

VANIJYA KRISHI

Newsletter of ICAR-National Institute for Research on
Commercial Agriculture

(Formerly ICAR-Central Tobacco Research Institute)



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From the Director's Desk



TRANSFORMATION OF ICAR-CTRI TO ICAR-NIRCA

Transformation is crucial for agricultural research institutions to stay relevant in the scientific community and effectively tackle changing national priorities. These priorities include boosting agricultural productivity,

encouraging crop diversification towards high-value products, increasing agricultural exports, and improving farmers' incomes. The ICAR- Central Tobacco Research Institute, which has been around since 1947, has traditionally concentrated on crop-specific research, building a strong legacy in tobacco science over the past seventy years. Recently, ICAR has renamed and broadened the scope of this institute to align with shifts in national agricultural strategies. Now known as the **ICAR-National Institute for Research on Commercial Agriculture (ICAR-NIRCA)**, it aims to expand its focus to include high-value crops like chili, turmeric, castor, and ashwagandha. This reorganization comes with a fresh vision, mission, and strategic research roadmap aimed at exploring new opportunities and fostering innovation.

The transition to ICAR-NIRCA marks a strategic move towards unlocking the untapped potential in commercial agriculture. The institute plans to promote agribusiness, support agri-startups, and encourage entrepreneurship to drive sustainable growth.

India's emerging economy is on track to hit a remarkable USD 5 trillion GDP in the next few years, with agriculture expected to contribute around USD 1 trillion to this growth. Tapping into the untapped potential of high-value commercial crops

will be crucial for this economic boost. Even though India is a leading producer and exporter of various high-value crops, its export focus is still relatively low on the global scale, which underscores the pressing need to ramp up export-driven initiatives.

ICAR-NIRCA is prioritizing research and development in areas like post-harvest innovations, value addition, sustainable farming practices, and digital agriculture technologies. The institute plans to work closely with both public and private sector partners, Farmer Producer Organizations (FPOs), national commodity boards, and export organizations to elevate standards in commercial agriculture.

This transformation aims to position ICAR-NIRCA as a key player in modernizing and commercializing Indian agriculture. In line with the vision of **Viksit Bharat 2047**, the institute is committed to weaving agri-innovation and sustainability into the agricultural landscape, driving export-led economic growth, and bolstering India's presence in the global agricultural market.

The new emphasis on high-value crops is set to unlock the immense potential of commercial agriculture, improve the overall agricultural landscape, and foster national economic growth. The goal is to create a resilient, export-driven agricultural sector that can reduce imports, lower the import bill, and significantly boost farmers' incomes.

