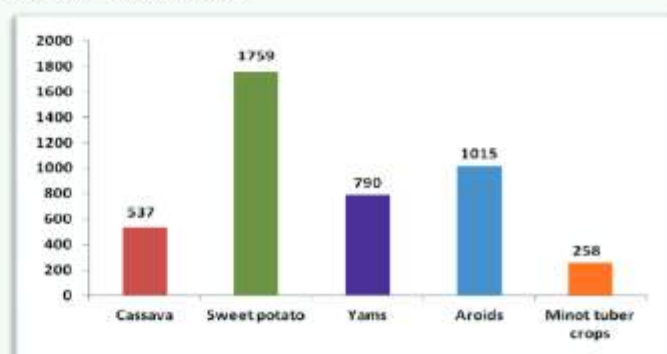
7	Assam Agricultural University, Jorhat, Assam	1971	Cassava, Sweet potato, Aroids and Yams	Eastern Himalayan Region
8	Dr. Balasaheb Sawant Konkan Krishi idyapeeth, Dapoli, Maharashtra	1975	Cassava, Sweet potato, Colocasia, Elephant foot yam and Yams	West Coast Plains and Hills
9	ICAR Research Complex for NEH Region, Barapani, Meghalaya	1975	Sweet potato and Aroids	Eastern Himalayan Region
10	Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal	1976	Sweet potato, Aroids, Yam bean, and Yams	Lower Gangetic Plains
11	Regional Station, ICAR-CTCRI, Bhubaneswar, Odisha	1983	Cassava, Sweet potato, Aroids, Yam bean and Yams	East Coast Plains and Hills
12	Birsa Agricultural University, Ranchi, Jharkhand	1987	Sweet potato, Colocasia, Elephant foot yam and Yam bean	Eastern Plateau and Hills
13	Shaheed Gundadbur College of Agriculture and Research (SGCARS), Indira Gandhi Krishi Vishwavidyalaya, Jagdalpur, Chhattisgarh	1987	Cassava, Sweet potato, Yams and Aroids	Eastern Plateau and Hills
14	ASPEE College of Horticulture and Forestry Navsari Agricultural University, Navsari, Gujarat	1994	Cassava, Sweet potato, Aroids and Yams	Gujarat Plains and Hills
15	ICAR-Central Island Agricultural Research Institute, Port Blair, A & N Islands	2000	Cassava, Sweet potato, Yams and Elephant foot yam	Islands
16	Central Agricultural University, Imphal, Manipur	2006	Cassava, Sweet potato, Aroids and Yams	Eastern Himalayan Region
17	Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	2006	Aroids and Sweet potato	Central Plateau and Hills
18	University of Horticultural Sciences, Dharwad, Karnataka	2007	Sweet potato and Aroids	West Coast Plains and Hills
19	Chaudhary Sawan Kumar Himachal Pradesh Krishi Viswavidyalaya, Palampur, Himachal Pradesh	2014	Elephant foot yam and Taro	Western Himalayan Region
20	Sri Konda Laxman Telangana State Horticultural University, Rajendranagar, Telangana	2015	Sweet potato and Aroids	Southern Plateau and Hills
21	Regional Station, ICAR Research Complex for NEH Region, Lembucherra, Tripura	2015	Aroids and Yams	Eastern Himalayan Region

Linkages & Collaborations

- CIP
- State Agricultural Universities
- Central Agricultural University
- ICAR Institutes
- State Department of Agriculture/Horticulture
- KVK's
- NGO's

Biodiversity of Tuber Crops

Total 4359 germplasm of 18 different tuber crops and other minor crops are being maintained at different AICRPTC centres.



