The 3 A's of the Regional Station, ICAR-CTCRI, Bhubaneswar, Odisha Achievements, Aspirations & Action Plan





(भारतीय कृषि अनुसंधान परिषद) श्रीकार्यम्, तिरूवनन्तपुरम 695 017, केरल,भारत

ICAR-Central Tuber Crops Research Institute

(Indian Council of Agricultural Research)
SREEKARIYAM, THIRUVANANTHAPURAM 695 017, KERALA, INDIA





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Achievements, Aspirations & Action Plan



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ICAR-Central Tuber Crops Research Institute

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From the Director



Roots and tubers such as cassava, sweet potatoes, yams, and edible aroids like elephant foot yam, taro, and tannia are vital staples in the developing world and form a significant part of agrifood systems. These crops are key to meeting future food demand. Often grown by resource-poor farmers in poly-culture systems with minimal management, these crops yield far less than their potential. Improved yields and tuber quality can be achieved through appropriate and timely management practices.

Dr. G. Byju The Regional Station has developed comprehensive protocols over the past 50 years for quality planting material production, eco-region-specific agrotechniques, productive and profitable cropping systems, integrated farming systems, sustainable nutrient management, integrated weed management, and climate-resilient agricultural practices. Additionally, they have focused on food processing, plant tissue culture, germplasm conservation, and varietal development. A significant component of their work includes initiatives under the Tribal Sub plan and National Horticulture Mission, aimed at enhancing the livelihoods of tribal communities through these advancements.

This coffee table book documents the notable achievements, aspirations, and action plans of the Regional Station, providing valuable insights for researchers and stakeholders to support sustainable tuber crop production and environmental security in the face of climate change in Odisha.

G. Byju
Director



The Regional Station of ICAR -CTCRI is established on 7th September, 1976. The Institute is located at Dumuduma Housing Board, adjacent to NH-16, in area of 20 ha.

Our Mission

• To advance the scientific understanding and sustainable management of tropical tuber crops for improving food security, nutritional quality, and rural livelihoods in Eastern India

Our Staff Strength

Sl.No.	Permanent Staff	In position
1.	Scientific Staff	06
2.	Technical Staff	04
3.	Skilled Support Staff	01
4.	Administrative staff	01
5.	Total	12



Significant Achievements

- > 1270 germplasm accessions are being maintained in the field gene bank.
- Regional station has released 20 varieties of different tuber crops viz., Sweet Potato (11), Taro (7) and Greater Yam (2).
- > Regional Station, ICAR-Central Tuber Crops Research Institute (ICAR-CTCRI), Bhubaneswar, Odisha has developed a new short duration variety Sree Telia which, can be harvested within 120 days after planting. This variety release though SVRC during 2023.
- > Sustainable and profitable inter cropping system in greater yam (greater yam + maize), elephant foot yam (elephant foot yam+green gram), taro [taro + maize (5:1) or/and taro + pigeon pea (5:1) (replacement series) and taro+veg. cowpea (1:1) (additive series) were developed.
- > Weed control ground cover and manual weeding at 30 and 60 days after planting (DAP)+glyphosate application at 90 DAP proved to be an effective alternative to conventional four manual weedings at 30, 60, 90 and 120 days afterplanting in elephant foot yam.
- ➤ In taro, through cultural methods i.e. planting density of 74000 plants ha⁻¹along with paddy straw mulching (5 t ha⁻¹) can be recommended for effective weed management under rainfed conditions.
- Water and fertilizer use efficient drip irrigation and fertigation method was developed for greater yam, elephant foot yam and greater yam+maize intercropping system.
- ➤ Conjunctive use of lime#@#0.5 t ha⁻¹ + FYM@ 4 t ha⁻¹ + 75-22-63 kg **NPK** ha⁻¹ + MgSO₄@ 25 kg ha⁻¹ not only produces sustainable crop yields of sweet potato but also improve soil fertility, nutrient use efficiency and apparent nutrient recovery in acid Alfisols.
- ➤ **INM** strategies for sustainable production of elephant foot yam black gram cropping system in Alfisolswere developed. Integrated application of 40, 15 & 40 kg ha⁻¹ **NPK** along with FYM @ 10 t ha⁻¹ sustain the soil quality and produced significantly highest corm yield of elephant foot yam.
- ➤ **INM** strategies for enhancing the productivity of colocasia and to maintain soil health in Alfisols of eastern India. Incorporation of FYM @ 10 t ha⁻¹ + 40-15-40 kg ha⁻¹ of N, P and K enhances the