Research Highlights

CROP IMPROVEMENT

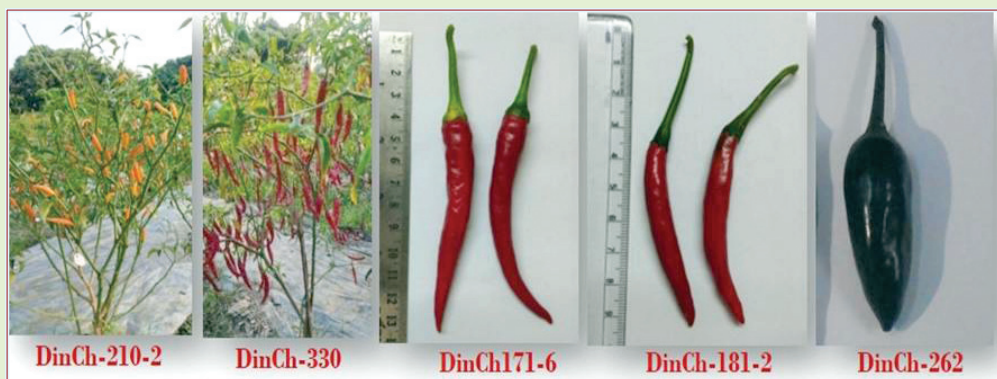
- A high yielding (2500kg/ha) FCV variety CTRI Navya (FCH 2) identified for cultivation in light soils of southern transition zone of Karnataka.
- A high yielding (18.91 q/ha) *biditobacco* variety DTV 9 (NBD 316) identified for irrigated and rainfed *bidigrowing* region of Karnataka.
- Six FCV entries (RS 37, RS 40, SJ 14, SJ 16, FCH 266 and KRB 3) were contributed to the initial varietal trial (IVT) for multilocation evaluation trials under AINPT.
- Two high-yielding FCV lines, FCH-272 and FCH-276 showed promising leaf yield in KLS areas of Karnataka.
- Entries RS 52, RS 53, RS 54 and RS 55 recorded significantly higher cured leaf yield (1589 to 1678 Kg/ha) than check CTRI Sulakhana with improvement of 16-22% in black soils.
- Entries SJ 14 and SJ 16 recorded significantly higher cured leaf yields (3492 Kg/ha & 3264 Kg/ha) and grade index values (2143 & 2075) than check, Kanchan under NLS condition.
- KDB 3, an advanced breeding line was identified as drought-tolerant under artificial drought stress-induced conditions.
- Among the 33 released varieties evaluated, three varieties (Dhanadayi, Hema, and Kanakaprabha) showed promising bright leaf performance under SLS conditions.
- A total of 1517 accessions of germplasm have been regenerated which includes most of the FCV tobacco germplasm and wild *Nicotiana* species.
- A core collection (230) of tobacco collections was developed using 2600 germplasm accessions belonging to 14 different tobacco types by adapting advanced M strategy using heuristic search in Power Core (V.10) software.
- Identified 83 polymorphic markers that differentiate the resistant and susceptible genotypes of *Fusarium* wilt in FCV tobacco.
- Inorder to reduce the TSNA content in tobacco through genome editing a consensus gRNA targeting CYP82E4, CYP82E5 and CYP82E10 genes were cloned in binary vector and confirmed through sequencing. Further, gRNA construct was used for transformation of tobacco and putative transoprmants are being produced.
- Higher yield recorded in chilli genotypes Kashi Gaurav, Dinhata Local 4 and DinCh-330; pericarp thickness in King chilli 2, carotenoid content in Jalpaiguri local and capsaicin content in Tamenlong King chilli.
- A total of 300 ashwagandha accessions received from the gene bank of NBPGR were multiplied and characterized for DUS traits.
- Ashwagandha genotypes yielding higher fresh root yield (WS 139), dry root yield (WS 4) and Withaferin A (1225ug/mg) content (WS 296) were identified.



A high yielding FCV hybrid CTRI Navya (FCH 2) identified for KLS areas of Karnataka



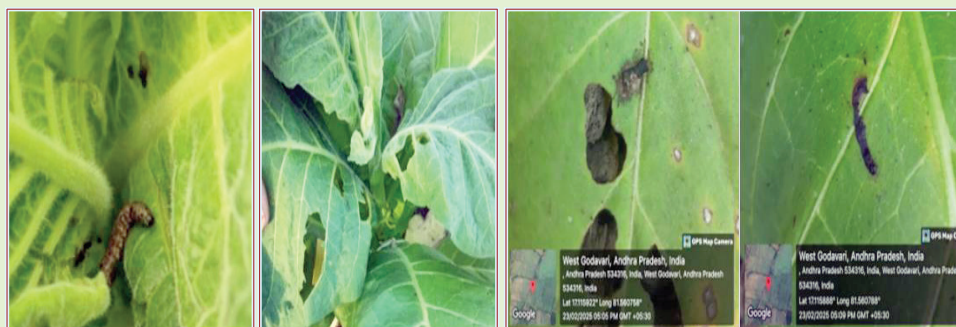
Field view of Ashwagandha genotypes and root variability



Variability of fruit colour and length in chilli landraces of North East India

CROP MANAGEMENT

- Nuclear polyhedrosis Virus (NPV) of tobacco caterpillar *Spodoptera litura* F. (Lepidoptera: Noctuidae) is being produced at ICAR-NIRCA, Rajahmundry under aseptic conditions. It was being produced since October, 2024 and till now about 2500 LE was successfully produced which could be used to manage the tobacco caterpillar in about 10 hectares of tobacco and other crops where this pest is a menace.
- Dr. K. Rajasekhara Rao, Head, Division of Crop Management, ICAR-NIRCA, Dr. V. Venkateswarlu, Senior Scientist and Mrs. B. Sailaja Jayasekharan, Scientist demonstrated the efficacy of NPV against *Spodoptera litura* in the field.
- Tobacco Board Officials viz., Auction Superintendent Sri Kewal Ram Meena, Field Officers Sri Kirthi Kumar, Sri AcchiBabu witnessed the demonstration and efficacy of the Splt NPV.
- About 30 farmers visited the field and observed the effect of NPV in terms of presence of NPV infected and dead *S. litura* caterpillars on the crop. The NPV was effective and produced **80-100% mortality** 3 days after treatment (DAT) onwards. The farmers expressed satisfaction over the control of the pest and efficacy of the **NIRCA Splt NPV**. Mass production of Splt NPV is in progress for large scale application in farmer fields.



