All India Coordinated Research Project on Tuber Crops - A Profile

भाकृअनुप
ICAR

भाकृअनुप – केंद्रीय कंद फसल अनुसंधान संस्थान

श्रीकार्यम, तिरुवनंतपुरम 695017, केरल, भारत

(भारतीय कृषि अनुसंधान परिषद)

ICAR-Central Tuber Crops Research Institute

Sreekariyam, Thiruvananthapuram - 695017, Keralam, India

(Indian Council of Agricultural Research)

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Contents

Sl. No.	Name	Page No.
1.	Foreword	i-ii
2.	Introduction	1-4
3.	Assam Agricultural University, Jorhat, Assam	5-7
4.	Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal	8-12
5.	Birsa Agricultural University, Ranchi, Jharkhand	13-15
6.	Chaudhary Sawan Kumar Himachal Pradesh Krishi Viswavidyalaya, Palampur, Himachal Pradesh	16-17
7.	Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra	18-20
8.	Dr. YSR Horticultural University, Kovvur, Andhra Pradesh	21-23
9.	Dr. YSR Horticultural University, Peddapuram, Andhra Pradesh	24-26
10.	Indira Gandhi Krishi Vishwavidyalaya, Jagdalpur, Chhattisgarh	27-22
11.	Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	33-34
12.	Navsari Agricultural University, Navsari, Gujarat	35-36
13.	Sri Konda Laxman Telangana Horticultural University, Rajendranagar, Telangana	37-39
14.	Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu	40-44
15.	Tapioca and Castor Research Station, TNAU, Yethapur, Tamil Nadu	45-47
16.	University of Horticultural Sciences, Bagalkot, Karnataka	48-49
17.	Central Agricultural University, Imphal, Manipur	50-51
18.	Dr. Rajendra Prasad Central Agricultural University, Dholi, Bihar	52-56
19.	ICAR-Central Island Agricultural Research Institute, Port Blair, Andaman & Nicobar Islands	57-58
20.	ICAR-Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram, Kerala	59-69
21.	ICAR-Research Complex for NEH Region, Barapani, Meghalaya	70-71
22.	ICAR-CTCRI, Regional Station, Bhubaneswar, Odisha	72-79
23.	ICAR-Research Complex for NEH Region, Regional Station, Lembucherra, Tripura	80-81

Foreword

The All India Coordinated Research Project on Tuber Crops (AICRP-TC) stands as one of the longest-running and most successful coordinated research networks of the Indian Council of Agricultural Research (ICAR). Established in 1968 with only three centres, the project has steadily evolved into a vibrant national consortium comprising 21 centres located in State Agricultural Universities, ICAR Institutes and Central Agricultural Universities, representing 11 agro-climatic regions of the country. Over nearly six decades, AICRP-TC has provided an effective platform for multidisciplinary, multi-location and demand-driven research, making significant contributions to enhancing productivity, nutritional security, livelihood improvement and climate resilience through tropical tuber crops.

The mandate of AICRP-TC encompasses germplasm collection and enrichment, systematic evaluation of genetic resources, development of high-yielding and stress-tolerant varieties, production of quality planting materials, standardization of crop production technologies, identification and management of region-specific production constraints, and technology dissemination. The network addresses not only the major tropical tuber crops-cassava, sweet potato, yams, taro and elephant foot yam-but also several underutilized species such as arrowroot, yam bean, tannia, Chinese potato and other indigenous tuber crops, thereby promoting crop diversification, nutritional security and sustainable farming systems.

Over the years, the coordinated efforts of scientists across the country have generated a remarkable repository of technologies and innovations. Among the most significant achievements has been the development and release of 105 improved varieties, comprising 27 cassava, 36 sweet potato, 18 taro, 8 greater yam, 4 elephant foot yam, 2 lesser yam, 2 aerial yam, 2 arrowroot, 3 yam bean, 2 Chinese potato and 1 dasheen taro variety. These cultivars have substantially enhanced productivity, improved resistance to pests and diseases, strengthened tolerance to abiotic stresses, enriched nutritional quality and expanded farmers' choices across diverse agro-ecological regions. Alongside varietal development, the project has generated location-specific production technologies, integrated nutrient, water and pest management practices, quality planting material production systems and sustainable cropping strategies that have significantly contributed to improved productivity and profitability.

A defining strength of AICRP-TC has been its unwavering commitment to translating research into tangible benefits for farmers. Recognizing that research achieves its true value only when adopted in farmers' fields, the network has consistently emphasized technology dissemination through farmer training programmes, frontline demonstrations, capacity building and

decentralized seed systems. To date, the project has organized 551 farmer training programmes and 622 frontline demonstrations, facilitating rapid adoption of improved varieties and production technologies. During 2020-2025, the participating centres produced more than 1.14 million cassava stems and 12.69 million sweet potato vine cuttings, besides substantial quantities of quality planting materials of elephant foot yam, taro, yams, arrowroot, tannia, yam bean and other tuber crops, thereby strengthening quality seed systems and ensuring wider availability of healthy planting materials across the country.

The success of AICRP-TC lies not merely in its scientific outputs but in the collaborative spirit that binds its participating institutions. By integrating the strengths of State Agricultural Universities, ICAR Institutes and Central Agricultural Universities, the network has fostered effective sharing of germplasm, scientific expertise and technologies while generating region-specific solutions to address the diverse production environments of India. It has also served as a valuable platform for human resource development, policy support and strengthening national research capacity in tropical tuber crops.

Today, tropical tuber crops have assumed greater strategic importance than ever before. In the face of climate change, shrinking natural resources, nutritional insecurity and evolving market demands, these crops offer immense potential because of their resilience, high productivity under marginal conditions, nutritional richness and diverse industrial applications. They are increasingly recognized as climate-smart crops capable of contributing to food and nutritional security, income diversification and sustainable agricultural development. I am confident that the AICRP-TC network will continue to generate cutting-edge technologies and innovative solutions that enhance farmers' livelihoods while contributing to the nation's agricultural transformation.

This publication chronicles the remarkable journey of AICRP-TC from its inception to the present day and showcases the achievements, infrastructure, technologies and unique strengths of each participating centre. It is both a tribute to the vision and dedication of generations of scientists, technical staff, administrators and farmers who have shaped this programme and a valuable reference for researchers, students, extension personnel, planners and policymakers engaged in tropical tuber crop research and development.

I congratulate all the scientists, technical staff and partner institutions associated with AICRP-TC for their invaluable contributions and commend the editorial team for bringing out this comprehensive profile. I sincerely hope that this publication will serve not only as a record of the network's rich legacy and achievements but also as an inspiration for future innovations and collaborative efforts towards realizing the full potential of tropical tuber crops in ensuring a resilient, sustainable and nutrition-secure India.

May 2026

G. Byju
Director & Project Coordinator
(AICRP TC)

Introduction

Tuber crops constitute an important group of underground storage organs cultivated across diverse agro-ecological zones of India, contributing significantly to food security, nutritional quality, and climate-resilient agriculture. Major species include *Manihot esculenta* (cassava), *Ipomoea batatas* (sweet potato), *Dioscorea* spp. (yams), *Colocasia esculenta* (taro), and *Amorphophallus paeoniifolius* (elephant foot yam). These crops exhibit high photosynthetic efficiency, strong adaptability to marginal soils, and tolerance to abiotic stresses such as drought and intermittent flooding. Their carbohydrate rich storage tissues, often complemented by substantial levels of β-carotene, dietary fiber, and micronutrients, make them valuable in combating energy and micronutrient deficiencies. Indispensable research has resulted in improved varieties with enhanced yield potential, disease resistance, and suitability for industrial applications including starch extraction, bioethanol production, and functional foods. Owing to their low input requirements and compatibility with intercropping and integrated farming systems, tuber crops hold strategic importance for sustainable agricultural intensification and rural livelihood enhancement.

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 was shifted to the Regional Station of ICAR-CTCRI, Bhubaneswar in 1983. The headquarters of the Project was again relocated to ICAR Central Tuber Crops Research Institute, Thiruvananthapuram in 1997. Currently 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, Thiruvanathapuram 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 agroclimatic 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.
- Popularisation and creation of awareness on the importance and nutritional aspects of major tuber crops.
- 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	*Manihot esculenta* Crantz	Euphorbiaceae
Sweet potato	*Ipomoea batatas* (L.) Lam.	Convolvulaceae
Greater yam	*Dioscorea alata* L.	Dioscoreaceae
White yam	*Dioscorea rotundata* Poir.	Dioscoreaceae
Lesser yam	*Dioscorea esculenta* (Lour.) Burk.	Dioscoreaceae
Aerial yam	*Dioscorea bulbifera* L.	Dioscoreaceae
Other yams	*Dioscorea hispida* Dennst.	Dioscoreaceae
	Dioscorea pentaphylla L.	Dioscoreaceae
Taro / Arvi	*Colocasia esculenta* var. *antiquorum* (L.) Schott.	Araceae
Dasheen taro	*Colocasia esculenta* var. *esculenta* (L.) Schott.	Araceae
Swamp taro	*Colocasia stoloniferum* (L.) Schott.	Araceae
Tannia	*Xanthosoma sagittifolium* (L.) Schott.	Araceae
Elephant foot yam	*Amorphophallus paeoniifolius* (Dennst.) Nicolson	Araceae
Giant taro	*Alocasia macrorrhizos* (L.) G. Don	Araceae
Giant swamp taro	*Cyrtosperma chamissionis* (Schott.) Merr.	Araceae
Chinese potato	*Plectranthus rotundifolius* (Poir.) Spreng.	Lamiaceae
Arrowroot	*Maranta arundinacea* L.	Marantaceae
Canna	*Canna edulis* Ker-Gawler/ *Canna indica* L.	Cannaceae
Winged bean	*Psophocarpus tetragonolobus* (L.) DC.	Fabaceae
Yam bean	*Pachyrhizus erosus* (L.) Urb	Fabaceae
Vigna	*Vigna capensis* (L.) Walp.	Fabaceae
Typhonium	*Typhonium* spp.	Araceae
Costus	*Costus speciosus* (Koenig) Sm. (J. Konig) C. Specht.	Costaceae
Shoti	*Curcuma* spp.	Zingiberaceae

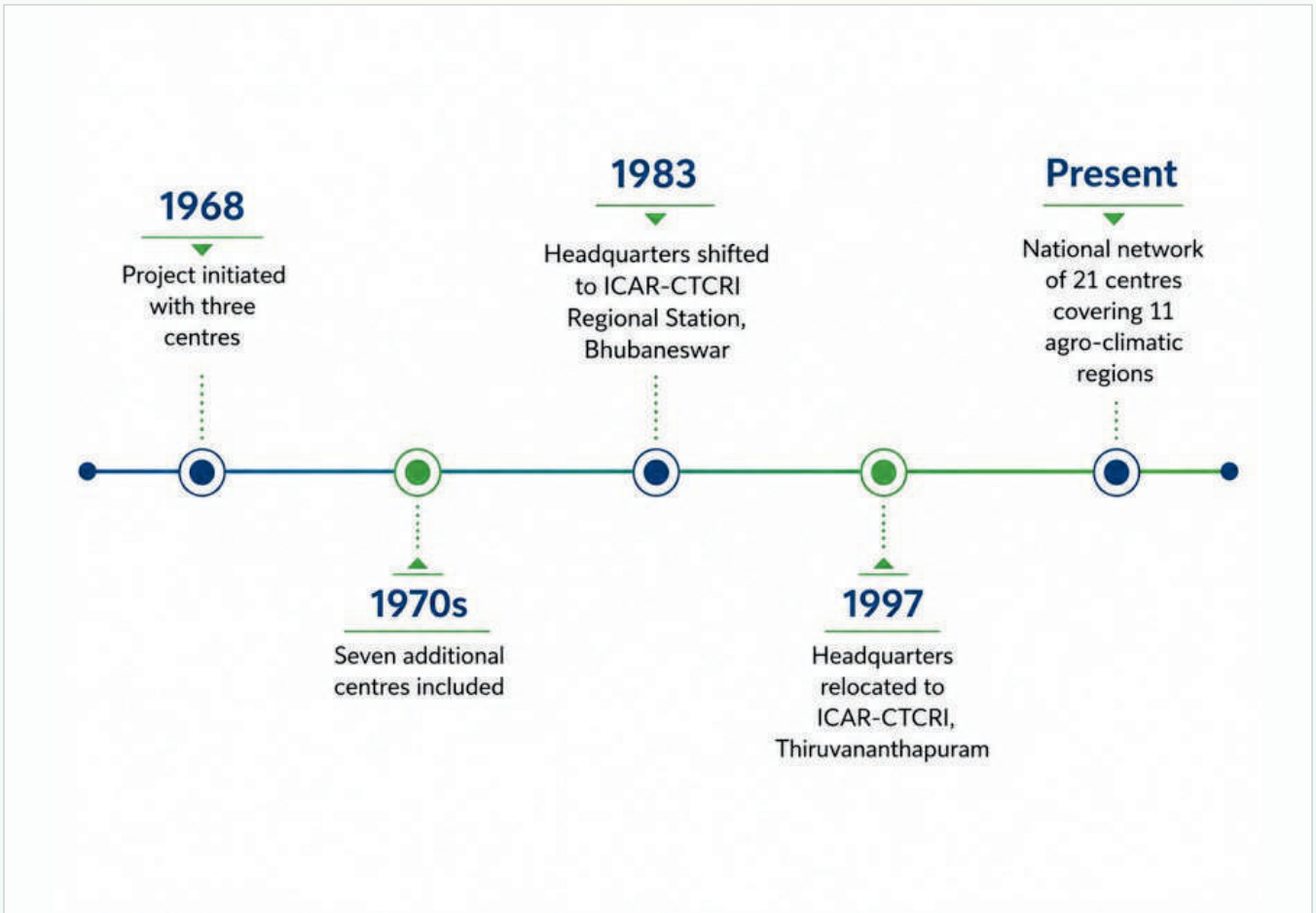
Project Coordinators

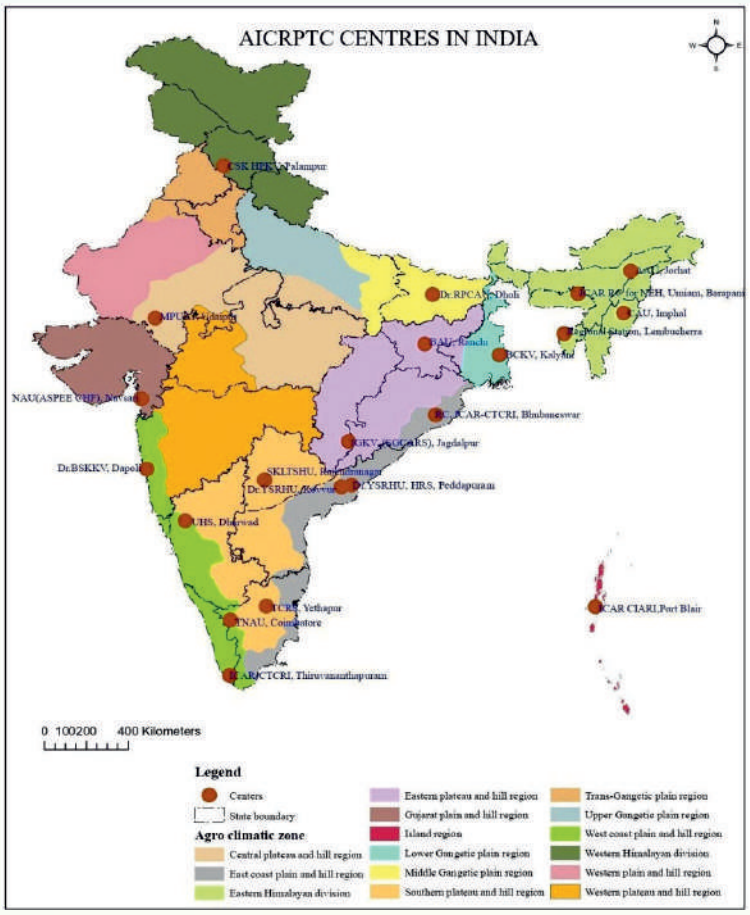
Sl. No.	Name	Period
1.	Dr. M.L. Magoon i/c	April 1968 - April 1971
2.	Dr. R.C. Mandal i/c	April 1971 - April 1972
3.	Dr. N. Hrishi i/c	April1972 - March 1979
4.	Dr. S.P. Varma	March 1979 - August 1994
5.	Dr. P.G. Rajendran	August 1994 - August 2003
6.	Dr. M.S. Palaniswami	September 2003 - June 2010
7.	Dr. C.S. Ravindran i/c	July 2010 - September 2010
8.	Dr. James George	September 2011 - January 2019
9.	Dr. Archana Mukherjee i/c	February 2019 - October 2019
10.	Dr. V. Ravi i/c	November 2019 - May 2021
11.	Dr. M.N. Sheela i/c	June 2021 - January 2023
12.	Dr. G. Byju	January 2023 - Present