- efficiency of applied chemical fertilizers, sustainable productivity and proximate composition of colocasia in acid Alfisols. Application of soil test based 80-30-80 kg ha⁻¹ of N, P_2O_5 and K_2O was found equally effective in obtaining higher crop yields, nutrient use efficiency, and residual fertility of the soils.
- ➤ INM strategies for sustainable production of greater yam in Alfisols of eastern India. Application of FYM @ 16 t ha⁻¹ combined with ½ NPK (40-30-50 kg ha⁻¹ of N, P and K) and MgSO₄ (25 kg ha⁻¹)/ZnSO₄(10 kg ha⁻¹) not only helps to augment the productivity and proximate composition of greater yam but also sustain the soil fertility in Alfisols.
- > Identified nutrient efficient genotypes/ varieties (SreeBhadra, Kishan, Samrat, Kanjangad, Sankar, 912, Megh-II) of sweet potato based on physiological efficiency, agro-physiological efficiency, apparent nutrient recovery efficiency and utilization efficiency.
- ➤ Integrated application of FYM + *Azospirillum* + 25 kg N ha⁻¹ found equally effective for sustainable production of sweet potato. Integrated application of FYM + *Azospirillum* + 25 kg N ha⁻¹ found equally effective for sustainable production of sweet potato.
- > Standardized fertilizer doses and land configuration in biofortified sweet potato. Integrated application of FYM @ 5 t ha⁻¹ + NPK @ 75:25:75 kg ha⁻¹ found optimum dosed for sustainable production of biofortified sweet potato (cv Bhu Sona) and to maintain the soil.
- > Popularized biofortified tuber crops and its value addition to improve the livelihood and nutritional
- Release of *Trichogramma chilonis or T. japonicum* @ 60,000/ha at 45 days after planting will reduce the infestation of both the weevil and vine borer.
- ➤ This Centre had conducted farmers participatory on farm trials (2000-2005) through three NATP programmes (NATP Jai Vigyan: Horticulture and vegetable gardening for food and nutritional security in tribal, hilly and backward areas, NATP Management of coastal agroecosystem affected by super cyclone and NATP ITK: Studies on efficacy of cowdung slurry in inducing sprouting of yam) to identify suitable varieties, production and protection technologies and published forty extension folders in four languages.
- > Tuber crops technologies were demonstrated through NAIP project-'Sustainable rural livelihood



and food security to rainfed farmers of Odisha (2008-2014). Adopted 3794 farm families in 44 villages in 6 clusters. Under RKVY sponsored project 'Popularization of climate resilient and nutritionally rich variety of tuber crops for economic development and nutritional security of farmers.

> Under Tribal Sub Plan (2012-2024), 2590 tribal farmers were adopted and demonstrated tuber

Conservation of germplasm

Different tuber crops comprising 1270 germplasm accessions are being maintained

Crop	No. of accessiauns
Taro	510
Sweet potato	380
Cassava	113
Yams	51
Elephant foot yam	40
Yam bean	165
Chinese potato	5
Arrowroot	2
Tannia	1
Alocasia3	3

Varieties/Technologies/Machineries/Products/Process/Tools/ MethodologiesSoftwares/Digitaltoolsetc.developed

Crop	Varieties released	Varieties name
Sweet Potato	11	Bhu Sona, Bhu Krishna, Bhu Swami, Bhu Kanti, Bhu Ja, Sankar, Gouri, Kalinga Goutam, Sourin and Kishan
Taro	7	Muktakeshi, Pani Saru-1, Pani Saru-2,Bhu Kripa, Bhu Sree, Sree Hira, Sree Telia
Greater Yam	2	Orrisa elite and Bhu Swar

Varieties/Technologies/packages ready for transfer to AICRP TC/KAU/KVKs/Line departments

- ➤ Sweet potato hybrid (SPH-31) for SVRC in Odisha.
- Yam bean hybrid (YBH-3x8) for SVRC in Odisha.