Spodoptera litura infested tobacco crop



Spodoptera litura infested field



Visit to Tobacco Board Auction Platform, Gopalapuram



Demonstration of SI NPV application in farmer's field

Technology Developed

Customized Fertilizers for FCV tobacco

Customized fertilizers, particularly when combined with micronutrient products tracs sure and akre shield enhanced the cured leaf yield up to 13-14% in both the NLS and SLS regions compared to straight NPK fertilizers. Reduced the labour cost upto 25-30% and enhanced the nutrient use efficiency. Customized fertilizers are a promising option for FCV tobacco to enable the balanced application of nutrients. Recommendation of customized fertilizers in 4 splits in NLS and 2 splits in SLS was given along with tracs sure and akre shield foliar spray twice at 25 and 45 DAP.

Boronated potassium schoenite as an alternate source of potassium for FCV tobacco

Boronated potassium Schoenite was evaluated in trials for efficacy at our research stations located in FCV tobacco growing regions of Andhra Pradesh and Karnataka.

Potassium Schoenite (PS) as a K source recorded FCV tobacco productivity in terms of green leaf yield, cured leaf yield and bright leaf yield at par with Sulphate of Potash (SOP) and proved to be as effective as SOP. Besides being a good source of K, the PS can potentially supply other nutrients namely Mg, S and B and hence contributing to balanced fertilization. The Recommendation of boronated potassium schoenite @ 652 kg/ha in 3 splits (1:2:1) at 10, 30 and 45 days after planting of FCV tobacco in Northern Light Soils and boronated potassium schoenite @ 522 kg/ha in 2 equal splits (1:1) at 10 and 30 days after planting of FCV tobacco in Karnataka Light Soils was given to the tobacco farmers of Andhra Pradesh and Karnataka.