Centres identified for conservation

Crop	Main Centres	Backup Centres
Cassava	TNAU, Yethapur	Dr. YSRHU, VR Gudem
Sweet potato	RAU, Dholi	CTCRI, RC, Bhubaneswar
Elephant foot yam	YSRHU, Kovvur	BCKV, Kalyani
Greater yam	IGKV, Jagdalpur	MPUAT, Udaipur
Lesser yam	Dr. BSKKV, Dapoli	MPUAT, Udaipur
Aerial yam	Dr. BSKKV, Dapoli	IGKV, Jagdalpur
Taro	AAU, Jorhat	Dr. YSRHU, Rajendranagar
Tannia	AAU, Jorhat	CAU, Imphal
Swamp taro	BCKV, Kalyani	AAU, Jorhat
Bunda	NDUAT, Faizabad	BCKV, Kalyani
Yam bean	CTCRI, RC, Bhubaneswar	BAU, Ranchi
Minor tuber crops	IGKV, Jagdalpur	TNAU, Coimbatore

Varieties Released

A total of 101 varieties of different tuber crops were released for all India and state wise after evaluation in different agro climatic region.

Crop	Varieties released	State/ region
1. Cassava (23)		
Central Release (12)	Sree Sahya	Kerala, Assam, Andhra Pradesh, Karnataka, Tamil Nadu and North Eastern Region
	Sree Visakhm	Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Assam and North Eastern Region
	Sree Harsha	Kerala, Tamil Nadu
	Sree Jaya	Kerala, Tamil Nadu
	Sree Vijaya	Kerala, Tamil Nadu
	Sree Prabha	Kerala, Tamil Nadu, Karnataka, Andhra Pradesh
	Sree Kaveri	Kerala, Tamil Nadu and Andhra Pradesh
	Sree Sakthi	Kerala, Maharashtra, Tamil Nadu and Andhra Pradesh (Central release)
	Sree Reksha	Kerala, Tamil Nadu, Maharashtra and Andhra Pradesh
	Sree Padmanabha	Kerala, Tamil Nadu
	Sree Rekha	Kerala, Tamil Nadu, Karnataka, Andhra Pradesh
	Dr. YSRHU Aditya	Andhra Pradesh, Telangana
State Release (11)	CO 2	Tamil Nadu
	Sree Prakash	Kerala
	CO 3	Tamil Nadu
	CO 1	Tamil Nadu
	CO (TP) 4	Tamil Nadu
	Tapioca YTP -1	Tamil Nadu
	Sree Athulya	Plains of Tamil Nadu

	Sree Apoorva	Plains of Tamil Nadu
	Sree Swarna	Kerala
	Chhattisgarh Cassava-1	Chhattisgarh (Bastar Region)
	PDP CMR-1	Coastal belts of Andhra Pradesh
2. Sweet potato (35)		
Central Release (9)	Rajendra Sakarkand-5	Plains of Bihar, Jharkhand, Uttar Pradesh
	Rajendra Sakarkand-35	Bihar, Assam, Karnataka, West Bengal, Jharkhand
	Rajendra Sakarkand-43	Bihar, Assam, Karnataka, Andhra Pradesh, Maharashtra and Jharkhand
	Rajendra Sakarkand-47	Bihar, Jharkhand, West Bengal and Uttar Pradesh
	Kiran	Andhra Pradesh, Bihar
	Sree Bhadra	Kerala, Maharashtra, Bihar & Madhya Pradesh
	Kalinga	Odisha, Bihar, Jharkhand and West Bengal
	Indira Priya	Chhattisgarh, Tamil Nadu
	Indira Narangi	Chhattisgarh, Andhra Pradesh
State Release (26)	CO 1	Tamil Nadu
	CO 2	Tamil Nadu
	CO 3	Tamil Nadu
	Varsha	Konkan region of Maharashtra
	Sree Nandhini	Kerala
	Sree Vardhini	Kerala
	Samrat	Andhra Pradesh
	Sree Rethna	Kerala
	Gouri	Odisha
	Sankar	Odisha
	COCIP-1	Tamil Nadu
	Konkan Ashwini	Konkan region and adjoining area
	Narendra Shakarkand-9	Uttar Pradesh
	Rajendra Sakarkand-92	Plains of Bihar
	Goutam	Odisha, suitable in hilly coastal areas of Odisha
	Kishan	Odisha
	Sourin	Odisha
	Indira Naveen	Chhattisgarh
	Indira Nandini	Chhattisgarh
	Kamala Sundari	West Bengal
	CO 5	Tamil Nadu
	Bhu Kanti	Odisha
	Bhu Ja	Odisha
	Bhu Swami	Odisha
	Bhu Sona	Odisha
	Bhu Krishna	Odisha