Improved Sweet Potato Varieties



Sree Hira

Bhu Sree

Bhu Kripa

Sree Telia



Improved Greater Yam Varieties





Orissa Elite

Bhu Swar

Improved Yam & Colocasia Varieties Germplasm Characterization

- In Yam bean, 30 germplasm characterized for micronutrient through PIXE analysis and published in *Journal of Food Composition and Analysis* (NAAS: 10.56)
- In Yam bean, 25 germplasm characterized for phenological Growth stages and published in *Annals of applied Biology* (NAAS: 8.75)
- In yam bean, 7 germplasm characterized for Genome size and ploidy estimation by Flow Cytometry and published in *Plant genetic Resources Characterization and Utilization* (NAAS: 7.08)
- In yam bean 7 germplasm characterized for Whole genome sequence and published in *Agronomy* (NAAS: 9.42)
- Developed protein model for Yam bean Mosaic virus (coat protein) from *Pachyrhizuserosus*:
 A molecular dynamics simulation approach using NCBI data and published is *PLOS One* (NAAS: 9.42)
- 140 germplasm of yam bean characterized through SSR marker and the paper was published in The Genetic Resources and crop Evolution (NAAS: 7.8).
- Identified drought tolerant sweet potato genotypes *viz.* 84x14, Howrah, Dhenkanal local-2 and SB21/57



Developed guidelines for the conduct of Test for Distinctiveness, Uniformity and Stability (DUS) for 6 different tropical tuber crops

- 1. Cassava (Manihot esculenta Crantz.)
- 2. Sweet Potato (*Ipomoea batatas* L. Lam)
- 3. Taro (Colocasia esculenta var. esculenta, Colocasia esculenta var. antiquorum, Colocasia esculenta var. stoloniferum)
- 4. Elephant Foot yam (Amorphophallus paeonifolius)
- 5. Greater Yam (*Dioscorea alata* L.)
- 6. Yam Bean (*Pachyrhizus erosus* L.)



Greater yam + maize intercropping system



Sweet potato + red gram intercropping



Farming system involving tuber crops (0.4 ha model) at Mallickpada village, Kandhmal district of Odisha

Tuber crops products from TIC











SSNM on sweet potato in saline soils of Odisha and West Bengal



INM in Sweet Potato



POP in Bio fortified sweet potato



SSNM in sweet potato at South Andaman







INM in Elephant foot yam – Black gram cropping system









INM in Greater Yam + Maize cropping system









INM in Yam bean

INM in Taro

Awards

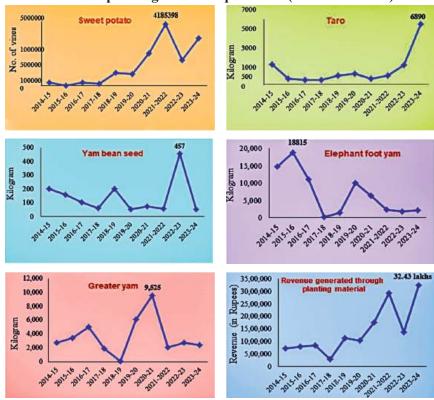
- Dr. R.C. Ray elected as a Fellow of National Academy of Agricultural Sciences in 2016.
- Dr. R.C. Ray received Samanta Chandrasekhar Award in Life Science for 2013, Odisha Vigyana Academy, Department of Science & Technology, Government of Odisha-Awarded in the Year 2015
- Dr. R.C. Ray received from the Federation of Federation of Lactic Acid Bacteria, Japan Research Award Bali, Indonesia in 2005.
- Dr. R.C. Ray received Indian Council of Agriculture Research Team Research Award on Post Harvest Technology. ICAR, New Delhi for the biennum 1998-2000.
- Dr. Archana Mukherjee received the EAES International Award 2014.
- Dr. Archana Mukherjee won the prestigious National 'Panjabrao Deshmukh Outstanding



Woman Scientist award 2016' for her meritorious research work on developing climate resilient nutrient rich tuber crops on 16 July 2017 on the occasion of Foundation Day Celebrations of the ICAR, New Delhi.

 Dr. M. Nedunchezhiyan, received Dr. SabujSahoo Memorial Lifetime Achievement Award during the International Conference on 'Plant Science in Post Genomics Era', held during 14-16 March 2021 at Institute of Life Sciences, Bhubaneswar, Odisha, organized by Agrivision 2021 and Evation Business Solutions (P) Ltd., Odisha.