POST HARVEST AND VALUE ADDITION

- In six decades of long term manurial trial in motihari tobacco (Research station Dinhat, West Bengal); the green leaf yield across ten treatments explained a significantly decreasing trend over the data analyzed for last 23 years of observation and soil microbial biomass carbon (SMBC) ranged from 34–175.7 µg/g of dry soil.
- The ricinoleic acid extracted from castor seed oil was estimated through novel method by GC-MS was found to be 311.9 µg mL⁻¹. Further, a modified alkali pyrolysis reaction for the extraction of 2-octanol was tested with ricinolic acid fraction.
- The soil fertility status of KLS for FCV tobacco shows low levels of organic carbon (0.37%) and available nitrogen (mean: 122.0 kg/ha). Available phosphorus (117.0 kg/ha) and available potassium (359.4 kg/ha) are significantly high, indicating an alarming accumulation of phosphorus in the soil.
- A new locally systemic suckericide (SUCKERSTOP™), a dinitroaniline group compound, was synthesized, and the residue was analysis done using a novel GC-MS analytical method.
- In the evaluation of different cropping systems, tobacco crop equivalent yield was highest in sunhemp-tobacco (1818 kg/ha), followed by fallow-tobacco (1725 kg/ha). Tobacco, cluster bean, ground nut are the suitable intercrops in castor.
- The total carotenoids analysed in chilli pods after harvest and after 120 days of storage at room temperature indicates decreasing trend in carotenoid content during storage. In contrast pre-harvest treatments reduced this decline compared to the control. Blanching with 0.2% sodium metabisulphite showed the highest levels of total carotenoids and capsaicin compared to other treatments.
- A novel LC-MS/MS based analytical method was developed for estimation of flupyradifurone residues in tobacco which implies that the PHI of about 8 to 9 days may require in producing FCV tobacco with acceptable levels of flupyradifurone residues.
- Analytical method for estimating capsanthin in chilli was developed in LC-MS/MS and it was found that capsanthin content 22.64 µg per gram of dry chilli, extracted through green ultrasonication assisted method. Precise and robust analytical method for estimating multi pesticide residue analysis (~255 pesticides) in tobacco by multiresidue monitoring (MRM) methods, withanoloids in aswagandha, anthocyanins in chilli were developed in LC-MS/MS.
- *In vitro* antifungal assay of PGP-2 based formulation (NF-PGPT-Af) against aflatoxin producing fungi *Aspergillus flavus* and *Aspergillus parasiticus* was observed with 48.88% and 67.2% growth inhibition in an *in-vitro* study, respectively.
- A newly developed product Rice Husk Ash-Potassium-Functional Organic Fertilizer (RHA-K-FOF) along with recommended dose of fertiliser (RDF) showed appreciable results in terms of yield and quality.
- The innovative curcumin-based beverage mix food product developed and registered with FSSAI License No.10124999000157. Value added products viz., Herbal tea bags, Turmeric Dhoopsticks, Turmeric sandal soaps, Chilli flakes, Chilli chocolates, Aswagandha capsules, Turmeric Capsules were formulated and being tested for analysis as part of Product Diversification.
- The share of chill exports in spice and agricultural exports increased from 6% and 0.7%, in 1960-61 to 9% and 3%, respectively, in 2023-24, which implies increasing demand for chilli in international markets. Based on the economic model, it is revealed that the huge untapped potential for chilli exports are China, USA, Thailand, Bangladesh, Malaysia, Indonesia, and Sri Lanka, together account for 847 M US\$, which amounts to an additional exchange revenue of Rs 7150 Crores.
- A forecasting model was developed in Prophet using training data and validated with 'Max price' as testing data for chilli price forecasting.
- Online Soil Fertiliser Recommendation software has been developed by linking Soil Test Crop Response based Fertiliser Nutrient Prescription Equations for FCV Tobacco in KLS, SLS & SBS regions.
- Tobacco Seed Portal was redesigned and developed by ICAR-CTRI with additional features to enable the seed supply of all tobacco types across the different regions in less turnaround time.
- Identified the determinants for export promotion and priority for demand-driven value addition in turmeric and chillies.
- The expectations of the turmeric based FPOs in improving the value chain are to provide credit support, market information, certification, direct export etc. and the institute intervention is required to introduce high-yielding varieties with high curcumin content, mechanization in turmeric processing, market linkages etc.

Technology certified from ICAR	Lead Developer
Leaf chemical quality index (LCQI) for assessment and seasonal monitoring of FCV tobacco quality (ICAR-NRM-CTRICONCEPT-2024-1780)	Dr. L.K. Prasad
Soil Fertility Spatial Maps of the Southern Light Soil (SLS) Region of FCV Tobacco in Andhra Pradesh (ICAR-NRM-CTRIPRODUCT-2024-179)	Dr. L.K. Prasad
Non – Methanol based extraction method was developed for the estimation of nicotine, reducing sugars and chlorides in FCV tobacco leaf (ICAR-CS-CTRIPRODUCT- 2024-072)	Dr. L.K. Prasad
Dense planting technique—a strategy for minimizing yield loss under delayed monsoon conditions in FCV tobacco grown on rainfed Alfisols of Andhra Pradesh (ICAR-NRM-CTRI Technology-2024-182).	Dr. M. Anuradha
A simultaneous screening and quantitative novel method for the multiresidue analysis of pesticides in tobacco using ultra-high-performance liquid chromatography-high resolution (Orbitrap) mass spectrometry	Dr. Anindita Paul

R & D COLLABORATIONS

- IPR granted (i) Copyright: SW-10854/2024: Meteorological data information system and (ii) Trademark: NIRCA (National Institute for Research on Commercial Agriculture) No.6531785
- ICAR-NIRCA signed 7 Memorandums of Understanding (MoUs) with various organizations during July-December 2024.



- Handheld battery-operated topping tool was licensed and commercialized to M/s SS Enterprises, Gollaprolu for Rs.26,250/- on 12.11.2024. So far, 160 units have been distributed to farmers and ICAR-CTRI shall receive 10% of the royalty for each tool.
- The low-cost labour-saving 'Poly-tray medium pressing tool' was designed and developed by ICAR-CTRI and was licensed and commercialized to M/s Veerabhadra Rao, Anakapalli for Rs.17,700/- on 23rd July, 2024. A total of 150 units have been distributed to farmers till date and ICAR-CTRI shall receive 10% of the royalty for each tool.