Annual Group Meeting

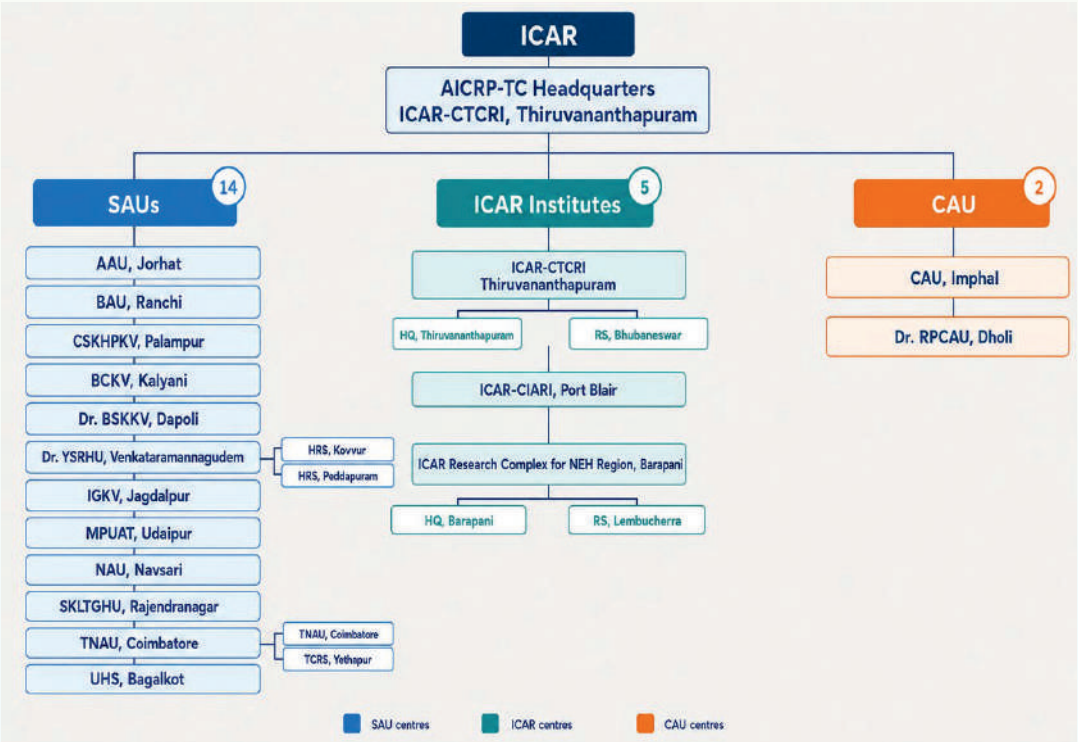
Sl. No	Past Annual Group Meetings	Name of centre	Duration
1.	12th Annual Group Meeting	MPUA&T, Udaipur, Rajasthan	18 - 20 June, 2012
2.	13th Annual Group Meeting	AAU, Jorhat, Assam	26 - 28 April, 2013
3.	14th Annual Group Meeting	BAU, Kanke, Ranchi, Jharkand	20 - 22 May, 2014
4.	15th Annual Group Meeting	Dr. YSRHU, VR Gudem, Andhra Pradesh	23 - 25 April, 2015
5.	16th Annual Group Meeting	BCKV, Kalyani, West Bengal	20 - 22 April, 2016
6.	17th Annual Group Meeting	UHS, Bagalkot, Karnataka	28 - 30 April, 2017
7.	18th Annual Group Meeting	ICAR-CTCRI, Thiruvananthapuram	26 - 28 April, 2018
8.	19th Annual Group Meeting	ICAR-CTCRI, Thiruvananthapuram	13 - 15 June, 2019
9.	20th Annual Group Meeting	Online Zoom Meeting	10 - 12 June, 2020
10.	21st Annual Group Meeting	Online Zoom Meeting	27 - 28 June, 2021
11.	22nd Annual Group Meeting	ICAR Research Complex for NEH Region, Umiam, Barapani , Meghalaya	11 - 13 May, 2022
12.	23rd Annual Group Meeting	BCKV, Kalyani, West Bengal	10 - 12 May 2023
13.	24th Annual Group Meeting	NAU, Navsari, Gujarat	25 - 27 June 2024
14.	25th Annual Group Meeting	SKLTGHU, Rajendranagar, Telangana	19 - 20 May 2025
15.	26th Annual Group Meeting	UHS Campus, Bengaluru, Karnataka	21 - 23 May 2026

Key Milestones in the Development of AICRP-TC





Organizational Structure of AICRP-TC



01. Assam Agricultural University, Jorhat, Assam

The centre was started in 1972 in the Department of Horticulture, Assam Agricultural University, Jorhat, Assam.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	Lesser yam
5.	Aerial yam
6.	Other yams
7.	Taro
8.	Dasheen taro (Bunda)
9.	Swamp taro
10.	Tannia
11.	Elephant foot yam
12.	Giant taro
13.	Giant swamp taro

Biodiversity conservation

A total of 143 germplasm of 12 different major tuber crops are being maintained.

Sl. No.	Crop	Total germplasm conserved (Nos.)
1.	Cassava	8
2.	Sweet potato	12
3.	Greater yam	32
4.	Lesser yam	10
5.	Taro and dasheen taro	65
6.	Swamp taro	7
7.	Elephant foot yam	3
8.	Arrowroot	3
9.	Others	3
	Total	**143**

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Greater yam	Hati Aloo	Assam, Chattisgarh, Andhra Pradesh and Rajasthan	• Tuber shape: oblong, tuber rind colour: greyish brown, tuber flesh colour: white • Cooking quality: soft, non sticky and excellent • Total starch: 60%, dry matter content: 24.30% • Average yield: 20-30 t ha^{-1} • Duration: 8-9 months	2008
	TGy17-6	Assam & West Bengal	• Tuber shape: long and cylindrical, tuber rind colour: greyish brown, tuber flesh colour: white • Cooking quality: soft, non sticky and excellent • Total starch: 63%, dry matter content: 34.5% • Average yield: 22-32 t ha^{-1} • Duration: 8-9 months	2011
Swamp taro	AAUST-2	Assam	• Leaf blade colour: dark green, leaf base shape: sagittate, leaf base margin colour: purple • Petiole colour: purple • Starch content: 10.40%, oxalate content: 0.13% • Stolon yield: 9.48 t ha^{-1}, caudex yield: 24.63 t ha^{-1}	2022

Production technologies recommended

1. Integrated nutrient management (INM) for taro comprising vermicompost (1 t ha^{-1}) + FYM 10 t ha^{-1} + 75% of recommended dose of NPK.
2. Rearing of Eri silkworm using cassava varieties, Sree Jaya and Sree Vijaya.
3. Tuber crops-based farming system for the low land area.

Plant protection technologies recommended

1. Mancozeb + Metalaxyl M @ 0.1% and copper hydroxide 53.8% @ 0.2% were found promising in controlling taro leaf blight.

Developmental programmes from 2020-2025

The centre undertook special schemes such as NEH and SCSP programmes for improving the food, nutrition and livelihood security of these segments of our society. The centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements are being taken up on a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	19	16	446
2.	Demonstrations	6	6	12
3.	Kisan melas	-	-	-
4.	Mass media programmes	3	-	-
5.	Scientist farmer interface	3	3	60
6.	Farm advisory visits	7	4	12
7.	Distribution of farmer inputs	19	15	473
8.	Women empowerment and value addition programmes	3	3	86
9.	Exposure visits	2	2	40
10.	Hands-on-training	14	10	300

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers. The centre produced a total of 13,500 vine cuttings of sweet potato, 1.2 ton of taro planting material, 800 stem cuttings of cassava, 0.05 tons of elephant foot yam, 0.45 tons of greater yam, 0.31 tons of lesser yam tubers, and 1600 swamp taro plantlets as part of planting material production programme during the last 5 years (2020-2025).

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya Sree Vijaya	800 stem cuttings	0.06
2.	Sweet potato	Dergaon Red Bhu Sona Kamala Sundari Bhu Krishna	13,500 vine cuttings	2.7
3.	Greater yam	Hati Aloo	0.45 t	0.06
4.	Lesser yam	Sree Kala	0.31t	0.05
5.	Taro	Ahina (Taro) Local selection (Bunda)	1.2 t	2.4
6.	Swamp taro	Local Selection	1600 plantlets	3.0
7.	Elephant foot yam	Gajendra Local collection	0.05 t	-

Officers-in-charge

Sl. No.	Name (PIs)	Period
1.	Dr. P. Borah	June 2001 - February 2009
2.	Dr. B.D. Narzary	February 2009 - March 2011
3.	Dr. Sunil Bora	March 2011 - February 2012
4.	Dr. S. Alam	February 2012 - Present
	Co - PIs	
1.	Dr. Mrs. J. Saikia Baruah	June 1999 - July 2009
2.	Dr. Bijit Kr. Saud	May 2010 - June 2014
3.	Dr. Sanjib Sarma	January 2018 - June 2023
4.	Dr. Nayanmoni Buragohain	January 2024 - Present

02. Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal

The centre was started in 1976.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Lesser yam
4.	Taro
5.	Dasheen taro (Bunda)
6.	Swamp taro
7.	Tannia
8.	Elephant foot yam
9.	Giant taro
10.	Yam bean

Biodiversity conservation

A total of 418 germplasm of 15 different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	2
2.	Sweet potato	162
3.	Greater yam	28
4.	White yam	4
5.	Lesser yam	2
6.	Taro	92
7.	Dasheen taro (Bunda)	21
8.	Swamp taro	43
9.	Tannia	11
10.	Elephant foot yam	28
11.	Giant taro	8
12.	Arrowroot	12
13.	Yam bean	2
14.	Country potato	1
15.	Sholakachu	2
	Total	**418**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Sweet potato	Bidhan Jyoti (Kamala Sundari)	West Bengal	• Leaf shape: cordate; tuber shape: long and elliptical • Skin colour: orange; flesh colour: vibrant orange • Beta carotene: 7-8 mg/100g • Average yield: 25-26 t ha^{-1} • Duration: 4-4.5 months	2008
	Bidhan Jagannath	West Bengal	• Leaf shape: semi elliptical lobed • Tuber shape: uniform oblong shaped • Skin colour: red; flesh colour: orange • Beta carotene: 3.5-5mg/100 g • Average yield: 26-27 t ha^{-1} • Duration: 4 months	2011
Taro	Bidhan Chaitanya (BCC-1)	West Bengal	• Corm shape: elliptical • Skin colour: light brown; flesh colour: white • Good cooking quality and non-acrid type • Average yield: 14-15 t ha^{-1} • Duration: 5-6 months for vegetable purpose, 9 months for seed purpose	2000

	Bidhan Joydev (BCC-2)	West Bengal	• Corm shape: spherical; cormel shape: elongated • Skin colour: greyish brown; flesh colour: white • Non-acrid type and tolerant to leaf blight • Average yield: 14-16 t ha^{-1} • Duration: 5-6 months for vegetable purpose, 9 months for seed purpose	2001
	Bidhan Kochu (BCC-17)	West Bengal	• Corm shape: cylindrical; cormel shape: oblique round • Skin colour: grey; flesh colour: white • Good cooking quality and non-acrid type • Resistant to *Phytophthora* leaf blight • Average yield: 17-18 t ha^{-1} • Duration: 180 days	2019
Elephant foot yam	Bidhan Kusum	West Bengal	• Corm shape: globose flat • Skin colour: brown; flesh colour: cream • Good cooking quality and non-acrid type • Average yield: 40-45 t ha^{-1} • Duration: 6-7 months for vegetable purpose, 9-10 months for seed purpose	2002

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Sweet potato	BCSP-10 (TSp12-6)	Bihar	• Skin colour: red • Sugar content: 1.3.15 g/100g fresh weight • Dry matter: 25-26% • Tolerant to sweet potato weevil • Average yield: 25-28 t ha^{-1}	2016
Taro	Bidhan Mitra Kochu (BCC-9) (Proposal submitted to SVRC)	West Bengal	• Good cooking quality and non-acrid type • Moderately tolerant to leaf blight • Average yield: 16-17 t ha^{-1} • Duration: 5-6 months for vegetable purpose, 8-9 months for seed purpose	2019
	BCC-5 (TCbl 12-5)	Maharashtra and Telangana	• Good cooking quality and non-acrid type • Tolerant to leaf blight • Average yield: 15-16 t ha^{-1}	2019
	Mitra Bidhan Taro (BCC-38)	Assam and Meghalaya	• Good cooking quality and non-acrid type • Average yield: 17-19 t ha^{-1} • Suitable for chips making	2023
Dasheen taro	BCB-2 (Ghat Kachu) (Proposal submitted to SVRC)	West Bengal	• Dry matter: 27-28% • Average yield: 20-22 t ha^{-1}	2016

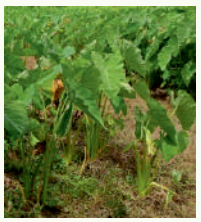
Swamp taro	BCST-13 (Bidhan Lotika)	West Bengal	• Low and swampy lands can be utilized for its cultivation • Continue stolon production for 7-8 months and non-acrid type • Average yield: 24-25 t ha^{-1}, caudex: 10-12 t ha^{-1}	2011
	Mitra Bidhan Loti (BCST-14)	West Bengal, Assam and Manipur	• Low and swampy lands are suitable for its cultivation • Stolon production starts after 3 MAP • Continue stolon production for 7-8 months and non-acrid type • Average yield: 25-27 t ha^{-1}, caudex: 12-13 t ha^{-1}	2022
Elephant foot yam	BCA-3	West Bengal	• Good cooking quality and non-acrid type • Moderately tolerant to collar rot • Average yield: 45-50 t ha^{-1} • Duration: 6-7 months for vegetable purpose, 9-10 months for seed purpose	2014

Tuber crop varieties released by Kalyani centre

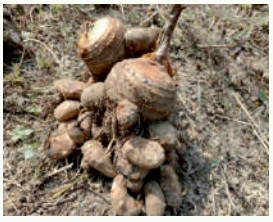

Sweet potato var. Bidhan Jyoti


Sweet potato var. Bidhan Jagannath


Taro var. Bidhan Chaithanya




Taro var. Bidhan Joydev

Taro var. Bidhan Kochu


Elephant foot yam var. Bidhan Kusum

Production technologies included in POP

1. Organic production packages for sweet potato
2. Organic production packages for elephant foot yam
3. Organic production packages for taro
4. Integrated nutrient management in sweet potato
5. Integrated nutrient management in elephant foot yam
6. Integrated nutrient management in taro
7. Integrated nutrient management in swamp taro
8. Integrated nutrient management in cassava
9. Customized fertilizers and micronutrient formulations in sweet potato
10. Customized fertilizers and micronutrient formulations in taro
11. Customized fertilizers and micronutrient formulations in greater yam
12. Integrated weed management in elephant foot yam
13. Intercropping of taro and elephant foot yam in orchards
14. Intercropping of short duration vegetables with elephant foot yam

Production technologies recommended

1. High density planting in elephant foot yam and cassava
2. Use of nano-fertilizers in elephant foot yam
3. Establishment of seed villages and decentralized seed multipliers for fast spread of varieties
4. Nutrient requirement of swamp taro

Plant protection technologies included in POP

1. Integrated pest and disease management in taro
2. Integrated pest and disease management in sweet potato
3. Integrated pest and disease management in elephant foot yam
4. Management of sweet potato weevil through intercropping with garlic
5. Management of yam bean pod borer

Plant protection technologies recommended

1. Organic management of postharvest rot in elephant foot yam
2. Sweet potato weevil management by biopesticides and microbial agents
3. Application of bioactive molecules from cassava crop residues developed in ICAR-CTCRI
4. Management of collar rot disease of elephant foot yam
5. Management of leaf blight of taro

Developmental programmes from 2020-2025

Under SCSP programme, different technologies were demonstrated for improving the food, nutrition and livelihood security of scheduled caste farmers. The centre also regularly conducts 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 the centre. Implementation of SCSP programmes since 2019 has significantly improved the living standards of scheduled caste surrounding the project sites of West Bengal.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	50	15	900
2.	Demonstrations	30	5	300
3.	Kisan melas	3	30	450
4.	Mass media programmes	5	-	-
5.	Scientist farmer interface	2	7	300
6.	Farm advisory visits	15	10	200

7.	Distribution of farmer inputs	45	15	900
8.	Women empowerment and value addition programmes	10	7	200
9.	Exposure visits	-	-	-
10.	Hands-on-training	10	7	200

Planting material production from 2020-2025

Planting materials of improved varieties of elephant foot yam, taro, swamp taro, sweet potato and cassava were multiplied in the centre and distributed to farmers. Kalyani centre has identified two decentralized seed multipliers (DSM) /progressive farmers for strengthening planting material production and distribution of newly released varieties. During the past 5 years, the centre produced a total of about 55,000 stems of cassava; 1,65,000 vine cuttings of sweet potato,13 tons of elephant foot yam,1.7 tons of taro and 35,000 seedlings of swamp taro as part of planting material production programme.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya	55000 stem cuttings	5.0
2.	Sweet potato	Bidhan Jagannath Kamala Sundari	95,000 vine cuttings 70,000 vine cuttings	1.5 1.0
3.	Taro	Bidhan Chaitanya Bidhan Joydev	1.0 t 0.7 t	0.4 0.3
4.	Swamp taro	Bidhan Lotika	35000 plantlets	1.0
5.	Elephant foot yam	Bidhan Kusum	13.0 t	2.0

Officers-in-charge/PIs and Co-PIs

Sl. No.	Name (PI)	Co-PI	Period
1.	Prof. T.K. Bose	Dr. H.S. Sen	September 1976 - August 1978
2.	Dr. H.S. Sen	Dr. Srikanta Das	September 1978 - September 2004
3.	Dr. J. Tarafdar	Dr. A. Chattopadhyay Dr. Surajit Mitra	October 2004 - November 2023
4.	Dr. Surajit Mitra	-	November 2023 - Present

03. Birsa Agricultural University, Ranchi, Jharkhand

The centre was started in 1987 at the IXth workshop of the project held at Assam Agricultural University, Jorhat and started functioning since 01.08.1987.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Lesser yam
4.	Taro
5.	Dasheen taro (Bunda)
6.	Elephant foot yam
7.	Yam bean

Biodiversity conservation

A total of 277 germplasm of different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Sweet potato	70
2.	Greater yam	29
3.	Lesser yam	07
4.	Taro	80
5.	Dasheen taro (Bunda)	59
6.	Elephant foot yam	32
	Total	**277**

Production technologies included in POP

1. Integrated nutrient management in sweet potato, elephant foot yam and taro
2. Organic production packages for elephant foot yam
3. Validated customized fertilizers and micronutrient formulations in sweet potato
4. Integrated weed management in elephant foot yam
5. Intercropping of taro and elephant foot yam in fruit orchards
6. Intercropping of spices in elephant foot yam
7. Phenology study of elephant foot yam and sweet potato to standardize the techniques for better crop production

Production technologies recommended

1. Productive and profitable cropping system model
2. Organic production packages for sweet potato and taro
3. Establishment of seed villages and decentralized seed multipliers for fast spread of varieties
4. Development of suitable agro-techniques to reduce cost and maximize production
5. High density planting in elephant foot yam
6. Use of nano-fertilizers in elephant foot yam
7. Integrated weed management in taro

Plant protection technologies included in POP

1. Sweet potato weevil management by biopesticides and microbial agents
2. Management of collar rot in elephant foot yam

Plant protection technologies recommended

1. Integrated pest and disease management in taro, elephant foot yam and sweet potato
2. Organic management of postharvest rot in elephant foot yam

Integrated farming system (IFS) research

A well defined and technically balanced farming system model having different tuber crops *viz.* elephant foot yam, taro, cassava, sweet potato at pivotal position with the incorporation of other crop components viz. paddy, maize, groundnut, summer and rainy season vegetables and fruits like papaya, guava, lemon, mango and animal components like piggery, duckery and poultry have been framed at different villages of Ranchi districts of the state of Jharkhand under Tribal sub-plan. The model has been tested in two locations (1 ha each) *viz*. Semra, Block-Bero and Beyasi Block-Chanho, District-Ranchi. Under the crops component, elephant foot yam shown highest B:C ratio followed by taro. When economics of the entire system was worked out, it revealed that the locations emerged with very high average B:C ratio of 2.34 as compared to B:C ratio of 1.36 prior to the intervention.