Seed and planting materials produced (total of 2014-24)





Publications (Last 20 years)

Research Articles	519
Popular Articles	10
Technical Bulletins	24
Books edited/Authored	39
Book Chapters	116
Technical/Extn. Folders	39
Training manuals	08
Papers presented in Seminars/ Symposia/ Workshops	160

Students Guided		Training	organized
Degree	Numbers	Training	Numbers
M.Sc.	148	On campus	693
Ph.D.	12	Participants	24,254

Externally funded projects (excl. network projects)

Sl.No.	Project Name	Principal Investigator	Funding agency	Duration & budget
1	Horticulture and vegetable gardening for food and nutritional security in tribal, hilly and backward areas	R. S. Misra/ M. Nedunchezhiyan	ICAR Revolving fund	Rs. 5.0 lakhs (1997-2009)
2	NATP - Management of coastal agro- ecosystem affected by super cyclone	S. K. Naskar	NATP Jai Vigyan	Rs. 26.15 lakhs (1997 -2009)
3	Studies on efficacy of cow dung slurry in inducing sprouting of yam	S. K. Naskar	NATP-Coastal	Rs. 9.24 lakhs (1998-2002)
4	Studies on efficacy of cow dung slurry in inducing sprouting of yam	S. K. Naskar	NATP – ITK	Rs. 3.27 lakhs (2000-2003)
5	Integrated approach for genetic improvement of taro [Colocasia esculenta (L.) Schott] to develop tolerant lines to biotic and abiotic stresses	A. Mukherjee	NATP-CGP	2001-2004