3. Lesser yam (2)		
State Release (2)	Konkan Kanchan	The Konkan region and adjoining area of Maharashtra
	Sree Kala (DE-55)	Coastal and interior plains of Kerala
4. Greater yam (8)		
Central Release (1)	IGDa- 2	Chhattisgarh, Gujarat
State Release (7)	CO 1	Tamil Nadu
	Sree Shilpa (DAS-197)	Coastal and interior plains of Kerala
	Konkan Ghorkand	The Konkan region and adjoining area
	Orissa Elite	Odisha
	Sree Swathy	Kerala
	Bhu Swar	Odisha
	Dr. YSRHU Sabari	Andhra Pradesh
5. Taro (20)		
Central Release (8)	Satamukhi	Andhra Pradesh, Bihar, West Bengal, Tamil Nadu, Kerala, Bihar
	Narendra Arvi-2	Uttar Pradesh and Bihar
	Muktakeshi	Odisha, Chhattisgarh and Jharkhand
	Indira Arvi-1	Chhattisgarh and Madhya Pradesh
	Rajendra Arvi-1	Bihar, Jharkhand and Chhattisgarh
	Bhavapuri	Coastal region of Andhra Pradesh, Telangana
	Megha Taro 2	Meghalaya, Bihar, Jharkhand and Andaman and Nicobar Islands
	Bidhan Bijaya	Maharashtra and Telangana
State Release (12)	Sree Pallavi	Kerala
	Sree Rashmi	Kerala
	CO 1	Tamil Nadu
	Narendra Arvi-1	Uttar Pradesh
	Bidhan Chaitanya	West Bengal
	Pani Saru-1	Coastal areas of Odisha
	Pani Saru-2	Odisha
	Chhattisgarh Arvi 2	Chhattisgarh
	Bhu Kripa	All over Odisha
	Bhu Sree	Odisha
	Godavari Chema	Andhra Pradesh
	Bidhan Kachu 9	West Bengal
6. Bunda (1)		
Central Release (1)	Narendra Bunda 1	Uttar Pradesh and Arunachal Pradesh
7. Elephant foot yam (5)		
Central Release (2)	Gajendra	Andhra Pradesh, Tamil Nadu, Kerala, West Bengal
	Bidhan Kusum	West Bengal, Andhra Pradesh and Bihar
State Release (3)	Sree Padma	Kerala
	Bidhan Oal 3	West Bengal
	Bidhan Ghat Kachu	West Bengal

8. Tannia (1)		
State Release (1)	Konkan Haritparni	The Konkan region and adjoining areas
9. Chinese Potato (2)		
Central Release (1)	Sree Dhara	Kerala, Tamil Nadu
State Release (1)	CO 1	Tamil Nadu
10. Yam Bean (2)		
Central Release (1)	Rajendra Mishrikand-1	North Bihar and West Bengal
State Release (1)	Rajendra Mishrikand-3	Bihar
11. Aerial Yam (2)		
State Release (1)	CG Dang Kanda- I	Chhattisgarh
Central Release (1)	Konkan Kalika	Maharashtra, Chhattisgarh

Production Technologies

AICRP on Tuber Crops has conducted several location specific production technology experiments at different zones through its centres and identified many adaptive technologies for improving the production and productivity of tuber crops.