Location	Crop/other components	Area (ha)	Yield (kg)	Gross income (₹)	Expenditure involved (₹)	Net income (₹)	B:C ratio	Employment generated per year (man-days)
Semra, Bero, Ranchi	Crops including tuber crops + Vegetables + Poultry + Duckery + Piggery + Fruit Crops	1.0	106.64	332930	145420	187510	2.28	238
Beyasi, Chanho, Ranchi	Crops including tuber crops + Vegetables + Poultry + Piggery + Fruit Crops	1.0	132.87	421158	176976	244182	2.37	276

Developmental programmes from 2020-2025

AICRP TC, Ranchi centre conducted programmes under the special schemes TSP & SCSP for improving the food, nutrition and livelihood security of this special segment of our society. The centre also regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, kisan melas, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken up on regular basis by the centre. Implementation of SCSP programmes since 2019 and TSP programme since 2014 in this centre has significantly improved the living standards of scheduled caste and scheduled tribe farmers of surrounding the project sites of Ranchi and other districts of Jharkhand.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	18	18	650
2.	Demonstrations	10	05	50
3.	Kisan melas	07	-	>5000
4.	Mass media programmes	04	-	-
5.	Scientist farmer interface	07	-	>1500
6.	Farm advisory visits	10	10	250
7.	Distribution of farmer inputs	10	10	150
8.	Women empowerment and value addition programmes	03	03	60
9.	Exposure visits	05	05	>250
10.	Hands-on-training	04	04	100

Planting material production from 2020-2025

Planting materials of improved varieties of elephant foot yam, taro, sweet potato and cassava were multiplied in the centre and distributed to farmers. Ranchi centre has identified decentralized seed multipliers/progressive farmers for strengthening planting material production and distribution of existing and newly released varieties.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Vijaya Sree Jaya	47,000 stem cuttings	3.80
2.	Sweet potato	Kalinga Sree Bhadra Bhu Sona Bhu Krishna	1,28,500 vine cuttings	1.54
3.	Greater yam	Sree Keerthi Sree Roopa,	0.50 t	0.25
4.	Taro	Muktakeshi	1.27 t	1.21
5.	Dasheen taro	NDB-1	0.20 t	0.18
6.	Elephant foot yam	Gajendra	1.80 t	0.21

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. S.K. Sarkar	August 1987 - February 1990
2.	Dr. Rajesh Kumar	February 1990 - October 2000
3.	Dr. R.N. Ray	November 2000 - July 2004
4.	Dr. S. Sengupta	July 2004 - Present

04. Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, KVK & Research Sub Station, Berthin, Bilaspur, Himachal Pradesh

The centre was started in February 2015.

Mandate crops

Sl. No.	Crop
1.	Greater yam
2.	Aerial yam
3.	Other yams
4.	Taro
5.	Dasheen taro (Bunda)
6.	Elephant foot yam
7.	Yam bean

Production technologies included in POP

1. Package of practices of elephant foot yam

Production technologies recommended

1. Integrated weed management in taro and elephant foot yam*

(* Technologies has been included in fortnight crop advisory issued by Directorate of Extension Education, CSKHPKV Palampur)

Plant protection technologies recommended

1. Collar rot management in elephant foot yam*
2. Early blight management in taro*
3. Postharvest rot management in elephant foot yam (Organic and fungicidal)

   (* Technologies has been included in fortnight crop advisory issued by Directorate of Extension Education, CSKHPKV, Palampur)

Biodiversity conservation

A total of 70 germplasm of 8 different tuber crops are being maintained

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	03
2.	Sweet potato	03
3.	Greater yam	09
4.	Other yams	04
5.	Taro	39
6.	Dasheen taro (Bunda)	03
7.	Elephant foot yam	08
8.	Arrowroot	01
	Total	**70**

Developmental programmes from 2020-2025

AICRP on Tuber Crops, Palampur centre has organized special programmes under SCSP to improve the living standard of farmers in these segments. Also, various extension programmes are being organized regularly to create awareness and popularize tuber crops in non-conventional areas of Himachal Pradesh. Several vocational programmes, field visits, exposure visits, demonstrations, and distribution of agri-inputs are taken up under various sub-programmes of AICRP on tuber crops. Tuber crop-based start-ups and agri-entrepreneurships have been executed by AICRP Palampur centre, which have created significant employment opportunities in the state.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	30	26	877
2.	Demonstrations	10	24	50
3.	Kisan melas	1	12	250
4.	Mass media programmes	3	-	-
5.	Scientist farmer interface	6	8	150
6.	Farm advisory visits	20	15	37
7.	Distribution of farmer inputs	7	6	284

8.	Women empowerment and value addition programmes	5	6	188
9.	Exposure visits	1	2	34
10.	Hands-on-training	0	-	-

Planting material production from 2020-2025

The centers produced a total of 900 stems of cassava, 6.37 tons of elephant foot yam, 0.73 tons of taro, 0.69 tons of greater yam, and 7 kg of yam bean as part of the planting material production program for the last 5 years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya	900 stems cuttings	0.01
2.	Greater yam	Local	0.69 t	0.08
3.	Taro	Bilaspur local	0.73 t	0.08
4.	Elephant foot yam	Palam Zimikand-1	6.37 t	0.70
5.	Yam bean	Rajendra Mishrikand-1	0.007 t	0.06

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. Ravinder Singh	February 2015 - December 2021
2.	Dr. Manpreet Kour	December 2021 - Present

05. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Central Experiment Station, Wakawali, Dapoli, Maharashtra

The centre was started in 1975. This scheme was started initially at Department of Horticulture, Dapoli and later on it was shifted to Central Experiment Station, Wakawali, Dapoli in 1981.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	Lesser yam
5.	Aerial yam
6.	Taro
7.	Tannia
8.	Elephant foot yam
9.	Arrowroot
10.	Yam bean
11.	Winged bean
12.	Crepe ginger

Biodiversity conservation

A total of 138 germplasm of 12 different tuber crops and other minor crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	01
2.	Sweet potato	10
3.	Greater yam	25
4.	Lesser yam	15
5.	Aerial yam	46
6.	Taro	23
7.	Tannia	04
8.	Elephant foot yam	05
9.	Arrowroot	03
10.	Yam bean	01
11.	Mango ginger	03
12.	Others	02
	Total	**138**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Aerial yam	Konkan Kalika	Maharashtra and Chhattisgarh	• Bulb shape: round; skin colour: black; flesh colour: pale yellow • Good in taste and cooking quality • Aerial bulb yield-5.30 t ha^{-1} • Duration: 120 days	2024

Aerial yam variety released by Dapoli centre

Aerial yam var. Konkan Kalika

Production technologies included in POP

1. Integrated nutrient management in cassava
2. Management of micro nutrients in cassava
3. Sweet potato based cropping systems
4. Intercropping in greater yam

Plant protection technologies included in POP

1. IPM (Integrated Pest Management) package against sweet potato weevil
2. Management of sweet potato weevil through bio pesticides/microbial agents
3. Management of sweet potato weevil through barrier crops
4. Intercropping models for management of sweet potato weevil
5. Integrated management of sweet potato weevil
6. Sweet potato weevil management by using sex pheromone traps
7. Management of snails in elephant foot yam
8. Integrated disease management (IDM) in elephant foot yam
9. Integrated management of collar rot disease in elephant foot yam
10. Management of taro leaf blight disease
11. Integrated disease management (IDM) of blight disease in taro
12. Biointensive management of taro leaf blight
13. Pest management of using tuber crops based bio pesticides

Developmental programmes from 2020-2025

The centre undertook special schemes such as SCSP for improving the food, nutrition and livelihood security of these special segments of our society. The centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, webinars, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken up on a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	8	4	756
2.	Demonstrations	3	3	105
3.	Kisan melas	13	11	10428
4.	Mass media programmes	2	-	-
5.	Scientist farmer interface	2	-	256
6.	Farm advisory visits	27	6	41
7.	Distribution of farmer inputs	5	5	38
8.	Women empowerment and value addition programmes	9	9	304
9.	Exposure visits	28	22	4236
10.	Hands-on-training	9	9	304

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centres. The centres produced a total of 22150 stems of cassava, 43500 vine cuttings of sweet potato, 11 tons of elephant foot yam, 1.9 tons of taro, 2.70 tons of greater yam as part of planting material production programme during the last 5 year.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya	3500 stem cuttings	1.84
		H-226	7200 stem cuttings	
		Sree Reksha	9450 stem cuttings	
		Other	2000 stem cuttings	

2.	Sweet potato	Konkan Ashwini	10000 vine cuttings	0.52
		Kamala Sundari	7500 vine cuttings	
		S-56/2	8000 vine cuttings	
		Bhu Sona	4500 vine cuttings	
		Bhu Krishna	7500 vine cuttings	
		Bhu Kanti	6000 vine cuttings	
3.	Greater yam	Konkan Ghorkand	0.90 t	0.90
		Sree Karthika	0.50 t	
		Other	1.3 t	
4.	Lesser yam	Konkan Kanchan	3.8 t	2.94
		Other	1.5 t	
5.	Aerial yam	Konkan Kalika	0.38 t	2.82
		Other	0.61 t	
6.	Taro	Sree Pallavi	0.62 t	1.28
		Konkan Manohar	1.3 t	
7.	Tannia	Konkan Haritparni	3.4 t 2500 saplings in protray	4.85
8.	Elephant foot yam	Gajendra	9.6 t	2.20
		Other	1.4 t	
9.	Arrowroot	Others	3.3 t	1.1
10.	Winged bean	IWB-1	0.010 t	0.5
11.	Yam bean	RM-1	0.024 t	1

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. M.B. Magdum	October 1975 - December 1979
2.	Dr. R.N. Nawale	January 1980 - May 1984
3.	Shri A.R. Karnik	January 1984 - May 1997
4.	Dr. R.G. Khandekar	May 1997 - June 2001
5.	Shri N.R. Bhagwat	June 2001 - July 2009
6.	Shri A.T. Jadaye	July 2009 - June 2013
7.	Dr. N.V. Mhaskar	June 2013 - May 2016
8.	Dr. P.S. Gudadhe	May 2016 - Present

06. Dr. YSR Horticultural University, Horticultural Research Station, Kovvur, Andhra Pradesh

The centre was started in 1976. After bifurcation of the state of Andhra Pradesh and with the formation of Andhra Pradesh Horticultural University, the center is under Dr. YSR Horticultural University, Venkataramannagudem.

Mandate crops

Sl. No.	Crop
1.	Greater yam
2.	Taro
3.	Elephant foot yam

Biodiversity conservation

A total of 265 germplasm lines of seven different tuber crops and other minor crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Greater yam	43
2.	Lesser yam	1
3.	Aerial yam	6
4.	Taro	121
5.	Tannia	4
6.	Elephant foot yam	82
7.	Arrowroot	1
8.	Winged bean	7
	Total	**265**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Greater yam	Dr. YSRHU-Sabari	Andhra Pradesh	• Tuber shape: oblong-oval, skin colour: dark brown, flesh colour: creamy white • Suitable for making chips and less susceptible • to anthracnose disease • Starch content: 25-30 %; dry matter 30-32% • Average yield: 45-50 t ha^{-1} • Duration: 8-9 months	2022
Taro	Bhavapuri	Andhra Pradesh and Telangana (Coastal region)	• Corm shape: stout, solid, fleshy corm with medium sized conical shaped cormels • Low in oxalic acid content (0.18%) on fresh weight basis • Good cooking quality and suitable for *kharif* season • Shelf life: 4 months for consumption purpose and 5-6 months for seed purpose • Average yield: 28-30 t ha^{-1} • Duration: 240-250 days	2006
	Godavari Chema	Andhra Pradesh	• Corm shape: round, cormel shape: medium bold and round • Skin colour: brown, flesh colour: white • Low in oxalic acid content (0.19% on fresh weight) with good cooking quality • Suitable as pure crop as well as inter crop in banana and coconut plantations • Less susceptible to *Phytophthora* leaf blight disease • Post harvest shelf life 75-90 days • Average yield: 2000-2400 kg ha^{-1} • Duration: 150-160 days	CVRC- 2021 SVRC- 2017

Elephant foot yam	Gajendra	Andhra Pradesh, Tamil Nadu, Kerala, West Bengal	• Smooth corms with almost no cormels, skin colour: black, flesh colour: yellow with orange tinge • Non-irritant and suitable for both *kharif* and *rabi* seasons • Average yield: 60-65 t ha^{-1} • Duration: 180-190 days	1991

Tuber crop varieties released by Kovvur centre

Greater yam var. Dr. YSRHU- Sabari

Taro var. Bhavapuri

Taro var. Godavari Chema

Elephant foot yam var. Gajendra

Production technologies included in POP

1. Integrated nutrient management in elephant foot yam
2. Integrated weed management in elephant foot yam
3. Integrated weed management in taro
4. Standardized intercropping systems in elephant foot yam
5. Standardized intercropping systems in greater yam
6. Site specific nutrient management in elephant foot yam
7. Site specific micronutrient formulations in elephant foot yam
8. Standardized fertigation technologies in elephant foot yam
9. Standardized mulching in elephant foot yam

Production technologies recommended

1. Validation of organic farming technologies in elephant foot yam
2. Validation of organic farming technologies in greater yam

Plant protection technologies included in POP

1. Integrated pest and diseases management in tuber crops
2. Management of collar rot of elephant foot yam
3. Management of postharvest storage rot in elephant foot yam
4. Management of leaf blight in taro

Plant protection technologies recommended

1. Management of mealy bugs in elephant foot yam

Developmental programmes from 2020-2025

The centre undertook special schemes like SCSP for improving the food, nutrition and livelihood security of the special segments of the society. This centre distributed huge quantity of quality planting material along with other inputs to the scheduled caste farmers and created awareness on improved production technologies through regular field visits, training programmes, method demonstrations and exhibitions. Implementation of SCSP programmes since 2019 has encouraged many farmers of the targeted group to include elephant foot yam in their cropping systems thereby improving their income.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	18	25	800
2.	Demonstrations	10	10	180
3.	Kisan melas	07	30	2600
4.	Mass media programmes	20	-	-
5.	Scientist farmer interface	8	8	500
6.	Farm advisory visits	30	30	-
7.	Distribution of farmer inputs	05	6	80
8.	Women empowerment and value addition programmes	03	10	200
9.	Exposure visits	-	-	-
10.	Hands-on-training	05	12	250

Planting material production from 2020-2025

Production and supply of quality planting materials of improved varieties of tuber crops especially Gajendra of elephant foot yam, Bhavapuri and Godavari Chema of taro to the farming community are important programmes. Identified decentralized seed multipliers / progressive farmers for strengthening planting material production and distribution of tuber crops is being taken up throughout the country. This centre produced a total of 28.25 tons of elephant foot yam, 6.29 tons of taro, 5.36 tons of greater yams as part of planting material production programme during the last 5 years.

Production of planting material from 2020-2025

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Greater yam	Kovvur yam	2.5 t	3.24
		Sabari	2.56 t	1.56
		Bombay pendalam	0.3 t	0.25
2.	Taro	Godavari Chema	4.63 t	5.48
		Bhavapuri	1.66 t	2.11
3.	Elephant foot yam	Gajendra	28.25 t	2.88

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Shri. Y. Tatachari	May 1976 - June 1980
2.	Shri. M. Satyanarayana	June 1980 - January 1983
3.	Shri. P. Venkateswarulu	January 1983 - December 1983
4.	Dr. K. Uma Jyothi	January 1989 - July 1996
5.	Dr. B.V.K. Bhagavan i/c	July 1996 - January 2000
6.	Dr. N.S.S. Sundari	February 2000 - April 2001
7.	Dr. B.V.K. Bhagavan	April 2001 - February 2007
8.	Dr. G. Narasimha Murthy	June 2007 - August 2010
9.	Dr. R. Nagalakshmi	September 2010 - August 2013
10.	Dr. K. Mamatha	August 2013 - October 2024
11.	Dr. V. Sivakumar	October 2024 - Present

07. Dr. YSR Horticultural University, Horticultural Research Station, Peddapuram, Andhra Pradesh

The centre was started at Rajendranagar, under the then Andhra Pradesh Agricultural University (APAU), Hyderabad, in 1968. After bifurcation of the state of Andhra Pradesh, the centre is established at HRS, Peddapuram in June 2016.