Integrated approach for selection, induction and characterization for development of salt tolerant sweet potato	A. Mukherjee	ICAR-AP CESS	2002-2003
Microbiological evaluation of cow dung on post harvest spoilage and sprouting of yam (ICAR-APCESS)	R. C. Ray	ICAR-AP CESS	2002-2005
Elicitor induced resistance in <i>Colocasia</i> against <i>Phtopthora</i> leaf blight (ICAR – AP CESS)	R. S. Misra	ICAR-AP CESS	2005-2007
Management of collar rot and other diseases of <i>Amorphophallus</i> (ICAR – APCESS)	R. S. Misra	ICAR-AP CESS	2005-2007
Seed production in agricultural crops and fisheries	C.S. Ravindran/ M. Nedunchezhiyan	ICAR	Rs. 128.95 lakhs (2006-2015)
Sustainable rural livelihood and food security to rain-fed farmers of Orissa	S. K. Naskar/ M. Nedunchezhiyan	National Agricultural Innovation Project -	Rs. 37.49 lakhs (2008-2012)
Promotion of Sweet potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa	K. Laxminarayana	NABARD Regional Office, Odisha	Rs. 10.35415 lakhs (2010-2014)
Establishment of Leaf / Tissue Analysis Labsiatdiy	K. Laxminarayana	NHM Directorate of Horticulture	Rs.21.98 lakhs (2011-2014)
"Differential Plant volatile emission: Unfolding the new mechanism of host plant resistance against important insect pests of sweet potato"	K.R. Rao	Dept. of Biotechnology, Ministry of Science and Technology, New Delhi	Rs.18.60 lakhs (2012-2015)
Food security through Asian Roots and Tubers (Food START)-Focus site Odisha	R.S. Misra	CIP- IFAD	Rs.21.74 lakhs (2013-2014)
ICAR-Consortium Research Project on Nanotechnology	K.R. Rao	ICAR-New Delhi	Rs.141 lakhs (2014-2015)
Consortium Research Platform on Borers	K.R. Rao	ICAR-IIHR, Bengaluru	Rs. 44 lakhs (2014-2016)
Assessment of soil fertility status and preparation of soil fertility maps for various agro-ecosystems of Odisha	K. Laxminarayana	Department of Horticulture, Govt. of Odisha under RKVY	Rs.173.06 lakhs (2014-2019)
	and characterization for development of salt tolerant sweet potato Microbiological evaluation of cow dung on post harvest spoilage and sprouting of yam (ICAR-APCESS) Elicitor induced resistance in Colocasia against Phtopthoraleaf blight (ICAR – APCESS) Management of collar rot and other diseases of Amorphophallus(ICAR – APCESS) Seed production in agricultural crops and fisheries Sustainable rural livelihood and food security to rain-fed farmers of Orissa Promotion of Sweet potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Labsiatdiy "Differential Plant volatile emission: Unfolding the new mechanism of host plant resistance against important insect pests of sweet potato" Food security through Asian Roots and Tubers (Food START)- Focus site Odisha ICAR-Consortium Research Project on Nanotechnology Consortium Research Platform on Borers Assessment of soil fertility status and preparation of soil fertility maps for various	and characterization for development of salt tolerant sweet potato Microbiological evaluation of cow dung on post harvest spoilage and sprouting of yam (ICAR-APCESS) Elicitor induced resistance in Colocasia against Phtopthoraleaf blight (ICAR – AP CESS) Management of collar rot and other diseases of Amorphophallus (ICAR – APCESS) Seed production in agricultural crops and fisheries Sustainable rural livelihood and food security to rain-fed farmers of Orissa Promotion of Sweet potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Labsiatdiy "Differential Plant volatile emission: Unfolding the new mechanism of host plant resistance against important insect pests of sweet potato" Food security through Asian Roots and Tubers (Food START)-Focus site Odisha ICAR-Consortium Research Project on Nanotechnology Consortium Research Platform on Borers Assessment of soil fertility status and preparation of soil fertility maps for various A. Mukherjee R. C. Ray R. C. Ray R. S. Misra C.S. Ravindran/ M. Nedunchezhiyan S. K. Naskar/ M. Nedunchezhiyan S. K. Laxminarayana K. Laxminarayana K. Rao	and characterization for development of salt tolerant sweet potato Microbiological evaluation of cow dung on post harvest spoilage and sprouting of yam (ICAR-APCESS) Elicitor induced resistance in Colocasia against Phtopthoraleaf blight (ICAR – APCESS) Elicitor induced resistance in Colocasia against Phtopthoraleaf blight (ICAR – APCESS) Management of collar rot and other diseases of Amorphophallus(ICAR – APCESS) Seed production in agricultural crops and fisheries Seed production in agricultural crops and fisheries Sustainable rural livelihood and food security to rain-fed farmers of Orissa Promotion of Sweet potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Labsiatdiy Establishment of Leaf / Tissue Analysis Labsiatdiy Establishment of Leaf / Tissue Analysis Labsiatory "Differential Plant volatile emission: Unfolding the new mechanism of host plant resistance against important insect pests of sweet potato" Evaluation of Seed potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Seed potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Seed potato to increase cropping intensity, livelihood enhancement and nutritional security in coastal saline soils of Erasama block, Jagatsinghpur district of Orissa Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Leaf / Tissue Analysis Laxminarayana Establishment of Leaf /



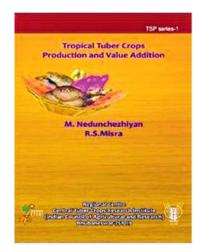
19	Establishment of techno-incubation centre at the ICAR-Central Tuber Crops Research Institute, Regional Centre, Bhubaneswar, for the commercialization of value added products from sweet potato and other tuber crops	M. Nedunchezhiyan	RKVY, Govt. of Odisha	Rs. 133.75 lakhs (2016-2019)
20	Popularization of climate resilient and nutritionally rich varieties of tuber crops for economic development and nutritional security of farmers of Odisha	M. Nedunchezhiyan	RKVY, Govt. of Odisha	Rs. 428.758 lakhs (2018-2021)
21	In vitro quality planting material production of tuber crops to meet the demand of odisha	V.B.S. Chauhan	RKVY, Govt. of Odisha	Rs. 250.23 lakhs (2019-2023)
22	Area expansion of sweet potato in angul, Bolangir, Bough, Deogarh, keonjhar and Mayurbhanj districts of Odisha	M. Nedunchezhiyan	RKVY (DoH), Odisha	Rs.8.40 lakhs (2019-2023)
23	Farm based S&T interventions for socio- economic development in the aspirational district of Nabarangpur Odisha	M. Nedunchezhiya	n RKVY, Govt. of Odisha	Rs.8.40 lakhs (2019-2023
24	Establishment of Plant Health Clinic	R. Arutselvan	NHM, Govt. of Odisha	Rs.25.0 lakhs (2022-2023)
			Total	Rs. 1479.98 lakhs