1. Establishment of seed collages and decentralised seed multipliers for fast spread of varieties.
2. Ecoregional agrotechniques to reduce cost and maximize production.
3. Productive and profitable cropping and farming system models.
4. Organic production packages for crops and cropping systems.
5. Integrated nutrient management.
6. Nutrient use efficient varieties.
7. Customized fertilizers and micronutrient formulations for different agroecozones.
8. Precision nutrient and water management.
9. Integrated weed management.
10. Experiments on natural farming and nanofertilizers.

Plant Protection Technologies

1. Integrated pest and diseases management
2. Bioactive molecules from cassava crop residues
3. Organic management of collar rot of elephant foot yam
4. Organic management of post harvest rot in elephant foot yam

Developmental Programmes

All the AICRP TC centres undertook special schemes such as TSP, SCSP and NEH for improving the food, nutrition and livelihood security of these special segments of our society. All the centres regularly conduct extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations,

webinars, kisan melas, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken up on a regular basis by all the 21 centres. Implementation of SCSP and TSP programmes since 2012 has significantly improved the living standards of scheduled caste and scheduled tribes in the project sites spread across 18 states/ union territories.

Planting Material Production

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by all the centres. All centres initiated identification of decentralised seed multipliers /progressive farmers /SHGs for strengthening planting material production and distribution of newly released varieties. The centres produced a total of 15,98,083 stems of cassava, 197,77,741 vine cuttings of sweet potato, 247.2 tons of elephant foot yam, 83.5 tons of taro, 6.45 tons of dasheen taro, 108.10 tons of greater yam, as part of planting material production programme for the last 9 years.

Project Coordinators

Sl. No.	Name	Period
1	Dr. M.L. Magoon i/c	April 1968-April 1971
2	Dr. R.C. Mandal i/c	April 1971-April 1972
3	Dr. N. Hrishi i/c	April 1972-Mar. 1979
4	Dr. S.P. Varma	Mar. 1979-Aug. 1994
5	Dr. P.G. Rajendran	Aug. 1994-Aug. 2003
6	Dr. M.S. Palaniswami	Sept. 2003-June 2010
7	Dr. C.S. Ravindran i/c	July 2010-Sept. 2010
8	Dr. James George	Sept. 2011-Jan. 2019
9	Dr. Archana Mukherjee i/c	Feb. 2019-Oct. 2019
10	Dr. V. Ravi i/c	Nov. 2019-May 2021
11	Dr. M.N. Sheela i/c	June 2021-Jan. 2023
12	Dr. G. Byju	Jan. 2023- continuing

Awards

- Chaudhary Devi Lal Outstanding All India Coordinated Research Project (AICRP) Award (2007).
- Outstanding Grading by QRT 2014-2019.



Aditya



Bhu Sona



Sree Swathy



Gajendra



Bidan Kusum



CG Dang Kanda



Muktakeshi



Sree Gouri

Annual Group Meetings

Sl.No.	Past Ten Annual Group Meetings	Name of the Centre	Duration
1	14 th Annual Group Meeting	BAU, Kanke, Ranchi, Jharkhand	20-22 May 2014
2	15 th Annual Group Meeting	Dr. YSRHU, VR Gudem, Andhra Pradesh	23-25 April 2015
3	16 th Annual Group Meeting	BCKV, Kalyani, West Bengal	20-22 April 2016
4	17 th Annual Group Meeting	UHS, Bagalkot, Karnataka	28-30 April 2017
5	18 th Annual Group Meeting	ICAR-CTCRI, Thiruvananthapuram, Kerala	26-28 April 2018
6	19 th Annual Group Meeting	ICAR-CTCRI, Thiruvananthapuram, Kerala	13-15 June 2019
7	20 th Annual Group Meeting	Online Zoom Meeting	10-12 June 2020
8	21 st Annual Group Meeting	Online Zoom Meeting	27-28 June 2021
9	22 nd Annual Group Meeting	ICAR Research Complex for NEH Region, Umiam, Barapani, Meghalaya	11-13 May 2022
10	23 rd Annual Group Meeting	BCKV, Kalyani, West Bengal	10-12 May 2023

June 2024

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