Mandate crops

Sl.No.	Crop
1	Cassava
2	Sweet potato

Biodiversity conservation

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Cassava	56 collections 59 OP entries 55 secondary collections
2.	Sweet potato	20 collections 623 OP entries 22 secondary collections
3.	Greater yam	1
4.	Lesser yam	1
5.	Aerial yam	1
6.	Taro	1
7.	Tannia	1
8.	Elephant foot yam	1
9.	Chinese potato	1
10.	Arrowroot	1
11.	Winged bean	2
12.	Yam bean	1

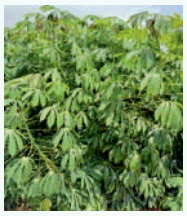
Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Cassava	Dr. YSRHU-Aditya	Andhra Pradesh	• Growth habit: erect branching • Suitable for lowlands and good cooking quality • Starch content: 24.43% • Average tuber yield: 40.15 t ha^{-1} • Duration: 7-8 months	2022

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Sweet potato	TSp16-7	Chhattisgarh, Gujarat, Karnataka, Telangana	• Beta carotene: 6.93 mg/100 g • Total sugar : 5.28 % • High yield potential: 19.64 t ha^{-1}	2024

Cassava variety released by Peddapuram centre



Dr. YSRHU- Aditya

Production technologies included in POP

1. Standardization of nursery technique, optimum spacing, fertilizer dose and time of harvest in cassava
2. Inter cropping in cassava
3. Method of storage of cassava seed material (*i.e.*, stems)
4. Slow-release nitrogenous fertilizers in cassava
5. Weed management in cassava intercropping systems
6. Weed management in cassava pure crop
7. Effect of AM fungi in cassava tuber crop production
8. Effect of defoliation on tuber yield of cassava
9. Effect of dates of planting on tuber yield of cassava
10. Effect of organic and inorganic fertilizers on the yield and starch content of cassava
11. Effect of pruning on tuber yield of cassava
12. Integrated nutrient management for cassava
13. Use of cassava leaves for Eri silkworm rearing for production of Eri silk
14. Standardization of fertigation through micro irrigation for cassava
15. Low input technology for cassava production
16. Integrated weed management in cassava
17. Phenology of tuber crops in relation to climate change
18. Site specific nutrient management studies on cassava
19. Micronutrient studies in cassava
20. Validation of customized fertilizers in sweet potato
21. Validation of customized fertilizers in cassava
22. Validation of organic production technology in cassava
23. Water saving techniques in cassava
24. High density planting in cassava

Plant protection technologies recommended

1. Yield loss assessment in cassava due to cassava mosaic disease

Developmental programmes from 2020-2025

AICRP on Tuber Crops, Peddapuram centre has carried out special scheme 'SCSP' for improving the food, nutrition and livelihood security of SC beneficiaries in our society. Extension activities such as trainings, demonstrations, exhibitions, 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 since 2019-2020 for popularization of cassava and sweet potato varieties and technologies.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	23	14	720
2.	Demonstrations	31		1225
3.	Kisan melas	33	14	-
4.	Mass media programmes	4	-	-
5.	Scientist farmer interface	68	-	-
6.	Farm advisory visits	98	14	-
7.	Distribution of farmer inputs	39	8	197
8.	Women empowerment and value addition programmes	15	10	100
9.	value addition programmes	10	11	245
10.	Exposure visits	-	-	-
11.	Hands-on-training	7	15	155

Planting material production from 2020-2025

Planting materials of improved varieties of cassava and sweet potato were multiplied and distributed to farmers. The centre has distributed a total of 60,485 setts of cassava and 43,463 vine cuttings of sweet potato as part of planting material production programme for the last 5 years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava (stems cuttings)	Sree Reksha	19078	1.55
		Sree Sakthi	8746	0.71
		PDP CMR-1	29158	2.36
		Sree Apoorva	1120	0.09
		Sree Athulya	1240	0.10
		Sree Swarna	500	0.04
		Dr. YSRHU - Aditya	500	0.04
		Sree Jaya	143	0.01
2.	Sweet potato (vine cuttings)	Bhu Sona	1440	0.017
		Dr. YSRHU -Arunima	6250	0.075
		Kalinga	490	0.006
		RNSP-1	12433	0.149
		Samrat	940	0.011
		Sree Bhadra	700	0.008
		Bhu Ja	295	0.004
		Bhu Krishna	6765	0.081
		Pusa Safed	7010	0.084
		Other varieties	7140	0.086

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Shri. V. Prabhakara Rao	November 1968 - November 1978
2.	Shri. D. Madhava Rao	November 1978 - June 1986
3.	Shri. R.V.S.K. Reddy	July 1986 - February 1987
4.	Shri. Ch. Pulla Rao	March 1987 - July 1988
5.	Dr. M.B. Nageswara Rao	July 1988 - September 1993
6.	Ms. S. Surya Kumari	September 1993 - April 2002
7.	Shri. G. Ramanandam	April 2002 - April 2012
8.	Dr. P. Ashok	April 2012 - September 2016
9.	Dr. M. Janaki	September 2016 - January 2019
10.	Dr. K. Mamatha (FAC)	January 2019 - May 2019
11.	Dr. M. Janaki	May 2019 - April 2021
12.	Dr. K. Mamatha (FAC)	April 2021 - October 2021
13.	Dr. M. Janaki	October 2021 - January 2026
14.	Dr. V. Sivakumar	January 2026 - March 2026
15.	Dr. P. Avani	March 2026 - Present

08. Indira Gandhi Krishi Vishwavidyalaya, Shaheed Gundadhur College of Agriculture & Research Station, Jagdalpur, Chhattisgarh

The centre was established during the 7th five-year plan in 1988.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	Taro
5.	Elephant foot yam

Biodiversity conservation

A total of 463 germplasm of 21 different major and minor tuber crops are being maintained.

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Cassava	38
2.	Sweet potato	50
3.	Greater yam	63
4.	White yam	1
5.	Lesser yam	4
6.	Aerial yam	66
7.	Other yams	12
8.	Taro	134
9.	Dasheen taro	12
10.	Swamp taro	1
11.	Tania	2
12.	Elephant foot yam	35
13.	Giant taro	1
14.	Arrowroot	1
15.	Winged bean	2
16.	Yam bean	2
17.	East Indian Arrowroot	26
18.	Crepe ginger	12
19.	Indian kudzu	1
	Total	**463**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Cassava	Chhattisgarh Cassava-1	Chhattisgarh	• Growth habit: spreading and branching • Excellent cooking and culinary quality, tolerant to Cassava mosaic virus • Starch content: 30% • Average yield: 39-43 t ha^{-1} • Duration: 7-8 months	2015

Sweet potato	Indira Madhur	Chhattisgarh	• Plant type: semi spreading, leaf shape: narrow lobed • Tuber shape: elliptical to long • Skin colour: red, flesh colour: orange • Clonal selection from the material received from CIP, New Delhi • Carotene: 5524 (IU/100g) • Average yield: 26 t ha^{-1} • Duration: 110-120 days	2007
	Indira Nandini	Chhattisgarh	• Plant type: semi spreading, leaf shape: broad lobed • Tuber shape: elliptical to round • Skin colour: red, flesh colour: cream • Clonal selection of a poly cross between • Sree Nandini x open pollinated varieties • Average yield: 25.53 t ha^{-1} • Duration: 120 days	2007
	Indira Naveen	Chhattisgarh	• Plant type: semi spreading, leaf shape: narrow lobed • Tuber shape: elliptical to long • Skin colour: pinkish red, flesh colour: cream • Tolerant to sweet potato weevil and suitable for culinary purpose • Developed through clonal selection from the • cultivar- Sree Vardhini • Average yield: 33.8 t ha^{-1} • Duration: 90-100 days	2007
	Chhattisgarh Shakarkand Narangi	Chhattisgarh	• Plant type: erect, leaf shape: deep lobed and elliptical • Tuber shape: fusiform • Skin colour: purple red, flesh colour: orange • Clonal selection of poly cross between strain 56-2 x open pollinated variety • Carotene: 5.72 mg/100g • Average yield: 28.66 t ha^{-1} • Duration: 90 days	2015
	Chhattisgarh Shakarkand Priya	Chhattisgarh	• Plant type: erect, leaf shape: deep lobed and elliptical • Tuber shape: fusiform • Skin colour: pink, flesh colour: pale yellow • Clonal selection of poly crosses between Indira Naveen x open pollinated variety • Tolerant to sweet potato weevil • Average yield: 28-35 t ha^{-1} • Duration: 100-110 days	2015

Greater yam	Chhattisgarh Ratalu-1	Chhattisgarh and Gujrat	• Tuber shape: cylindrical long, skin colour: dark brown, flesh colour: purplish white • Dry matter: 40.43%, starch: 25.83%, crude protein: 7.74% • Tolerant against anthracnose disease • Average yield: 26-40 t ha^{-1} • Duration: 6-7 months	2018
	Chhattisgarh Ratalu-2	Chhattisgarh and Rajasthan	• Tuber shape: cylindrical, skin colour: yellowish • cream, flesh colour: yellowish white • Clonal selection from local genotype • Dry matter: 29.3%, starch: 21.93% and crude protein: 8.1% • Moderate resistant against anthracnose disease • Average yield: 26-31 t ha^{-1} • Duration: 7-8 months	2022
Aerial yam	Chhattisgarh Dangkanda-1	Chhattisgarh	• Aerial bulb shape: round with rough surface, skin colour: dark brown, flesh colour: light yellow • Free from leaf spot disease • Dry matter: 40.94%, crude protein: 5.69%, calcium (dw): 0.35-0.55 % and potassium: 1.88 % • Average yield: 13-15 t ha^{-1} • Duration: 4-5 months	2020
Taro	Indira Arvi-1	Chhattisgarh	• Corm shape: medium sized, cormel shape: club shaped with blunt ends • Skin colour: light brown, flesh colour: white • Suitable for *kharif* season • Non acrid and tolerant to pest and leaf blight disease • Average yield: 22-33 t ha^{-1} • Duration: 210-240 days	2007
	Chhattisgarh Arvi-2	Chhattisgarh	• Corm shape: round, cormel shape: round • Skin colour: light brown, flesh colour: cream • Suitable for *kharif* season • Excellent cooking quality and resistant to leaf blight disease • Average yield - 24.1 t ha^{-1}; potential yield: 27.1 t ha^{-1} • Duration: 170-180 days	2015
Dasheen taro	Chhattisgarh Sakhen Bunda-1 (IGB-5)	Chhattisgarh	• Corm shape: elongate, cormel shape: narrow, elongated and curved • Skin colour: creamish white, flesh colour: off white • Excellent cooking and culinary quality • Tolerant against *Phytophthora* blight disease • Average yield: 32-44 t ha^{-1} • Duration: 5-6 months	2019

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Greater yam	TGy14-3 (IKDIO-04-54)	Bihar, Rajasthan, Manipur, Assam and Chhattisgarh	• Cylindrical tuber with cream flesh • Moderately resistant to anthracnose disease • Dry matter: 38.15% • Total starch: 29.24% • Duration: 240-270 days	2021
Tannia	IGSGTN-1 (TTn14-1)	Chhattisgarh, Manipur and Kerala	• Tolerant against leaf blight • Average yield: 22-41 t ha^{-1} • Duration: 180-210 days	2023

Tuber crop varieties released by Jagdalpur centre

Cassava var. Chhattisgarh Cassava -1

Sweet potato var. Indira Madhur

Sweet potato var. Indira Nandini

Sweet potato var. Indira Naveen

Sweet potato var. Chhattisgarh Shakarkand Narangi

Sweet potato var. Chhattisgarh Shakarkand Priya

Greater yam var. Chhattisgarh Ratalu-1

Greater yam var. Chhattisgarh Ratalu -2


Aerial yam var. Chhattisgarh Dangkanda -1


Taro var. Indira Arvi-1


Taro var. Chhattisgarh Arvi-2


Dasheen taro var. Chhattisgarh Sakhen Bunda -1

Production technologies included in POP

1. Organic production technology in cassava
2. Use of cassava leaves for Eri silkworm rearing for production of Eri silkworm
3. Intercropping system of Greater yam + Maize (1:3) for Chhattisgarh
4. For greater yam production, application of paddy straw @ 1.0 kg/pit + 75% recommended dose of fertilizers (60:45:60 kg N:P:K ha^{-1})
5. Intercropping systems in taro with turmeric (1:2) where turmeric given additional rhizome yields as intercrop

Production technologies recommended

1. Low input technology for cassava production
2. Organic nutrient management package for taro
3. Intercropping system with yam bean
4. Integrated weed management in elephant foot yam
5. Integrated farming system models involving tuber crops

Plant protection technologies included in POP

1. Refinement of anthracnose management in greater yam with soil application and tuber treatment with *Trichoderma asperellum*
2. Management of taro leaf blight with combination of spray of Mancozeb + Metalaxyl M 0.1%.

Plant protection technologies recommended

1. Management of postharvest rot in elephant foot yam corms stored for seed purpose
2. Organic management of postharvest rot in elephant foot yam corms stored for seed purpose
3. Identification of critical period for cassava mosaic disease development in cassava

Developmental programmes from 2020-2025

The centre undertook special schemes such as Tribal Sub Plan (TSP) and Schedule Caste Sub Plan (SCSP) for improving the food, nutrition and livelihood security of these special segments of our society. The centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, webinars, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken up on a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	38	17	1560
2.	Demonstrations	6	6	170
3.	Kisan melas	20	-	8000
4.	Mass media programmes	-	-	-
5.	Scientist farmer interface	-	-	-
6.	Farm advisory visits	08	5	50
7.	Distribution of farmer inputs	20	12	600
8.	Women empowerment and value addition programmes	07	02	115
9.	Exposure visits	-	-	-
10.	Hands-on-training	02	02	45

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centre. The centre produced a total of 18,500 stems of cassava, 81500 vine cuttings of sweet potato, 6.4 tons of elephant foot yam, 1.63 tons of taro, 0.39 tons of dasheen, 0.64 tons of greater yam, 0.21 tons of aerial yam and 0.51 tons of east Indian arrowroot as part of planting material production programme during the last 5 years (2020-2025).

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Chhattisgarh Cassava-1	18,500 stems cuttings	0.18
2.	Sweet potato	Indira Madhur, Indira Nandini, Indira Naveen, Chhattisgarh Shakarkand Narangi, Chhattisgarh Shakarkand Priya	81,500 vine cuttings	0.41
3.	Greater yam	Chhattisgarh Ratalu-1	0.64 t	0.139
4.	Aerial yam	Chhattisgarh Dangkanda-1	0.21 t	0.122
5.	Taro	Indira Arvi-1	1.63 t	0.101
6.	Dasheen taro	Chhattisgarh Sakhen Bunda-1	0.39 t	0.049
7.	Elephant foot yam	Gajendra	6.4 t	1.37
8.	East Indian Arrowroot	Chhattisgarh Tikhur-1	0.51 t	0.24

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. H.C. Nanda	August 1988 - March 1994
2.	Dr. Jitendra Singh	March 1994 - February 2002
3.	Dr. Vijay Jain	April 2003 - May 2003
4.	Dr. M.S. Painkra	May 2003 - March 2005
5.	Dr. Deo Shankar Ram	March 2005 - September 2018
6.	Dr. Padmakshi Thakur	September 2018 - Present

09. Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan

The centre was started in 2006-07 as a voluntary centre and became a regular centre in 2015.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Taro
4.	Elephant foot yam

Biodiversity conservation

A total of 143 germplasm collections of five different tuber crops have been maintained.

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Cassava	12
2.	Sweet potato	67
3.	Greater yam	36
4.	Eddoe type Arvi/Taro	25
5.	Elephant foot yam	03
	Total	**143**

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Greater yam	TGy17-4	Rajasthan	• Tuber shape: oval • Tuber flesh color: white • Dry matter: 30.52% • Starch: 22.50% • Protein: 4.15% • Cooking quality: average to good • Average yield: 28.17 t ha^{-1}	Under process of compilation & submission of variety release proposals
Taro	TTr17-3	Rajasthan	• Number of cormel per plant: 18.23 • Cormel weight: 25.50 g/cormel • Weight of cormel per plant: 465 g • Corm weight: 73.6 g • Cormel shape: conical • Cormel flesh color: white • Corm shape: round • Calcium oxalate of cormel: 21.74 mg/100g • Average yield: 22.84 t ha^{-1}	

Production technologies included in POP

1. Organic production package for sweet potato
2. Management of micronutrients in sweet potato
3. Integrated nutrient management in sweet potato
4. Validation of organic farming technologies in greater yam
5. Integrated weed management in taro

Production technologies recommended

1. High density planting in greater yam

Plant protection technologies included in POP

1. Integrated management of sweet potato weevil

2. Anthracnose disease management in greater yam

Developmental programmes from 2020-2025

The center has organized special programs under SCSP to improve the living standard of farmers in these segments. Also various extension programs are being organized regularly to create awareness and popularize tuber crops in non-conventional areas of Rajasthan. Several vocational programs, field visits, exposure visits, demonstrations, and distribution of agri-inputs are taken up under various sub-programs of AICRP on tuber crops. Tuber crop-based agri-entrepreneurships have been executed by MPUAT, Udaipur Centre, which has created significant employment opportunities in the state.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	28	102	1233
2.	Demonstrations	66	2	66
3.	Kisan melas	06	46	2000
4.	Mass media programmes	16	-	-
5.	Scientist farmer interface	04	07	170
6.	Farm advisory visits	05	05	80
7.	Distribution of farmer inputs	19	102	872
8.	Women empowerment and value addition programmes	07	09	164
9.	Exposure visits	05	-	-
10.	Hands-on-training	05	05	119

Planting material production from 2020-2025

The centre produced 1,80,000 vine cuttings of sweet potato, 1.21 tons of elephant foot yam, 1.75 tons of greater yams and 1.65 tons of taro as part of the planting material production program for the last 5 years and identified progressive farmers for strengthening planting material production and distribution of newly released varieties.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Sweet potato	CO 3-4 Gouri	1,80,000 vine cuttings	2.6
2.	Greater yam	Local Sree Neelima	1.75 t	0.825
3.	Taro	Muktakeshi Local	1.65 t	2.06
4.	Elephant foot yam	Gajendra	1.21 t	0.54

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. Sunil Pareek	September 2007 - October 2015
2.	Dr. Rajendra Rathore	October 2015 - March 2018
3.	Dr. K.D. Ameta	March 2018 - December 2018
4.	Dr. Virendra Singh	January 2019 - Present

10. Navsari Agricultural University, Regional Horticultural Research Station, ASPEE College of Horticulture, Navsari, Gujarat

The centre was established on 1st April, 1994 at Waghai and later on shifted to Navsari on 1st August, 2006.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Tannia
4.	Elephant foot yam

Biodiversity conservation

A total of 124 germplasm under 8 different tuber crops and other minor crops are being maintained.