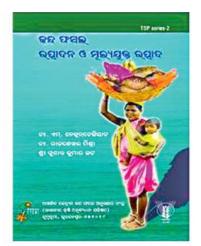
Externally funded Projects (on going)

Sl.No.	Title of the project	PI	Agency	Budget
1	Establishment of Varietal gene bank and development of standards of DUS testing for varietal gene bank in Sweet Potato and Cassava(Co-Nodal Centre)	Kalidas Pati	PPV&FRA, New Delhi	Rs.6.99 lakhs (2024-25)
2	Establishment of varietal gene bank and development of standards of DUS testing for varietal gene bank in Taro and Elephant Foot Yam (Nodal Centre)	Kalidas Pati	PPV&FRA, New Delhi	Rs.6.99 lakhs (2024-25)
3	Establishment of varietal gene bank and development of standards of DUS testing for varietal gene bank in Greater Yam and Yam bean (Co-Nodal Centre)	Kalidas Pati	PPV&FRA, New Delhi	Rs.6.99 lakhs (2024-25)



4	Adoption of bio-fortified varieties of tuber crops and promoting entrepreneurship development for livelihood and nutritional security of tribal farmers	K.Laxminarayana	MIDH,Odisha	Rs.138.00 lakhs (2022-25)
5	Establishment of mass production unit of bioagents for eco-friendly disease management in vegetable crops	R. Arutselvan	RKVY, Odisha	Rs. 320.91 lakhs (2024-27)
6	Rural bioresource complex for tubers and millets in Kandhamal, Odisha	M Nedunchezhiyan	DBT, Govt. of India	Rs. 10.00lakhs (2024-25)
7	Establishment of Biotech-KISAN hub at DBT-ILS, Bhubaneswar for carrying out activities in tribal districts of Odisha	M Nedunchezhiyan	DBT, Govt. of India	Rs. 4.00lakhs (2024-25)
			Total	Rs. 493.88 lakhs







Booklets on tuber crops





Leaflets on tuber crops



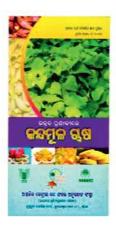
Folder on tuber greater yam+maize intercropping











Folders on tuber crops

Development of GIS based soil fertility maps for horticultural crops of Odisha



Training / Refresher Courses Organized

Sl.No.	Details	Duration (Days)
1	Model training course on "Root and tuber crops based integrated farming system: A way forward to address climate change and livelihood improvement" organized at ICAR- CTCRI, RC during 19 to 26thSeptember, 2016.	10



Extension Programmes through Tribal Sub Plan:



Training farmers on root and tuber crops production and value addition in Ranchi, Jharkhand



Farming system involving tuber crops training at Khanjaguda village,Kandhamal district



Sprayer distributed to the tribal farmers of Kuinpadavillage in Kandhamal district of Odisha



Dr. S.K. Chakrabarti, Director, ICAR- CTCRI Distributing certificate to Jharkhand tribal farmers



Tuber crops-based farming system training at Madaguda village in Kandhamal dt of Odisha



Small agricultural implements distributed to the farmers of Nuaguda village in Koraput dt. Odisha



Fencing materials distributed to the tribal farmers of Kuinpada village in Kandhamal district of Odisha



Solar pump-set at Burahkocha village, Ranchi district of Jharkhand



Power weeder distributed to the tribal farmers of Gajapati district of Odisha



Arrowroot starch extractor distributed to the tribal farmers of Gajapati district of Odisha

Tuber day celebrations:





Tuber day celebration on 09.01.2019 at Chandragiri (village), Gajapati district, Odisha



Tuber day celebration on 17.01.2020 at Tikabali (village), Kandhamal district of Odisha





Tuber day celebration on 22.03.2021 at Mohana (Block), Gajapati district of Odisha

Tuber day celebration on 22.03.2021 at Mohana (Block), Gajapati district of Odisha



Capacity building programmes and distribution of biofortified tuber crops planting materials under MIDH project



Infrastructure developed



Plant tissue Culture laboratory



Techno Incubation Centre



Plant/Tissue Analysis Laboratory



Plant Health Clinic



Farmers Training Hall



Dehumidified storage godown



25 KVA Generator



Overhead water tank with sump



Aspirations

- Releasing of biofortified anthocyanin rich (133-157mg/100g) sweet potato hybrid.
- Releasing of one high yielding (34 t ha⁻¹) and one early maturing (105 days) yam bean variety.
- Sensor based irrigation and fertigation for tuber crops
- Resource use efficient tuber crops based cropping systems
- Integrated farming system involving tuber crops for livelihood improvement of small and marginal farmers.
- Integrated nutrient, pest and disease management strategies in tropical tuber crops.
- Screening of N and K use efficient genotypes of sweet potato for eastern India.