MEETINGS/ TRAININGS/ SEMINARS

- Foreign visit accomplished by Dr. Anindita Paul to attend and deliver oral as well as poster presentation in International CORESTA Congress 2024 during 13-17th October, 2024 at Edinburgh, Scotland. She was the 1st young scientist solely represented from ICAR-CTRI.
- Interaction meeting with the farmers of Northern Light Soils of Andhra Pradesh was conducted at ICAR-CTRI, Rajahmundry on 02.09.2024 on good agricultural practices of FCV tobacco.



AWARDS AND RECOGNITIONS

- Dr. Y. Subbaiah, Principal Scientist, received TII Scientist award under senior category for the significant achievements made towards the research and development in tobacco during 24th TII Tobacco Farmers Awards on 10.07.2024 at Devarapalli, West Godavari Dt., Andhra Pradesh.
- Dr. J. Poorna Bindu, Scientist, received 1st Scientist Tobacco Institute of India (TII) Award under Young Scientist Category during 24th Tobacco Institute of India (TII Tobacco Farmers Awards (Andhra Pradesh, Telangana) on 10 July, 2024 at Devarapalli, West Godavari Dt., Andhra Pradesh.



Technology Outreach

- A technology on “Pre Harvest Interval (PHI) of chlorantraniliprole pesticide for safer produce of FCV tobacco” transferred and given adhoc recommendation to tobacco farming community through Tobacco Board on 05.11.2024
- Field evaluation and demonstration of ICAR-CIAE and ICAR-CTRI developed tobacco seedling transplanter was conducted on 05-06th November 2024 at ICAR-CTRI RS, Jeelugumilli
- Method Demonstration was conducted on Mixed Fruit Jam Making at Nannaya University on 27.12.2024 for the benefit of PG students
- To observe the performance of High yielding FCV tobacco variety CTRI Navya (FCH 2), Scientist from ICAR-CTRI RS, Hunsur visited Madallimata, Bannikuppe, Emmekoppalu villages, Hunsur, Karnataka on 03.07.2024.
- ICAR-CTRI and KVK, Kalavacharla put up exhibition stall in National agri innovation summit organized by Godavari Global University, Rajahmundry on 20.12.24.
- Scientists delivered radio talks (5) on different topics of Good Agricultural Practices of tobacco at All India Radio, Visakhapatnam.
- As a part of technology popularization and institutional visibility initiatives, prepared Videos on Technologies and Institutional Programs and posted in Social Media platforms viz., YouTube, Facebook, Twitter, LinkedIn and Instagram for Stakeholder benefit.

SCSP/ TSP/NEH Programmes

ICAR-CTRI implemented SCSP and TSP programmes at Head quarters and research stations. Different capacity building programmes were conducted and critical inputs were distributed to the beneficiaries



NEH at Sikkim



TSP at Kannapuram



SCSP at Dinhata



SCSP at Vedasandur



SCSP at Jeelugumilli



SCSP at Guntur

AINPT Group Meeting

The XIII Group Meeting of All India Network Project on Tobacco (AINPT) was held at ICAR-Central Tobacco Research Institute Research Station, Hunsur during 29-30th August, 2024 under the Chairmanship of Dr. T.R. Sharma, DDG (CS), ICAR, New Delhi. Other dignitaries were Dr. Prasanta K Dash, ADG(CC), ICAR, New Delhi; Dr. S.V. Suresha, Hon'ble Vice- Chancellor, UAS, Bangalore; Dr. R.C. Jagadeesha, Hon'ble Vice- Chancellor, UAHS, Shivamogga, Karnataka; Shri Harish Gowda, MLA Hunsur and Dr. M. Sheshu Madhav, Director, ICAR-CTRI, Rajahmundry. Dr. K. Sarala Nodal Officer, AINPT, Principal Investigators of various disciplines, Scientists from AINPT centres, ICAR-CTRI, representatives from Trade, Tobacco Board participated in the meeting. The group meeting was started with the formal welcome to the dignitaries by Dr. K. Sarala Nodal Officer, AINPT.