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Cassava	11
2.	Sweet potato	57
3.	Greater yam	17
4.	Lesser yam	2
5.	Aerial yam	5
6.	Taro	3
7.	Tannia	16
8.	Elephant foot yam	13
	Total	124

Production technologies recommended and included in POP

1. Standardization of fertilizer dose and spacing in cassava
2. Fertilizer application in elephant foot yam
3. Organic production of elephant foot yam
4. Effect of plant density and sett size on growth and dry matter partitioning of elephant foot yam
5. Site specific nutrient management study of elephant foot yam
6. Validation of organic farming technologies in elephant foot yam
7. Integrated weed management in elephant foot yam
8. Fertilizer application in greater yam
9. Effect of different organic manures on growth, yield and quality of yam
10. Effect of land configuration, soil conditioner and fertilizer on greater yam cv. Local Round
11. Performance of greater yam (*Dioscorea alata* L.) under different stacking systems
12. Validation of customized fertilizers in sweet potato

Plant protection technologies recommended and included in POP

1. Integrated management package for minimizing postharvest rot in elephant foot yam
2. Organic management package for minimizing postharvest rot in elephant foot yam

Developmental programmes from 2020-2025

The centre undertook special schemes such as SCSP for improving the food, nutrition and livelihood security of these special segments of our society. The centre regularly conducts 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.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	10	8	347
2.	Demonstrations	3	1	33
3.	Kisan melas	3	17	130
4.	Mass media programmes	3	10	90
5.	Scientist farmer interface	3	3	40
6.	Farm advisory visits	2	2	3
7.	Distribution of farmer inputs	5	5	44
8.	Women empowerment and value addition programmes	13	18	153
9.	Exposure visits	2	2	60
10.	Hands-on-training	6	3	65

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centres are given below.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Local	500 cuttings	0.04
2.	Sweet potato	C-71	38,620 cuttings	0.51
		Bhu Kanti	17,675 cuttings	0.23
3.	Greater yam	Hemlata	2.89 t	1.04
4.	Tannia	Navsari Pari	0.64 t	0.13
5.	Elephant foot yam	Gajendra	6.63 t	1.07

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Dr. N.B. Patel	November 2006 - June 2010
2.	Dr. K.D. Desai	June 2010 - August 2019
3.	Dr. Himani B. Patel	August 2019- Present

11. Sri Konda Laxman Telangana Horticultural University, Vegetable Research Station, Rajendranagar, Telangana

The Centre was established at Rajendranagar, Hyderabad, in 1968 under the Andhra Pradesh Agricultural University (APAU). Following the bifurcation of the state, the centre came under Sri Konda Laxman Telangana Horticultural University (SKLTGHU), Telangana.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Taro
3.	Elephant foot yam

Biodiversity conservation

A total of 95 germplasm of four different crops are being maintained.

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Sweet potato	46
2.	Greater yam	2
3.	Taro	42
4.	Elephant foot yam	5
	Total	**95**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Sweet potato	Samrat	Telangana, Andhra Pradesh	• Medium spreading, leaf shape: cordate • Tuber shape: fusiform • Skin colour: white and pinkish streak; flesh colour: creamy white • Average yield: 15 t ha^{-1} • Duration: 100-120 days	1987
	Kiran	Telangana, Andhra Pradesh, Bihar	• Medium spreading, leaf shape: palmate leaves with 4-8 shallow lobes • Tuber shape: fusiform; skin colour: light red; flesh colour: orange • Beta carotene: 4-6 mg/100 g • Average yield: 22.5 t ha^{-1} • Duration: 110-130 days	1993
Taro	Satamukhi	Telangana, Andhra Pradesh, Bihar, West Bengal, Tamil Nadu, Kerala	• Corm and cormel shape: oblong elliptical • Skin colour: brown; flesh colour: white • Moderately resistant to leaf blight • Average yield: 20-25 t ha^{-1} • Duration: 180 days	1983

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Taro	RNCA-1	Telangana	• Medium spreading (6-7 tillers), green leaf colour with greenish purple petiole • Moderately resistant to leaf blight • Moderately resistant to flood and adverse environmental conditions • Duration:170-180 days • Average yield: 18-22 t ha^{-1}	-

Tuber crop varieties released by Rajendranagar centre

Sweet potato var. Samrat

Sweet potato var. Kiran

Taro var. Satamukhi

Production technologies included in POP

1. Micronutrient studies in sweet potato
2. Validation of customized fertilizers in taro
3. Integrated weed management in taro

Production technologies recommended

1. Management of micro nutrients in sweet potato
2. Natural farming in taro
3. High density planting in elephant foot yam

Plant protection technologies included in POP

1. IPM package against sweet potato weevil
2. Integrated management of sweet potato weevil
3. Sweet potato weevil management by using sex pheromone traps
4. Management of sucking pests in taro

Plant protection technologies recommended

1. Integrated anthracnose management in greater yam
2. Integrated management package for minimizing postharvest rot in elephant foot yam

Developmental programmes from 2020-2025

The centre under took special schemes such as SCSP for improving the food, nutrition and livelihood security of special segments of our society. The centre regularly conducts 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 upon a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	12	10	500
2.	Demonstrations	5	5	-
3.	Kisan melas	10	50	2000
4.	Mass media programmes	20	-	-
5.	Scientist farmer interface	15	10	150
6.	Farm advisory visits	20	10	200
7.	Distribution of farmer inputs	12	6	460
8.	Women empowerment and value addition programmes	5	5	100
9.	Exposure visits	20	20	100
10.	Hands-on-training	10	15	300

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by our centre. The centre produced a total of 1,07,500 vine cuttings of sweet potato, 0.41 tons of elephant foot yam, 2.32 tons of taro as part of planting material production programme during the last 5 years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Sweet potato	Kiran Bulkapur local Bhu Sona Bhu Krishna	1,07,500 cuttings	2.1
2.	Taro	RNCA-1	2.32 t	1.05
3.	Elephant foot yam	Gajendra	0.41 t	0.2

Officers-in-charge/PIs

Sl.No.	Name	Period
1.	Dr. Abida Sulthana	1976 - 2007
2.	Dr. M.A. Rahman (i/c)	2007 - 2009
3.	Dr. B.V. Rao	2009 - 2014
4.	Dr. M.A. Rahman	2000 - 2009
5.	Dr. B.K.M. Laxmi	January 2009 - November 2015
6.	Dr. D. Anitha Kumari (i/c)	December 2015 - September 2018
7.	Dr. V. Suresh	November 2018 - Present

12. Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu

The centre was initiated in TNAU, Coimbatore during 1968. Under Tamil Nadu Agricultural University, Horticultural College and Research Institute, TNAU, Coimbatore was established in 1972 and the Department of Vegetable Science came into existence in the same year as one of its components. On 1st April 1998, Tapioca and Castor Research Station (TCRS) was established as 32nd research station of Tamil Nadu Agricultural University at Yethapur, Pethanaickenpalayam Taluk of Salem District to meet the requirements of cassava growers of Tamil Nadu. Subsequently the AICRP research trials pertaining to tapioca was shifted to Yethapur.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Yams
3.	Taro
4.	Elephant foot yam
5.	Minor tuber crops

Biodiversity conservation

A total of 96 germplasm lines of five different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm conserved (No.)
1.	Sweet potato	55
2.	Greater yam	1
3.	Lesser yam	2
4.	Aerial yam	3
5.	Taro	5
6.	Elephant foot yam	4
7.	Chinese potato	1
8.	Winged bean	25
	Total	**96**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Sweet potato	CO 1	Tamil Nadu	• Growth habit: low spreading type, leaf shape: medium lobed • Tuber shape: elliptic • Tuber skin colour: light pink; flesh colour: white • Clonal selection (Ib 3) and tolerant to weevil infestation • Average yield: 28 t ha^{-1} • Duration: 135 days	1976
	CO 2	Tamil Nadu	• Growth habit: low spreading type, leaf shape: multilobed • Tuber shape: medium sized • Tuber skin colour: light pink and flesh colour: white • Clonal selection (Ib 37) and tolerant to weevil infestation • Average yield: 28 t ha^{-1} • Duration: 110 days	1980

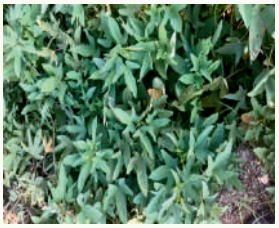
	CO 3	Tamil Nadu	• Growth habit: bushy, leaf shape: slightly lobed • Tuber shape: elliptic • Tuber skin colour : light red and flesh colour: dark orange • Beta carotene: 13.28 mg/100g • Clonal selection (Ib 758) and tolerant to weevil infestation • Average yield: 31 t ha^{-1} • Duration:105-110 days	1982
	CO CIP 1	Tamil Nadu	• Growth habit: spreading, leaf shape: simple leaf with 3-4 lobes • Tuber shape: elliptic • Tuber skin colour: pink and flesh colour: yellow • Clonal progeny half sib evaluation of OP seedlings and tolerant to weevil infestation • Average yield: 30-35 t ha^{-1} • Duration: 95-100 days	1999
	CO 5	Tamil Nadu	• Growth habit: vigorous spreading, leaf shape: cordate shaped • Tuber shape: oblong shaped • Tuber skin colour: pink and flesh colour: orange • Beta carotene: 20.02 µ g/g • Tolerant to weevil infestation (11-15%) • Average yield: 25 t ha^{-1} • Duration: 135 days	2013
Greater yam	CO 1	Tamil Nadu	• Tuber shape: long cylindrical • Tuber skin colour: brown, flesh colour: creamy white • Clonal selection and field tolerant to scale insect • Average yield: 40.20 t ha^{-1} • Duration: 8-8.5 months	1991
Elephant foot yam	CO 1	Tamil Nadu	• Tuber shape: flat round • Tuber skin colour: dark brown and flesh colour: light yellow • Low oxalate content: 0.1% • Average yield: 49.87 t ha^{-1} • Duration: 240-250 days	2022
Chinese potato	CO 1	Tamil Nadu	• Tuber shape: round to oval tubers • Tuber skin colour: brown and flesh colour: creamy white • Average yield: 31-35 t ha^{-1} • Duration: 6-7 months	1991

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Sweet potato	IB 73	Tamil Nadu	• Clonal selection from Ib 73 • Suitable for salad, boiled tuber and culinary purpose • Attractive pink skin and white flesh • Yield per vine: 1.51 kg, single tuber weight: 200 g • TSS: 6 -7 brix and good storability	-

Tuber crop varieties released by Coimbatore centre

Sweet potato var. CO 1



12c.

12d.

Sweet potato var. CO 2

Sweet potato var. CO 3Sweet potato

Sweet potato var. CO CIP 1

Sweet potato var. CO 5

Greater yam var. CO 1

Elephant foot yam var. CO 1

Chinese potato var. CO 1

Production technologies recommended

1. Customized fertilizers in sweet potato
2. Organic farming technologies in greater yam
3. Integrated weed management in elephant foot yam
4. Integrated weed management in taro

Plant protection technologies

1. Management of taro leaf blight

Developmental programmes from 2020-2025

Centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, exposure visits, exhibitions, hands on training, farm advisory services and distribution of farm inputs and implements are taken up on a regular basis. During last five years, various extension programmes was conducted and more than 300 tuber crop growing farmers were benefitted. Special programmes: HRD programmes under SCSP were conducted for improving the livelihood of the farmers. During 2019-2024, Rs.8.30 lakhs was spent for the conduct of trainings, demonstrations, exposure visits and distribution of tools and agro-inputs to 234 SC farmers.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	11	14	250
2.	Demonstrations	15	11	200
3.	Kisan melas	5	-	> 5000
4.	Mass media programmes	3	-	-
5.	Scientist farmer interface	25	-	-
6.	Farm advisory visits	23	-	-
7.	Distribution of farmer inputs	11	14	250
8.	Women empowerment and value addition programmes	5	9	150
9.	Exposure visits	3	4	150
10	Hands-on-training	5	-	150

Planting materials production from 2020-2025

The planting materials of tuber crops like sweet potato, elephant foot yam and coleus were multiplied and distributed to farmers. Urban area also got benefitted by the propagules of tuber crops like sweet potato, taro, chinese potato and yams. The centre produced and distributed more than 90000 vine cuttings of sweet potato and 10.43 tons of elephant foot yam to various parts of Tamil Nadu.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Sweet potato	CO 5 IB 73	50000 vine cuttings 45532 vine cuttings	5.6
2.	Elephant foot yam	CO 1	10.43 t	4.15

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Shri K.K. Ananthanarayanan	April 1971 - August 1971
2.	Shri K.G. Shanmugavelu	August 1971 - June 1972
3.	Shri S. Thamburaj	June 1972 - August 1976
4.	Shri S. Sathiamoorthy	August 1976 - July 1977
5.	Shri R. Venkatachalam	October 1983 - October 1989
6.	Smt. D. Sarala Devi	October 1989 - November 1990

7.	Shri S. Subramanian	November 1990 - May 1992
8.	Shri L. Pugalendhi	June 1992 - June 1993
9.	Shri V. Lakshmanan	June 1993 -April 1994
10.	Smt. L. Jeeva Jothi	April 1994 - June 1995
11.	Dr. T. Arumugam	July 1995 - April 2006
12.	Dr. S. Subramanian	April 1996 - February 1997
13.	Smt. P. Jansi Rani	March 1997 - March 2001
14.	Dr. M. Kannan	April 2001 - March 2004
15.	Dr. K. Nageswari	March 2004 - May 2007
16.	Dr. K. Venkatesan	May 2007 - May 2007
17.	Dr. T. Saraswathi	May 2007 - August 2009
18.	Dr. K. Venkatesan	August 2009 - April 2013
19.	Dr. P.R. Kamalkumaran	April 2013 - March 2019
20.	Dr. C. Thangamani	May 2019 - March 2026
21.	Dr. G. Ashokkumar	March 2026 - Present

13. Tamil Nadu Agricultural University, Tapioca and Castor Research Station, Yethapur, Tamil Nadu

The centre was started in 01.04.1998.

Mandate crops

Sl. No.	Crop
1.	Cassava

Biodiversity conservation

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	376

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Cassava	CO 1	Tamil Nadu	• Erect growing and tall; non branching • Starch content: 25% • Suitable for table purpose • Average yield: 32 t ha^{-1} • Duration: 9-10 months	1976
	CO 2	Tamil Nadu	• Erect growing with top branching • Starch content: 23% • Dual purpose (edible and industry) • Average yield: 35 t ha^{-1} • Duration: 9-10 months	1985
	CO 3	Tamil Nadu	• Highly branching • Tolerant to CMD • Starch content: 35% • Suitable for table purpose • Average yield: 42 t ha^{-1} • Duration: 9-10 months	1992
	CO (Tp) 4	Tamil Nadu	• Erect, tall and non branching type • Starch content: 40% • Suitable for industrial purpose • Average yield: 50 t ha^{-1} • Duration: 9-10 months	2002
	CO (Tp) 5	Tamil Nadu	• Erect, tall growing and non branching type • Starch content: 28% • Cassava mosaic disease incidence grade is one (no symptom) • Suitable for industrial purpose • Average yield: 38 t ha^{-1} • Duration: 9-10 months	2007
	YTP 1	Tamil Nadu	• Erect, tall growing and non branching type • Starch content: 25-27% • Suitable for industrial purpose • Average yield: 49.51 t ha^{-1} • Duration: 9-10 months	2013
	YTP 2	Tamil Nadu	• Erect, medium growing and branching type • Starch content: 29-30% • Suitable for industrial purpose • Average yield: 46.20 t ha^{-1} • Duration: 9-10 months	2020

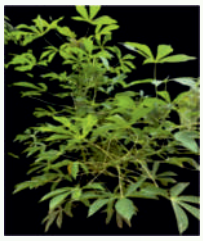
Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Cassava	YTPH 1	Tamil Nadu	• Erect, medium growing and non branching type • Total starch: 32.90% • Average yield: 51.30 t ha^{-1}	-

Cassava varieties released by Yethapur centre


CO 1


CO 2

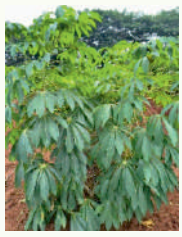



CO 3


CO (Tp) 4


CO (Tp) 5


YTP 1

YTP 2

Production technologies included in POP

1. Pruning technique in cassava for tuber yield
2. Integrated Nutrient Management in cassava
3. Fertigation and micro irrigation for cassava
4. Low input technology for cassava production
5. Integrated weed management in cassava
6. Integrated nutrient management (INM) in cassava
7. Micronutrient management in cassava
8. Organic production technology in cassava
9. Water saving technique in cassava
10. Secondary and micronutrients inclusive customized fertilizers for cassava

Plant protection technologies included in POP

1. Management of cassava red spider mites
2. Classical biological control of cassava mealy bug

Developmental programmes from 2020-2025

Centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, exposure visits, exhibitions, webinars, mass media programmes, scientist-farmer interfaces, women entrepreneurship programmes, hands on training, farm advisory services and distribution of farm inputs and implements were taken up on a regular basis. During last five years, various extension programmes was conducted benefiting 8455 cassava farmers. SCSP programmes were conducted for improving the food, nutrition and livelihood security of the farmers. During 2019-2024, Rs.14.55 lakhs was spent for the conduct of training, demonstration, exposure visit and distribution of agro-inputs to 367 SCSP programme farmers.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	134	9	500
2.	Demonstrations	134	9	500
3.	Kisan melas	4	25	4500
4.	Mass media programmes	9	2	-
5.	Scientist farmer interface	4	-	1800
6.	Farm advisory visits	25	5	125
7.	Distribution of farmer inputs	10	9	500
8.	Women empowerment and value addition programmes	5	9	240
9.	Exposure visits	2	5	50
10.	Hands-on-training	5	9	240

Planting material production from 2020-2025

Through decentralised seed multipliers (DSM), the planting materials of improved varieties of cassava were multiplied and distributed to farmers by Yethapur centre. During 2020-25, the centre produced and distributed a total of 721783 stems of cassava covering 601.51 ha of area.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Athulya YTP 1 YTP 2 Sree Reksha Sree Kaveri	7,21,783 stem cuttings	601.51

Officers-in-charge/PIs

Sl. No.	Name	Period
1.	Smt. T. Saraswathi	October 2000 - May 2007
2.	Dr. K. Nageswari	May 2007 - December 2012
3.	Dr. M. Velmurugan	December 2012 - October 2018
4.	Dr. P.S. Kavitha	October 2018 - October 2022
5.	Dr. M. Velmurugan	October 2022 - Present

14. University of Horticultural Sciences, Bagalkot, Karnataka

The centre was started in 5th May 2009 as a voluntary centre and became a regular centre on 18 November 2014.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Taro
4.	Elephant foot yam
5.	Arrowroot

Production technologies included in POP

1. Organic production of sweet potato
2. Integrated weed management in taro

Production technologies recommended

1. Management of micronutrients in sweet potato
2. Customized fertilizers for sweet potato

Plant protection technologies included in POP

1. IPM package against sweet potato weevil
2. Integrated management of sweet potato weevil
3. Sweet potato weevil management by using sex pheromone traps

Developmental programmes from 2020-2025

The centre undertook special schemes such as SCSP for improving the food, nutrition and livelihood security of the special segments of our society. The centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, webinars, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of Agril. inputs and implements were taken up on a regular basis.