Action Plan

- Development and evaluation of sweet potato and yam bean hybrids.
- Identifying and development of drought and salt tolerant sweet potato variety, nutrient rich taro varieties.
- Quality Planting material production of tuber crops through tissue culture.
- Selection and identification of high yielding, early varieties with improved tuber quality traits in sweet potato
- Release of 2-3 biofortified sweet potato and two yam bean varieties (1 high yielding and 1 short duration).
- Evaluation of 48 newly developed sweet potato hybrids for variety and 36 yam bean hybrids
- Morphological, molecular and biochemical characterization of different tuber crops.
- Developing sensor based irrigation and fertigation facilities
- Planning and executing tuber crops based integrated farming systems for varied agroecosystems.
- INM strategies in arrow root and other minor tuber crops.
- Nutrient management strategies for biofortified sweet potato.
- Production of quality planting materials of sweet potato, greater yam, elephant foot yam, Yam bean and arrowroot to meet the demand.
- Isolation of Trichoderma strains and to develop microbial consortium for the control of fungal diseases.
- Expanding *Trichoderma* production to enhance sustainable disease management.



Achievements and Milestones



भा. कृ. अनु. प. - केन्द्रीय कंद फसल अनुसंधान संस्थान

ICAR - CENTRAL TÜBER CROPS RESEARCH INSTITUTE, क्षेत्रीय स्टेशन

REGIONAL STATION

डुमडुमा हाउसिंग बोर्ड –भुवनेश्वर – 751 019, ओडिशा DUMUDUMA HOUSING BOARD.P.O, BHUBANESWAR – 751 019, ODISHA



2024

Milestone and Vision 2050

- Development of high yielding climate resilient varieties in tuber crops.
 - Commercialization and marketing of value added products of tuber crops.
 - Scaling up of tuber crops technologies through farmer participatory research and extension programs.
- Food, nutritional, livelihood improvement of tribal and marginal farmers of Eastern India by TTC.



Incumbency of Regional Station, ICAR-CTCRI, Bhubaneswar

Sl.No	Name	From	То
1	Dr. S. Balravi, SIC	20.02.1978	19.05.1978
2	Dr.K.Abraham, SIC	20.05.1978	30.09.1978
3	Dr. M. Prabhakar, SIC	01.10.1978	09.04.1979
4	Dr. G. Srinivasan, SIC	10.04.1979	20.04.1981
5	Dr.Mangal Prasad, SIC	21.04.1981	01.07.1983
6	Dr. S.P.Verma, PC & SIC	02.07.1983	19.10.1989
7	Dr.T.K.Pal, SIC	20.10.1989	01.02.1996
8	Dr.S.K.Naskar, Head I/C	31.01.1996	07.05.1996
9	Dr. S.P. Verma, Head	08.05.1996	19.02.1999
10	Dr. S.K.Naskar, Head	20.02.1999	04.08.2005
11	Dr. S.K.Naskar, Head I/C	05.08.2005	25.12.2008
12	Dr. R.C. Ray, Head I/C	26.12.2008	03.03.2010
13	Dr. R.S.Mishra, Head	04.03.2010	31.07.2015
14	Dr. R.C.Ray, Head I/C	01.08.2015	08.01.2016
15	Dr. (Mrs.) Archana Mukherjee, Head	09.01.2016	23.03.2017
16	Dr. M.Nedunchezhiyan, Head I/C	24.03.2017	01.07.2020
17	Dr. M.Nedunchezhiyan, SIC	02.07.2020	10.04.2022
18	Dr.K.Laxminarayana, SIC	11.04.2022	Continuing



Our Team



"Together, we turn challenges into opportunities, nurturing innovation and resilience in every tuber crops we grow."