Biodiversity conservation

A total of 128 germplasm of different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	07
2.	Sweet potato	82
3.	Greater yam	08
4.	White yam	03
5.	Lesser yam	01
6.	Aerial yam	03
7.	Other yams	03
8.	Taro	07
9.	Dasheen taro	02
10.	Elephant foot yam	03
11.	Chinese potato	02
12.	Arrowroot	01
13.	Canna	04
14.	Yam bean	01
15.	Others	01
	Total	**128**

Sl.No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	23	14	450
2.	Demonstrations	05	03	75
3.	Kisan melas	13	12	1500
4.	Mass media programmes	15	-	-
5.	Scientist farmer interface	18	11	250
6.	Farm advisory visits	10	10	30
7.	Distribution of farmer inputs	11	25	275
8.	Women empowerment and value addition programmes	11	08	300
9.	Exposure visits	-	-	-
10.	Hands-on-training	04	02	100

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centres. The centre produced a total of 4.18 lakhs vine cuttings of sweet potato, 1150 stems of cassava, 1.25 tons of elephant foot yam, as part of planting material production programme during the last five years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya Sree Vijaya	1150 stem cuttings	0.10
2.	Sweet potato	Sree Bhadra Bhu Sona Bhu Krishna Malkapuri	4.18 lakh vine cuttings	4.75
3.	Elephant foot yam	Gajendra	1.25 t	0.14

Officers-in-charge / PIs

Sl. No.	Name	Period
1.	Dr. T.B. Alloli	May 2009 - November 2014
2.	Dr. K.R. Naik	November 2014 - July 2019
3.	Dr. Ambresh	July 2019 - January 2021
4.	Dr. Imamsaheb Jatth	January 2021 - Present

15. Central Agricultural University, Imphal, Manipur

The centre was started in 6th May, 2006 as a voluntary centre and as coordinating centre since 19th March, 2009.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	Aerial yam
5.	Taro
6.	Dasheen taro (Bunda)
7.	Swamp taro

Biodiversity conservation

A total of 135 germplasms of 10 different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	31
2.	Sweet potato	35
3.	Greater yam	9
4.	Lesser yam	5
5.	Aerial yam	5
6.	Taro	28
7.	Swamp taro	7
8.	Tannia	5
9.	Arrowroot	4
10.	Winged bean	6
	Total	**135**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Cassava	CAU Umangra-1	Manipur	• Medium tall variety with branching • Tuber shape: cylindrical • Excellent cooking quality • Starch content: 28.5% • Average yield: 24-31 t ha^{-1} • Duration: 8-9 months	2021

Variety recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Swamp taro	CAUST-2	Manipur	• Caudex shape: cylindrical Good cooking quality • Starch content: 6.05% • High caudex yield: 13-16 t ha^{-1} • Stolon yield: 6-7 t ha^{-1}	2022

Cassava variety released by Imphal centre

Cassava var. CAU Umangra-1

Production technologies included in POP

1. Tuber crops based integrated farming system in Manipur
2. Standardization of nutrient requirement of swamp taro
3. Validation of organic farming technologies in greater yam

Production technologies recommended

1. Identification of suitable cropping system with taro

Plant protection technologies recommended

1. Identification of critical period for cassava mosaic disease development in cassava
2. Management of taro leaf blight

Developmental programmes from 2020-2025

The centre organized various programmes under NEH and SCSP component. The centre has successfully organized trainers' training programmes, awareness programmes and farmers training programme on popularization of tuber crops and technologies in different region of Manipur and Arunachal Pradesh. The centre also participated in various seminars, conferences, webinars and exhibitions etc. The centre established tuber crops based integrated farming system model in different parts of Manipur thereby providing animal component, vegetable seed, planting materials of tuber crops, installation of piggery sty, installation of poultry shed etc. The farmers were benefited in improving the food, nutrition and livelihood security.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	31	60	1214
2.	Demonstrations	10	10	35
3.	Kisan melas	8	15	170
4.	Mass media programmes	3	-	-
5.	Scientist farmer interface	2	-	-
6.	Farm advisory visits	10	10	50
7.	Distribution of farmer inputs	25	42	480
8.	Women empowerment and value addition programmes	5	9	165
9.	Exposure visits	1	5	10
10.	Hands-on-training	7	15	243

Planting material production from 2020-2025

Planting materials of improved varieties of different tuber crops were produced and distributed to farmers by the centre. The centre produced a total of 31,500 stem cuttings of cassava, 17,000 vine cuttings of sweet potato, 1000 plants of swamp taro as part of planting material production programme.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	CAU Umangra-1 Sree Jaya Sree Prakash Sree Vijaya	31500 stem cuttings	3
2.	Sweet potato	Sree Bhadra Bhu Sona Bhu Krishna NFSP-1	17000 vine cuttings	0.20
3.	Swamp taro	CAUST-1, CAUST-2	1000 plantlets	0.02

Officers-in-charge / PIs and Co-PI's

Sl. No.	Name	Period
1.	Dr. A.K. Bijaya Devi (PI)	2006 - 2026
2.	Dr. Ng. Piloo (PI)	2026 - Present
	(Co-PI)	2020 - 2026
3.	Dr. Meinam Chanchan (Co-PI)	2023 - Present

16. Dr. Rajendra Prasad Central Agricultural University Dholi, Bihar

The All India Coordinated Research Project on Tuber Crops (AICRP TC) was officially established at Dholi during 1968 with three centres, the then Rajendra Agricultural University (presently as Dr. Rajendra Prasad Central Agricultural University), Pusa, Bihar as headquarters, Tamil Nadu Agricultural University, Coimbatore and ICAR-Central Tuber Crops Research Institute, Thiruvananthapuram. Dr. S.P. Verma joined in March 1979 as the first Project Coordinator and was functioning from Rajendra Agricultural University, Dholi, Bihar.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Taro
3.	Dasheen taro (Bunda)
4.	Elephant foot yam
5.	Yam bean

Biodiversity conservation

A total of 1345 germplasm of 10 different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Sweet potato	1055
2.	Greater yam	10
3.	Lesser yam	05
4.	Aerial yam	02
5.	Taro	68
6.	Dasheen taro	29
7.	Elephant foot yam	22
8.	Yam bean	140
9.	Arrowroot	02
10.	Winged bean	10
11.	Katchu	02
	Total	**1345**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Sweet potato	Rajendra Sakarkand-5	Bihar, Jharkhand and Uttar Pradesh	• Plant type: spreading; leaf shape: broad and six lobed • Tuber shape: cylindrical; skin colour: creamy white skin; flesh colour: white • Average yield:18 t ha^{-1} • Duration: 105-120 days	1980
	Rajendra Sakarkand-35	Bihar, Assam, Karnataka, West Bengal and Jharkhand	• Plant type: medium spreading; leaf shape: green teethed • Tuber shape: cylindrical; skin colour: dull white; flesh colour: white • Suitable for spring planting • Average yield: 20 t ha^{-1} • Duration: 110-120 days	1990
	Rajendra Sakarkand-43	Bihar, Assam, Karnataka, West Bengal and Jharkhand	• Plant type: medium spreading; leaf shape: green teethed • Tuber shape: cylindrical; skin colour: brownish; flesh colour: white • Suitable for late harvesting • Average yield: 20 t ha^{-1} • Duration: 105-110 days	1993

	Rajendra Sakarkand-47	Bihar, Jharkhand, West Bengal and Uttar Pradesh	• Plant type: spreading; leaf shape: green triangular • Tuber shape: cylindrical; skin colour: reddish purple; flesh colour: white • Deep bulking and suitable for late harvesting • Average yield: 25 t ha^{-1} • Duration: 120-130 days	1993
	Rajendra Sakarkand-92	Bihar	• Plant type: spreading; leaf shape: distinctly different leaf incision • Tuber shape: cylindrical; skin colour: red; flesh colour: yellowish white • Suitable for flood prone area of North Bihar and tolerant to sweet potato weevil and *Cerospora* leaf spot • Average yield: 18 t ha^{-1} • Duration: 75 - 120 days	2001
	Rajendra Sakarkand-7	Bihar	• Plant type: medium spreading; leaf shape: green triangular • Tuber skin colour: red; flesh colour: white • High in dry matter: 25-30% and rich in starch content: 10-12 % • Tolerance to sweet potato weevil (*Cylas formicarius*) • Average yield: 25 t ha^{-1} • Duration:110-120 days	2024
Taro	Rajendra Arvi-1	Bihar, Jharkhand and Chhatisgarh	• Corm shape: spherical; cormel shape: cylindrical • Skin colour: white and brown; flesh colour: white • Cormels are non-irritant and with excellent cooking quality • Average yield: 16 t ha^{-1} • Duration: 170-180 days	2008
	Rajendra Arvi-2	Bihar	• Corm shape: spherical; cormel shape: cylindrical • Cormels are non-irritant and with excellent cooking quality • Average yield: 18 t ha^{-1} • Duration: 170-180 days	2024
Yam bean	Rajendra Mishrikand-1	Bihar	• Tuber shape: round conical • Tuber flesh colour: white • Contain less sugar and fiber content and mature seeds posses Rotenone • Duration: 110-140 days	1992
	Rajendra Mishrikand-2	Bihar and West Bengal	• Tuber shape: long conical • Tuber flesh colour: white • Contain more sugar and fiber content and mature seeds posses Rotenone • Duration: 120-140 days	2012

Rajendra Mishrikand-3	Bihar	• Tuber shape: long conical • Tuber flesh colour: white flesh • Contain more sugar and fiber content and mature seeds • Duration: 120-140 days	2024

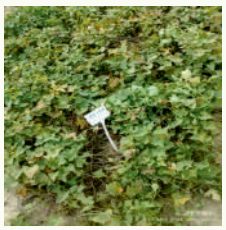
Tuber crops varieties released by Dholi centre

SWEET POTATO


Rajendra Sakarkand-5


Rajendra Sakarkand-35


Rajendra Sakarkand-43




Rajendra Sakarkand-47


Rajendra Sakarkand-92

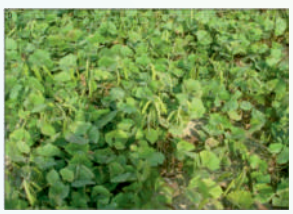

Rajendra Sakarkand-7

TARO

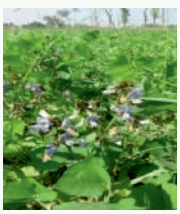

Rajendra Arvi- 1


Rajendra Arvi-2

YAM BEAN




Rajendra Mishrikand-1




Rajendra Mishrikand-2

Yam bean var. Rajendra Mishrikand-3

Production technologies included in POP

1. Integrated nutrient management in sweet potato
2. Integrated weed management in sweet potato
3. Two tier planting in sweet potato
4. Crop rotation and cropping sequences in sweet potato
5. Suitable spacing for plain area and diara area
6. Integrated nutrient management in elephant foot yam
7. Site-specific nutrient management in elephant foot yam
8. Broad-spectrum weed management in elephant foot yam
9. Intercropping systems in elephant foot yam with spice crops
10. Integrated nutrient management in taro
11. Site-specific nutrient management in elephant foot yam
12. Integrated weed management in taro
13. Integrated nutrient management in yam bean
14. Weed management in yam bean

Production technologies recommended

1. Use of biofertilizers in sweet potato for increasing nitrogen use efficiency
2. Management of micro-nutrients in sweet potato
3. Use of locally available organic sources for nutrient management in elephant foot yam
4. Organic production practices for elephant foot yam using biofertilizers
5. Use of biofertilizer to increase the yield of taro
6. Intercropping maize with yam bean

Plant protection technologies included in POP

1. Integrated pest management against sweet potato weevil
2. Management of termites in sweet potato
3. Management of sweet potato weevil through barrier crops
4. Sweet potato weevil management by using sex pheromone trap
5. Management of collar rot disease in elephant foot yam
6. Storage techniques for elephant foot yam corms
7. Integrated management of leaf blight in taro
8. Storage techniques for taro seed tubers
9. Integrated disease management in taro
10. Management of yam bean pod borer through chemicals
11. Management of yam bean pod borer using plant extract
12. Pest management using yam bean seed extract for sucking pest of taro and mustard

Plant protection technologies recommended

1. Integrated disease management in sweet potato
2. Organic management of postharvest rot in elephant foot yam

Developmental programmes from 2020-2025

AICRP TC, Dholi centre conducted programmes under the special SCSP for improving the food, nutrition and livelihood security of this special segment of our society. The centre also regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, kisan melas, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken up on regular basis by the center. Implementation of SCSP programmes since 2019 in this centre has significantly improved the living standards of scheduled caste farmers of surrounding the project sites of Bihar.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	11	22	350
2.	Demonstrations	15	15	500
3.	Kisan melas	10	-	10000
4.	Mass media programmes	10	-	-
5.	Scientist farmer interface	05	05	25
6.	Farm advisory visits	25	10	25
7.	Distribution of farmer inputs	11	05	350
8.	Women empowerment and value addition programmes	10	05	350
9.	Exposure visits	10	10	100
10.	Hands-on-training	12	05	350

Planting material production from 2020-2025

Planting materials of improved varieties of elephant foot yam, taro, sweet potato and yam bean were multiplied by the center and distributed to farmers. Dholi centre has identified two decentralized seed multipliers as co-operative societies/progressive farmers for strengthening planting material production and distribution of existing Elephant foot yam variety Gajendra in particular and other tuber crops in general. The centre produced a total of about 93000 cuttings of sweet potato, 16.05 tons of elephant foot yam, 1.72 tons of taro, 1.57 tons of lesser yam and 0.65 tons of yam bean as part of planting material production programme during the last five years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Sweet potato	Cross-4 RS-47 RS-35 RS-92 Sree Bhadra	93000 vine cuttings	11.50
2.	Lesser yam	Sree Latha Chaparia Lotani	1.57 t	5.0
3.	Taro	RA-1 RA-2	1.72 t	5.0
4.	Elephant foot yam	Gajendra	16.05 t	10.0
5.	Yam bean	RM-1 RM-2	0.65 t	4.0

Officers-in-charge / PIs

Sl. No.	Name	Period
1.	Dr. S.P. Verma	1968 - 1971
2.	Dr. D.N. Mishra	1971 - 1985
3.	Dr. K.P. Singh	1985 - 1994
4.	Dr. V.S. Verma	1994 - 2001
5.	Dr. P.K. Rai	2001 - 2002
6.	Dr. C.P. Singh	2002 - 2009
7.	Dr. P.P. Singh	2009 - 2017
8.	Dr. Ashish Narayan	2017 - Present

17. ICAR-Central Island Agricultural Research Institute, Port Blair, Andaman & Nicobar Islands

The centre was started in 2008.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Greater yam
3.	Taro
4.	Elephant foot yam

Biodiversity conservation

A total of 139 germplasm of 13 different tuber crops and other minor crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	5
2.	Sweet potato	8
3.	Greater yam	47
4.	Other yams	8
5.	Taro	39
6.	Tannia	5
7.	Elephant foot yam	6
8.	Giant taro	2
9.	Chinese potato	1
10.	Arrowroot	1
11.	Others	17
	Total	**139**

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Sweet potato	Dweep Swarna	Andaman and Nicobar Islands	• Tuber colour: light pink • Flesh colour: orange • Resistant to weevil and suitable to Island conditions	2013
	Dweep Aparna	Andaman and Nicobar Islands	• Tuber flesh colour: White • High yielding and locally adapted genotype • Moderately resistant to weevil	2013
Greater yam	Dweep Yamini	Andaman and Nicobar Islands	• Tuber shape: conical and rough textured tubers • Tuber flesh colour: white • Ideal inter crop in the coconut and arecanut plantations	2010

Production technologies recommended

1. Tuber crops based Integrated farming system (IFS) in tribal areas (0.2 ha model)
2. Tuber crops based Integrated farming system (IFS) in tribal areas (0.3 ha model)

Protection technologies recommended

1. Weed management in elephant foot yam
2. Management of taro leaf blight disease

Developmental programmes from 2020-2025

The centre undertook special schemes such as TSP for improving the food, nutrition and livelihood security of these special segments of our society. Regularly conduct extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, mass media programmes, women empowerment and value addition programmes and distribution of farm inputs and implements were taken up on a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	24	11	365
2.	Demonstrations	15	6	15
3.	Kisan melas	-	-	-
4.	Mass media programmes	2	-	-
5.	Scientist farmer interface	-	-	-
6.	Farm advisory visits	-	-	-
7.	Distribution of farmer inputs	8	11	114
8.	Women empowerment and value addition programmes	6	6	98
9.	Exposure visits	-	-	-
10.	Hands-on-training	-	-	-

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centre. The centre produced a total of 2100 stems of cassava, 1800 vine cuttings of sweet potato, 6 tons of elephant foot yam as part of planting material production programme during the last 5 years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya	2100 stem cuttings	1
2.	Sweet potato	Bhu Sona	1800 vine cuttings	0.5
3.	Elephant foot yam	Gajendra	6.0 t	3

Officers-in-charge / PIs

Sl. No.	Name	Period
1.	Dr. Shrawan Singh	June 2008 - September 2009
2.	Dr. M. Sankaran	June 2009 - October 2013
3.	Dr. V. Damodaran	October 2013 - June 2016
4.	Dr. B. Augustine Jerard	June 2016 - February 2023
5.	Dr. I. Jaisankar	February 2023 - Present

18. ICAR-Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala

One among the three centres established under AICRP on tuber crops during 1968.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	White yam
5.	Lesser yam
6.	Taro/Arvi (Eddoe)
7.	Taro (Dasheen)
8.	Swamp taro
9.	Tannia
10.	Elephant foot yam
11.	Chinese potato
12.	West Indian arrow root

Biodiversity conservation

A total of 3862 germplasm of 14 different major and minor tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	1216
2.	Sweet potato	905
3.	Greater yam	409
4.	White yam	105
5.	Lesser yam	186
6.	Taro/Arvi (Eddoe)	409
7.	Tannia	42
8.	Elephant foot yam	200
9.	Giant taro	4
10.	Chinese potato	150
11.	West Indian arrowroot	12
13.	Queensland arrowroot	20
14.	East Indian arrowroot	50
15.	Yam bean	154
	Total	**3862**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Cassava	Sree Sahya	Kerala, Tamil Nadu, Karnataka, Andhra Pradesh North Eastern Region	• Semi branching, good cooking quality • Moderately resistant to *Cercospora* leaf spot • Duration: 10-11 months • Average yield: 35-40 t ha^{-1} • Starch: 29-31% • Cyanogen: 75- 85 ppm	1977
	Sree Visakham	Kerala, Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh North Eastern Region	• Semi branching, good cooking quality • Field tolerant to *Cercospora* leaf spot • Duration: 10 months • Average yield: 35-38 t ha^{-1} • Starch: 25-27% • Cyanogen: 35-40 ppm • β carotene: 466 IU/100g	1977
	Sree Prakash	Kerala, Tamil Nadu, Andhra Pradesh and Assam	• Semi branching, good cooking quality • Highly tolerant to *Cercospora* leaf spot, suitable for low land • Duration: 7 months • Average yield: 30-35 t ha^{-1} • Starch: 29-31% • Cyanogen: 30-50 ppm	1987

Sree Harsha	Kerala and Tamil Nadu	• Erect branching, good cooking quality • Field tolerant to *Cercospora* leaf spot, spider mite, scale insect, drought tolerant • Duration: 10 months • Average yield: 35-40 t ha^{-1} • Starch: 38-41% • Cyanogen: 40-55 ppm	1996
Sree Jaya	Kerala, Tamil Nadu, Andhra Pradesh	• Erect branching, excellent cooking quality • Suitable for low land, field resistant to scale insect • Duration: 6-7 months • Average yield: 26-30 t ha^{-1} • Starch: 24-27% • Cyanogen: 40-50 ppm	1998
Sree Vijaya	Kerala, Tamil Nadu, Bihar, Assam	• Erect branching, excellent cooking quality • Suitable for low land, field tolerant to *Cercospora* leaf spot • Duration: 6-7 months • Average yield: 25-28 t ha^{-1} • Starch: 27-30% • Cyanogen: 40-60 ppm	1998
Sree Rekha	Kerala, Tamil Nadu, Karnataka	• Erect branching, excellent cooking quality • Field tolerant to *Cercospora* leaf spot • Duration: 9-10 months • Average yield: 35-40 t ha^{-1} • Starch: 28-30% • Cyanogen: 49-60 ppm	2000
Sree Prabha	Kerala, Tamil Nadu, Karnataka, Andhra Pradesh	• Semi branching, good cooking quality • Field tolerant to *Cercospora* leaf spot, spider mite scale insect • Duration: 9-10 months • Average yield: 35-40 t ha^{-1} • Starch: 26-29% • Cyanogen: 50-85 ppm	2000
Sree Padmanabha	Kerala and Tamil Nadu	• Tall and late branching, excellent cooking quality • Resistant to cassava mosaic disease (CMD), cupping of leaves under drought conditions • Duration: 9-10 months • Average yield: 38.0 t ha^{-1} • Starch: 25.8% • Cyanogen: 38 ppm	2006
Sree Athulya	Tamil Nadu and Andhra Pradesh	• Tall, erect and top branching, good cooking quality • Field tolerant to *Cercospora* leaf spot, spider mite, scale insect, ideal for industrial use • Duration: 10 months • Average yield: 35-40 t ha^{-1} • Starch: 30.2%	2013

	Sree Apoorva	Tamil Nadu, Andhra Pradesh	• Tall and top branching, good cooking quality • Field tolerant to *Cercospora* leaf spot, spider mite, scale insect, ideal for cassava industrial use • Duration: 10 months • Average yield: 35-40 t ha^{-1} • Starch: 29.9%	2014
	Sree Swarna	Kerala, Tamil Nadu, Andhra Pradesh	• Tall and top branching, good cooking quality • Field tolerant to cassava mosaic disease • Duration: 7-8 months • Average yield: 35-40 t ha^{-1} • Starch: 25.2%	2015
	Sree Reksha	Kerala, Tamil Nadu, Maharashtra and Andhra Pradesh	• Non branching, resistant to CMD caused by ICMV and SLCMV • Tolerant to postharvest physiological deterioration • Duration: 9-10 months • Average yield: 40-50 t ha^{-1} • Starch: 27-32% • Cyanogen: 35 ppm • Sugar: 1.10%	2017
	PDP CMR-1	Andhra Pradesh	• Growth habit: tall, semi-spreading and non-branching • Completely resistant to cassava mosaic disease • Starch content: 24-26% • Average yield: 43-46 t ha^{-1} • Duration: 9-10 months	2017
	Sree Suvarna	Kerala, Tamil Nadu and Andhra Pradesh	• Non branching, CMD resistant • Duration: 7-8 months • Starch: 25-27%	2018
	Sree Sakthi	Kerala, Maharashtra, Tamil Nadu and Andhra Pradesh	• Non branching, tolerant to PPD, and resistant to CMD • Duration: 9-10 months • Average yield: 40-50 t ha^{-1} • Starch: 27-32%	2018
	Sree Kaveri	Kerala, Tamil Nadu and Andhra Pradesh	• Tall, top branching, CMD resistant, NUE efficient, • Duration: 9-10 months • Starch: 27-28%	2023
Sweet potato	Varsha	Konkan region, Maharashtra	• Semi spreading, simple 3-5 lobed leaf shape • Reddish purple tuber skin colour, light yellow flesh colour, drought tolerant • Duration: 120 days • Average yield:17-22 t ha^{-1}	1983

	Sree Nandini	Kerala	• Spreading, unifoliate leaf shape • Cream tuber skin colour and yellow flesh colour • Drought tolerant, suitable for paddy fallows as a catch crop, excellent cooking quality, sweet taste • Duration: 100-105 days • Average yield: 20-25 t ha^{-1}	1987
	Sree Vardhini	Kerala	• Spreading, simple leaf with 3-4 lobes • Purple tuber skin colour and yellow flesh colour • Duration: 100-105 days • Average yield: 20-25 t ha^{-1} • Carotene: 1200 IU /100g	1987
	Sree Rethna	Kerala	• Spreading, shouldered leaf shape • Purple tuber skin colour and orange flesh colour, excellent cooking quality • Duration: 90-105 days • Average yield: 20-22 t ha^{-1} • Carotene: 3200-3500 IU /100g	1996
	Sree Bhadra	Kerala, Maharashtra, Bihar, Madhya Pradesh	• Semi spreading, broad and cordate leaf shape • Light pink tuber skin colour and cream flesh colour • Excellent cooking quality and trap crop for root knot nematode • Duration: 90 days • Average yield: 20-22 t ha^{-1} • Carotene: 800-1000 IU /100g	1996
Greater yam	Sree Shilpa	Kerala	• Medium sized oval tuber shape, black tuber skin colour, white tuber flesh colour, tubers with less starch (17.0-19.0%) and medium protein (1.4-2.0%) • World's first hybrid variety released in *D. alata* with excellent cooking quality • Duration: 8 months • Average yield: 40 t ha^{-1}	1998
	Sree Swathy	Kerala	• Medium, conial irregular tuber shape, dark brown skin colour, white flesh colour • Good cooking quality, good nutritional quality, drought tolerant and resistant to anthracnose disease, tuber with medium starch, high protein and ascorbic acid contents • Duration: 9 months • Average yield: 25 t ha^{-1}	2011
Lesser yam	Sree Latha	Kerala, Bihar, Maharashtra, Andhra Pradesh, Assam, West Bengal	• Oblong to fusiform tuber shape, grayish brown skin colour, creamy white flesh colour • Excellent cooking quality, tubers with low starch medium protein and sugar • Duration: 8 months • Average yield: 25 t ha^{-1}	1983

	Sree Kala	Kerala	• Oval and smooth tuber shape, brown skin colour, white flesh colour • Excellent cooking quality, tubers with medium starch, low sugar and protein • Duration: 7-8 months • Average yield: 20 t ha^{-1}	1993
Taro	Sree Rashmi	Kerala	• Big and cylindrical shaped corms, conical medium sized cormels, brown skin colour, white flesh colour • Good cooking quality, field tolerant to dasheen mosaic virus • Gives economic yield under low input levels, corms and cormels are acrid free • Duration: 7 months • Average yield: 18-32 t ha^{-1}	1987
	Sree Pallavi	Kerala	• Big and conical shaped corms, club shaped small sized cormels, brown skin colour, white flesh colour • Good cooking quality, field tolerant to leaf blight and Dasheen mosaic virus • Duration: 7 months • Average yield: 16-18 t ha^{-1}	1987
Elephant foot yam	Sree Padma	Kerala	• Globose shaped tubers, brown skin colour, cream flesh colour, excellent cooking quality • Duration: 7-8 months • Average yield: 20-36 t ha^{-1}	1998
Chinese potato	Sree Dhara	Kerala, Tamil Nadu	• Round shaped tubers, dark brown skin colour, cream flesh colour, high yielding • Good cooking quality, first variety of chinese potato released in Kerala and in India • Duration: 5 months • Average yield: 25-28 t ha^{-1}	1993
Arrowroot	Sree Nakshatra	Chhattisgarh and Jharkhand	• Cylindrical obovoid tuber shape, white flesh colour • Starch content: 26.63% • Starch yield: 8.59 t ha^{-1} • Duration: 9-10 months • Average yield: 32-39 t ha^{-1}	2024
	Sree Karti	Kerala, Tamil Nadu and Manipur	• Cylindrical obovoid tuber shape, white flesh colour • Starch content: 21.52% • Starch yield: 5.07 t ha^{-1} • Duration: 9-10 months • Average yield: 23-42 t ha^{-1}	2024

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Cassava	TCa13-7 (9S 125)	Kerala, Manipur and Chhattisgarh	• Hybrid, tolerant to CMD, good cooking quality • Dry matter: 40.6% • Starch: 25.9% • Average yield: 35 t ha^{-1}	2019
	TCa13-4 (S4)	Chhattisgarh	• Tolerant to CMD • Dry matter: 40.84% • Starch: 27.33% • Average yield: 27 t ha^{-1}	2019
	TCa16-5 (MNS 41)	Tamil Nadu, Andhra Pradesh, Manipur, and Chhattisgarh	• Dry matter: 38% • Starch: 24.5% • Good cooking quality • Average yield: 40 t ha^{-1}	2023
	TCa16-4 (MNS 135)	Maharashtra	• Dry matter: 40% • Starch: 27% • Good cooking quality • Tolerant to anthracnose disease • Average yield: 42 t ha^{-1}	2023
	TCa16-3 (MNS 255)	Kerala	• Dry matter: 35 % • Starch: 25.3% • Good cooking quality • Resistant to CMD • Average yield: 45 t ha^{-1}	2023
Greater yam	TGy12-3 (Da-342)	Kerala, Odisha and Andhra Pradesh	• Tuber shape: cylindrical • Dry matter: 24.2% • Starch: 21.3% • Protein: 4.28% • Good cooking quality, Organoleptic score: 6.7 • Average yield: 35-36 t ha^{-1}	2023
	TGy12-1 (Da-406)	Kerala	• Dry matter: 30.2% • Starch: 26.3% • Protein: 5.28% • Excellent cooking quality • Organoleptic score: 7.97 • Average yield: 56-58 t ha^{-1}	2023
	TGy14-6 (DaH 9-196)	Kerala	• Flesh colour: white • Cooking quality: good • Average yield: 42 t ha^{-1}	2023
	TGy17-8 (Da-67)	Kerala and Chhattisgarh	• Dry matter: 30% • Starch: 20% • Protein: 4.9% • Shelf life: 3 months • Average yield: 40 t ha^{-1}	2023
	Tannia	Kerala	• Average yield: 14 t ha^{-1} which is 39% higher yield than the local check in Kerala	2022

Tuber crop varieties released by Thiruvananthapuram centre

CASSAVA

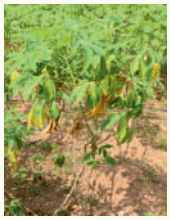

Sree Sahya


Sree Visakham


Sree Prakash


Sree Harsha


Sree Jaya




Sree Vijaya


Sree Rekha


Sree Prabha


Sree Padmanabha

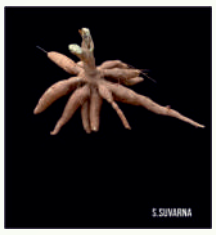

Sree Athulya


Sree Apoorva


Sree Swarna


Sree Reksha


PDP CMR-1

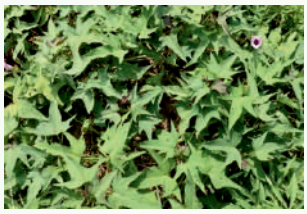



Sree Suvarna


Sree Kaveri


Sree Sakthi

SWEET POTATO




Sree Varsha


Sree Nandhini


Sree Vardhini


Sree Rethna


Sree Bhadra

GREATER YAM


Sree Shilpa

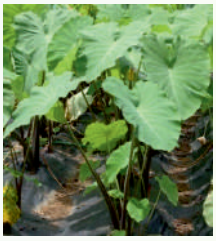

Sree Swathy

LESSER YAM


Sree Latha


Sree Kala

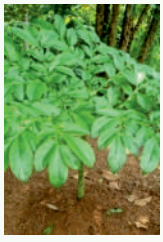
TARO




Taro var. Sree Rashmi


Taro var. Sree Pallavi

ELEPHANT FOOT YAM



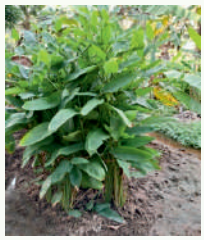

Elephant foot yam var. Sree Padma

CHINESE POTATO


Chinese potato var. Sree Dhara

ARROWROOT


Arrowroot var. Sree Nakshatra




Arrowroot var. Sree Karti

Production technologies recommended

1. Pruning of foliage to increase tuber yield
2. Water saving techniques in cassava
3. Organic production technology in cassava
4. Secondary- and micronutrients-inclusive customized fertilizers for cassava
5. Use of biofertilizers for increasing N use efficiency
6. Fertilizer best management practice in sweet potato
7. Integrated weed management in EFY
8. Standardization of nutrient management of swamp taro
9. Integrated weed management in taro
10. Secondary and micronutrients-inclusive customized fertilizers for taro

Plant protection technologies included in POP

1. Organic management of collar rot elephant foot yam
2. Management of postharvest rot in elephant foot yam seed corm during storage
3. Organic management of taro leaf blight

Plant protection technologies recommended

1. Management of mealy bugs in elephant foot yam
2. IPM package against sweet potato weevil

Developmental programmes from 2020-2025

The major developmental programmes include SCSP and TSP. The details are as follows:

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	7	6	350
2.	Demonstrations	-	-	-
3.	Kisan melas	-	-	-
4.	Mass media programmes	-	-	-
5.	Scientist farmer interface	7	5	300
6.	Farm advisory visits	6	7	8
7.	Distribution of farmer inputs	5	5	350
8.	Women empowerment and value addition programmes	-	-	-
9.	Exposure visits	5	5	160
10.	Hands-on-training	-	-	-

Research extension farmers linkage programme

- Evaluation of sweet potato model (SPOTCOMS)
- Evaluation of cassava model (SIMCAS)
- Evaluation of elephant foot yam model (EFYSIM)

Planting material production from 2020-2025

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Reksha Sree Kaveri Sree Athulya Pre release lines	30000 stem cuttings	50
2.	Greater yam	Sree Nidhi Sree Neelima Purple yam Pre release lines	12 t	4

3.	Lesser yam	Sree Kala Sree Latha	0.1 t	0.1
4.	Taro	Muktakeshi	1.5 t	2
5.	Elephant foot yam	Sree Padma	13 t	5
6.	Arrowroot	Gajendra Pre release lines (Sree Nakshatra Sree Karthi)	4 t	5

Officers-in-charge / PIs

Sl. No.	Name	Period
1.	Dr. Santha. V. Pillai	August 2007 - July 2011
2.	Dr. C.S. Raveendran	August 2012 - December 2014
3.	Dr. M.N. Sheela	January 2014 - June 2023
4.	Dr. K. Susan John	June 2023- May 2026

19. ICAR-Research Complex for NEH Region, Barapani, Meghalaya

The centre was started in October, 1975.

Mandate crops

Sl. No.	Crop
1.	Sweet potato
2.	Taro
3.	Dasheen taro
4.	Tannia
5.	Giant taro

Biodiversity conservation

A total of 159 germplasm of 7 different tuber crops and other minor crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	16
2.	Sweet potato	68
3.	Greater yam	5
4.	Taro	39
5.	Dasheen taro	22
6.	Tannia	5
7.	Giant taro	4
	Total	**159**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Taro	Megha Taro 2	Bihar, Jharkhand and Andaman & Nicobar Island	• Corm shape: round; cormel shape: obovoid • Tuber skin colour: brown; flesh colour: white • Selection from the local collection of Arunachal Pradesh • Low in calcium oxalate and suitable for leaf, petiole, corm and cormel purposes • Tolerance to leaf blight and has long keeping quality (more than 30 days) • Average yield: 18.81 t ha^{-1} • Duration: 180-220 days	2021

Varieties recommended for release

Crop	Varieties recommended	State/region	Salient characteristics	Year of recommendation
Taro	Megha Taro 3	Bihar, Jharkhand, Kerala, Maharashtra, Tamil Nadu and Tripura	• Clonal selection from the local collection • Dry matter (18-20%), starch (20-22%), low in calcium oxalate (18-20 mg/100g) • Long keeping quality (>30 days) • Suitable for consumption of leaf, petiole, corm and cormels • Average yield: 25-28 t ha^{-1} • Duration: 150-180 days	2023

Taro variety released by Barapani centre

Megha Taro 2

Production technologies included in POP

1. Productive and profitable cropping and farming system models
2. Integrated nutrient management (INM) in taro

Production technologies recommended

1. High density planting in cassava
2. Storage techniques for taro seed tubers

Plant protection technologies included in POP

1. Organic management of taro leaf blight

Developmental programmes from 2020-2025

The centre undertook special schemes such as NEH for improving the food, nutrition and livelihood security of these special segments of our society. The centre regularly conducts extension activities for popularization of tuber crop varieties and technologies. Training programmes, demonstrations, webinars, mass media programmes, scientist-farmer interfaces, farm advisory visits and distribution of farm inputs and implements were taken upon a regular basis.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	12	21	500
2.	Demonstrations	10	10	100
3.	Kisan melas	1	1	121
4.	Mass media programmes	3	-	-
5.	Scientist farmer interface	7	-	840
6.	Farm advisory visits	25	25	128
7.	Distribution of farmer inputs	3	32	610
8.	Women empowerment and value addition programmes	5	3	120
9.	Exposure visits	-	-	-
10.	Hands-on-training	2	2	60

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were multiplied and distributed to farmers by the centres. The centre produced a total of 18200 stems cuttings of cassava, 37500 vine cuttings of sweet potato, 1.84 tons of elephant foot yam, 10.25 tons of taro, as part of planting material production programme during the last 5 years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Vijaya	18200 stem cuttings	5.0
2.	Sweet potato	Sree Bhadra	37500 cuttings	8.0
3.	Taro	Megha Taro 1 Megha Taro 2	10.25 t	10.0
4.	Elephant foot yam	Gajendra	1.84 t	2.0

Officers-in charge / PIs and Co-PI's

Sl. No.	Name	Period
1.	Dr. A.K. Jha (PI)	2008 - August 2020
2.	Dr. Hammylliende Talang (PI)	August 2020 - Present
3.	Dr. V.K. Verma (Co-PI)	2009 - Present

20. Regional Station, ICAR-CTCRI, Bhubaneswar, Odisha

The centre has been a part of the AICRP project since 1979.

Mandate crops

Sl. No.	Crop
1.	Cassava
2.	Sweet potato
3.	Greater yam
4.	White yam
5.	Lesser yam
6.	Aerial yam
7.	Taro
8.	Dasheen taro (Bunda)
9.	Swamp taro
10.	Tannia
11.	Elephant foot yam
12.	Giant taro
13.	Chinese potato
14.	West Indian arrow root
15.	East Indian arrow root
16.	Queensland arrow root
17.	Winged bean
18.	Yam bean
19.	Kew kandh

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	113
2.	Sweet potato	380
3.	Yams	51
4.	Taro	510
5.	Tannia	1
6.	Elephant foot yam	40
7.	Chinese potato	5
8.	Arrowroot	2
9.	Yam bean	165
10.	Giant taro	3
	Total	**1270**

Varieties released

Crop	Varieties released	State/region	Salient characteristics	Year of release
Sweet potato	Gouri	Odisha	• Growth habit: semi erect; leaf shape: simple leaf with 5-6 lobes • Tuber skin colour: purple red; flesh colour: deep orange flesh • Beta carotene: 4.5-5.5 mg/100g • Tolerate mid season drought and suitable for both *kharif* and *rabi* season • Dry matter: 22-27%, starch: 16.5%, total sugar: 5.8% • Average yield: 19 t ha^{-1} • Duration: 110-120 days	1998
	Sankar	Odisha	• Growth habit: spreading; leaf shape: hastate • Tuber skin colour: red; flesh colour: pale yellow • Excellent cooking quality • Dry matter: 25.0%, total starch: 22.5-24.0%, total sugar: 2.8-3.4% • Average yield: 14 t ha^{-1} • Duration: 120 days	1998

Kalinga	Odisha	• Growth habit: spreading; leaf shape: deeply lobed • Tuber skin colour: purple red; flesh colour: white • Tolerate midseason drought and excellent cooking quality • Dry matter: 29.6%, total starch: 28%, total sugar: 2.5-3.3% • Average yield: 17-18 % t ha^{-1} • Duration: 105-110 days	2004
Goutam	Odisha	• Growth habit: spreading; leaf shape: triangular • Tuber skin colour: white; flesh colour: cream • Very good, soft, mealy and very sweet • Dry matter: 29.9-31.0%, total starch: 24.0-25.5% and total sugar: 2.5-3.0% • Average yield: 19.8 t ha^{-1} • Duration: 105-110 days	2005
Kishan	Odisha	• Growth habit: semi compact; leaf shape: triangular • Tuber skin colour: reddish purple; flesh colour: creamy white • Suitable for food, fodder and starch extraction • Tolerant to midseason drought • Good cooking quality, sweet and mealy • Dry matter: 32.0-34.0%, total starch: 29.0-30.0%, total sugar: 3.0-3.5% • Average yield: 17 t ha^{-1} • Duration: 110-120 days	2005
Sourin	Odisha	• Growth habit: spreading; leaf shape: lobed • Tuber skin colour: red; flesh colour: creamy white • Suitable for both kharif and rabi season • Good cooking quality, sweet and mealy • Dry matter: 32.0-34.0%, total starch: 29.0-30.0% and total sugar: 3.0-3.5% • Average yield: 17 t ha^{-1} • Duration: 105-110 days	2005
Bhu Kanti	Odisha	• Growth habit: spreading; leaf shape: triangular • Tuber skin colour: light yellow; flesh colour: orange • Beta carotene: 6.49 mg/100g • Tolerant to mid season drought and salinity • Good cooking quality and mealy • Carotene content (mg/100g): 6.2-7.6 • Dry matter: 25-27%, starch: 17.8-18.8%, • Average yield: 23 t ha^{-1} • Duration: 105-110 days	2017

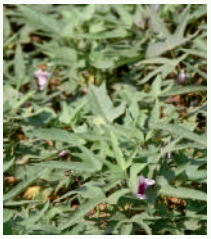
	Bhu Ja	Odisha	• Growth habit: semi compact; leaf shape: triangular • Tuber skin colour: pink; flesh colour: orange • Beta carotene content: 5.49-6.40 mg/100g • Good cooking quality and tolerant to salinity • Dry matter: 23.2-24.8%, total starch: 16.6-17.2% and total sugar: 2.4-3.0% • Average yield: 22 t ha^{-1} • Duration: 100-110 days	2017
	Bhu Swami	Odisha	• Growth habit: semi compact; leaf shape: triangular • Tuber skin colour: white; flesh colour: white • Suitable for food and processing • Tolerant to mid season drought and excellent cooking quality • Dry matter: 27.4-29.7% • Starch: 20.8-21.2% • Average yield: 23 t ha^{-1} • Duration: 105-110 days	2017
	Bhu Sona	Odisha	• Growth habit: spreading; leaf shape: triangular • Tuber skin colour: yellow; flesh colour: dark orange • Beta carotene content: 11.46-12.48 mg/100g • Tolerate salinity stress and good cooking quality and mealy • Dry matter: 27-29%, starch: 18.8-19.7%, total sugar: 2-2.4% • Average yield: 20-24 t ha^{-1} • Duration: 105-110 days	2017
	Bhu Krishna	Odisha	• Growth habit: semi compact; leaf shape: lobed • Tuber skin and flesh colour: dark purple • Tolerant to salinity stress and suitable for processing • Anthocyanin content: 85-90 mg/100g • Fair cooking quality and non mealy • Dry matter: 24-25.5%, starch: 16.5-17%, total sugar: 1.9-2.2% • Average yield: 20-22 t ha^{-1} • Duration: 110-120 days	2017
Taro	Muktakeshi	Odisha	• Corm shape: round; cormel shape: cylindrical • Tuber skin colour: light grey; flesh colour: white • Excellent cooking quality and non-acrid • Resistant to taro leaf blight under field condition • Field tolerant to dasheen mosaic, aphids, cut worm and scale insects	2002

		• Suitable for uplands and lowlands during summer and rainy seasons • Dry matter: 23%, starch: 17.8%, total sugar: 2.0% • Average yield: 15-20 t ha^{-1} • Duration: 5-6 months	
Pani Saru-I	Odisha	• Corm shape: round; cormel shape: elliptic • Tuber skin and flesh colour: white • Good cooking quality and long keeping quality of tubers (3 months) • Field tolerant to leaf blight and can be grown in upland and low / submerged condition • Dry matter: 20-22%, starch: 15-17%, total sugar: 1-2% • Average yield: 15-18 t ha^{-1} • Duration: 6-7 months	2005
Pani Saru-II	Odisha	• Corm shape: round; cormel shape: round to elliptic • Tuber skin colour: white and brown flesh colour: white • Good cooking quality and field tolerant to leaf blight • Can be grown in upland and low land / water logged / swampy conditions • Dry matter: 20-22%, starch: 15-17%, total sugar: 1-2% • Average yield: 13-18 t ha^{-1} • Duration: 6-7 months	2005
Bhu Kripa	Odisha	• Corm and cormel shape: round • Tuber skin colour: brown; flesh colour: white • Non-acrid with excellent cooking quality • Biotic and abiotic stress tolerant • Dry matter: 23.0 to 24.8%, starch: 15.6-17.3%, total sugar: 1.2-1.5% • Average yield: 15-20 t ha^{-1} • Duration: 6-7 months	2017
Bhu Sree	Odisha	• Corm shape: round; cormel shape: elliptic • Tuber skin colour: light brown; flesh colour: white • Tolerant to stress and good cooking quality • Biotic and abiotic stress tolerant • Dry matter: 23.5-24.6%, extractable starch: 12.3-14.2% and total sugar: 1.3-1.7% • Average yield: 15-20 t ha^{-1} • Duration: 5-6 months	2017

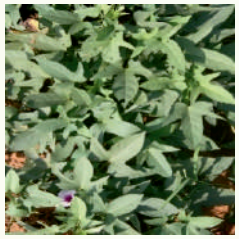
Greater yam	Orissa Elite	Odisha	• Tuber shape: long cylindrical • Tuber skin colour: dark brown, flesh colour: cream • Field tolerant to scale insects and mealy bugs • Dry matter: 28.3%, starch: 20.1%, total sugar: 3.8% • Average yield: 20-25 t ha^{-1} • Duration: 6-7 months	2005
	Bhu Swar	Odisha	• Tuber shape: long cylindrical to irregular • Tuber skin colour: brown, flesh colour: cream • Excellent cooking quality • Dry matter: 32-33%, starch: 18-20%, total sugar: 1-1.5 % • Average yield: 20-25 t ha^{-1} • Duration: 6-7 months	2017

Tuber crop varieties released by Bhubaneswar centre

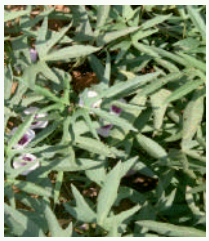
SWEET POTATO



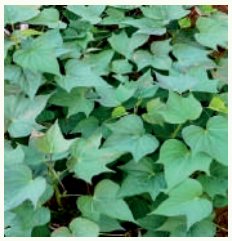

Gouri



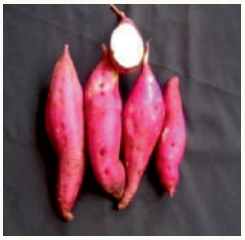

Sankar




Kalinga



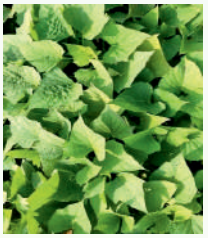

Goutam

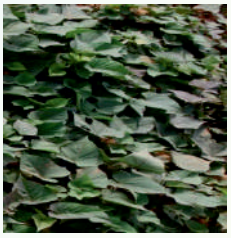
Kishan


Sourin

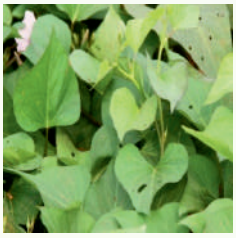
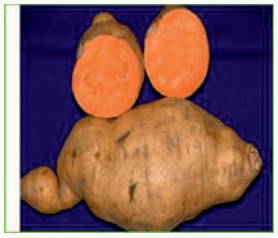

Bhu Kanti



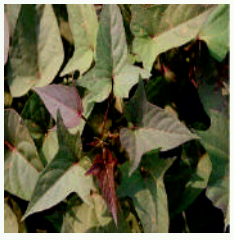

Bhu Ja




Bhu Swami

Bhu Sona




Sweet potato var. Bhu Krishna

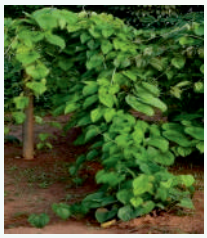

Taro var. Muktakeshi


Taro var. Pani Saru-I

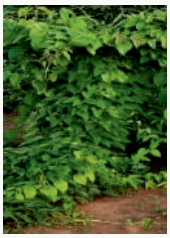

Taro var. Pani Saru-II


Taro var. Bhu Kripa


Taro var. Bhu Sree




Greater yam var. Orissa Elite




Greater yam var. Bhu Swar

Production technologies recommended

1. Use of biofertilizers in sweet potato for increasing nitrogen use efficiency
2. Production techniques for sweet potato in rice based cropping system
3. Fertilizer best management practices in sweet potato
4. Fertilizer best management practices in taro
5. Effect of BBF (broad bed and furrow) method, crop geometry and plant population on elephant foot yam productivity
6. Organic production practices for elephant foot yam using biofertilizers
7. Intercropping systems in elephant foot yam with spice crops
8. Integrated weed management in cassava
9. Farming system models involving tuber crops
10. High density planting in cassava
11. High density planting in elephant foot yam
12. High density planting in greater yam
13. Natural farming in taro

Plant protection technologies recommended

1. IDM package for taro leaf blight
2. IDM package for elephant foot yam collar rot
3. IPM package against sweet potato weevil
4. Management of mealy bugs in elephant foot yam

Developmental programmes from 2020-2025

The centre has undertaken special schemes, such as the Tribal Sub Plan (TSP), Scheduled Caste Sub Plan (SCSP), to improve the food, nutrition, and livelihood security of marginalized segments of society. It regularly conducts extension activities to popularize tuber crop varieties and technologies. These activities include training programs, demonstrations, scientist-farmer interactions, farm advisory visits, and the distribution of farm inputs and implements.

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	11	24	550
2.	Demonstrations	210	24	133
3.	Kisan melas	-	-	-
4.	Mass media programmes	-	-	-
5.	Scientist farmer interface	11	24	550
6.	Farm advisory visits	24	24	430
7.	Distribution of farmer inputs	11	24	550
8.	Women empowerment and value addition programmes	2	4	100
9.	Exposure visits	-	-	-
10.	Hands-on-training	-	-	-

Planting material production from 2020-2025

Planting materials of improved varieties of cassava, elephant foot yam, taro, sweet potato, greater yam, arrow root and yam bean were multiplied by the center and distributed to farmers. The centre produced a total of about 1,15,340 stems of cassava, 1,11,88,450 cuttings of sweet potato, 64 tons of elephant foot yam, 81 tons of greater yam, 16.2 tons of taro and 950 kg of yam bean as part of planting material production programme during the last five years.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Jaya	60,240 stem cuttings	14.5
		Sree Vijaya	55,100 stem cuttings	14.4
2.	Sweet potato	Kishan	9,73,600 vine cuttings	12.3
		Bhu Sona	49,88,280 vine cuttings	64.5
		Bhu Krishna	50,69,570 vine cuttings	67
		SP-95/4	1,57,000 vine cuttings	2
3.	Greater yam	Orissa Elite	40 t	16
		Sree Nidhi	41 t	16.5
4.	Taro	Sree Telia	7.4 t	7.4
		Sree Hira	2.2 t	2.2
		Muktakeshi	6.6 t	6.5
5.	Elephant foot yam	Gajendra	64 t	15.9
6.	Yam bean	RM-1	950 kg	95
		Bhu Shakarkanda-1	200 kg	20

Officers-in-charge / PIs and Co-PI's

Sl. No.	Name (PI)	Period
1.	Dr. G. Srinivasan	April 1979 - April 1981
2.	Dr. Mangal Prasad	April 1981 - July 1983
3.	Dr. S.P. Verma	July 1983 - October 1989
4.	Dr. T.K. Pal	October 1989 - January 1996
5.	Dr. S.K. Naskar	February 1996 - May 1996
6.	Dr. S.P. Verma	May 1996 - February 1999
7.	Dr. S.K. Naskar	February 1999 - December 2008
8.	Dr. M. Nedunchezhiyan	December 2008 - Present

Co-PIs

Sl. No.	Name	Period
1.	Dr. R.S. Misra	October 1989 - January 1995
2.	Dr. A. Mukherjee	February 2001 - March 2017
3.	Mr. K.H. Gowda	October 2016 - September 2019
4.	Dr. V.B.S. Chauhan	October 2016 - September 2019
5.	Dr. Kalidas Pati	October 2016 - Present

21. Regional Station, ICAR-Research Complex for NEH Region, Lembucherra, Tripura

The centre was started in 2015.

Mandate crops

Sl. No.	Crop
1.	Taro
2.	Elephant foot yam

Production technology included in POP

1. Production technology of swamp taro
2. Farming system models involving tuber crops

Protection technologies recommended

1. Integrated management of collar rot disease in elephant foot yam
2. Management of postharvest rot in elephant foot yam seed corm during storage
3. Management of sucking pests in taro

Developmental programmes from 2020-2025

Various training, demonstrations, exhibition and tuber crop festivals were organized. Around 600 farmers participated in these programmers. Ten numbers of tuber crop based integrated farming system was established at farmers field. Quality planting materials along with other need-based inputs were also distributed among the farmers under SCSP and NEH programmes.

Biodiversity conservation

A total of 32 germplasm of different tuber crops are being maintained.

Sl. No.	Crop	Total germplasm accessions (Nos.)
1.	Cassava	02
2.	Sweet potato	06
3.	Greater yam	02
4.	Lesser yam	02
5.	Aerial yam	01
6.	Taro	04
7.	Dasheen taro	02
8.	Swamp taro	06
9.	Tannia	02
10.	Elephant foot yam	03
11.	Giant taro	02
	Total	**32**

Sl. No.	Programmes	No. of programmes	No. of villages covered	No. of beneficiaries
1.	Farmer trainings	33	35	850
2.	Demonstrations	28	25	46
3.	Kisan melas	3	22	900
4.	Mass media programmes	-	-	-
5.	Scientist farmer interface	5	10	250
6.	Farm advisory visits	10	10	30
7.	Distribution of farmer inputs	15	26	550
8.	Women empowerment and value addition programmes	4	5	150
9.	Exposure visits	5	6	200
10.	Hands-on-training	4	8	100

Planting material production from 2020-2025

Planting materials of improved varieties of tuber crops were produced for distribution to farmers, KVKs and other stakeholders. This center produced 17000 cuttings of cassava, 15000 cuttings of sweet potato, 1.9 t tubers of yams, 3.5 t of taro and 11 t of elephant foot yam.

Sl. No.	Crop	Variety	Quantity of planting material produced (t/nos.)	Area covered (ha)
1.	Cassava	Sree Vijaya Sree Reksha	17000 stem cuttings	1.5
2.	Sweet potato	Bhu Krishna Bhu Sona Swarna Lata	15000 t	0.25
3.	Greater yam	Orissa Elite Tripura yam Tha	1.9 t	1.0
4.	Taro	Muktakeshi, Tripura Colocasia	3.5 t	2.5
5.	Elephant foot yam	Gajendra	11 t	1.5

Officers-in-charge / PIs and Co-PI's

Sl. No.	Name	Period
1.	Dr. Biswajit Das (PI)	September 2015 - Present
2.	Dr. H.L. Devi (Co-PI)	January 2015 - October 2023
3.	Dr. Bapi Das, Scientist (Co-PI)	January 2024 - Present

‘Produce Tuber Reduce Hunger’

भाकृअनुप
ICAR

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

Agrisearch with a human touch