Virtual Meetings conducted with all the AINPT centres with Director and Principal Investigators viz., Crop Improvement, Crop Production, Crop Chemistry and Soil Science and Crop Protection

on 02nd July, 2024 at ICAR-CTRI, Rajahmundry in hybrid mode to discuss the ongoing projects and to formulate the Technical Programme for the year 2024-25.

A total number of 22 lines submitted by different AINPT centres are being evaluated under IVT/IHT of FCV, *Bidi* and *Rustica*.



TOBACCO PRODUCTION LANDSCAPE IN BRAZIL, ZIMBABWE, MALAWI

BRAZIL

In Brazil, tobacco crops are highly concentrated in the three southern states, one of which is Rio Grande do Sul, which hosts more than 50,000 tobacco farms.

Key features of Tobacco Farming in Brazil

- **Production and Exports:** Brazil is a leading global tobacco exporter, with a large portion of its production going to international markets.
- **Small-scale farmers:** Most of the tobacco cultivation is found in the three southern states, where it is a major economic activity for small-scale family farmers.
- **Quality and Grades:** Brazil is known for producing high-quality tobacco, particularly Virginia and Burley types, which are graded based on quality and used for export.
- **Integrated Tobacco Production System:** The Brazilian tobacco industry has adopted an Integrated Tobacco Production System, which involves small-scale farmers and focuses on quality.
- **Economic Importance:** Tobacco farming contributes significantly to the local economy in the southern states, providing income and employment for many farmers and their families.

ZIMBABWE

Zimbabwe is the largest producer of tobacco in Africa, accounting for ~25% of African tobacco production. Three main types of tobacco, namely flue-cured, burley, and oriental tobacco, are grown in Zimbabwe. Of these, flue-cured is the most important, generally produced in the better rainfall areas to the north and east of Harare. The northern regions produce a Virginia type of tobacco, whereas growers in the east produce a thicker, slower-developing type used for blended cigarettes. Burley tobacco is grown mainly in the northeast and the Eastern Highlands and is predominantly a small holder crop. These areas have better rainfall and longer periods of high relative humidity needed for curing. Oriental tobacco accounts for less than 1 percent of total output by mass and is grown mainly by small-scale producers in Masvingo Province.

Key features of Tobacco Farming

Production Outlook (2024) Government target: 300 million kg annual production

- **Value addition goal:** Increase from 2% to over 30%
- **Focus on quality over quantity**
- **Implementation of drought-resistant tobacco varieties**
- **Enhanced water management techniques**
- **Promotion of energy-efficient curing barns**
- **Adoption of climate-smart agricultural practices**

Advanced agricultural technologies are being adopted to improve efficiency, yield, and sustainability. Some key technological advancements include:

- **Precision agriculture techniques**
- **Satellite-based crop monitoring**
- **AI-driven farming advisory systems**

In the Zimbabwean context, tobacco contract farming is an agreement where tobacco buyers provide the inputs required for the production of the crop and then assure to buy all the tobacco under contract at the same prices or higher than the ones prevalent on the auction floors. It should be noted that in Zimbabwe, the state has been promoting contract farming and this has led to a highly successful growth of smallholder farming since the 1980s (Shiringo, 2022)

Tobacco is a major agricultural export crop of Zimbabwe, making it one of the major foreign currency earners. Tobacco production remains a major source of employment because it is a labor-intensive cash crop. Large-scale commercial farming has produced much of the country's agricultural output. Tobacco production has been generally dominated by large-scale commercial farmers who were estimated to be fewer than 2000 farmers but accounted for 95% of the crop output (Chikowari, 2024).

MALAWI

Malawi is the top global producer of burley tobacco and one of the top ten global producers of tobacco leaf. Tobacco is the country's main cash crop, reported to contribute to between sixty and seventy percent of export earnings. Many smallholder farmers in Malawi, particularly in the central and northern regions, rely on tobacco as their main income source. Tobacco leaf cultivation is reported to employ an estimated 780,000 people, approximately 468,000 of them being small holder farmers (Lencucha, 2016). Under significant pressure from leaf-buying firms and transnational tobacco corporations, the burley tobacco contract marketing was approved by the government and fully adopted in 2012 as the Integrated Production System (IPS). The majority of tobacco leaf produced in Malawi is now sold through contract farming. Many farmers have agreed to contractual arrangements because it is difficult to access other bank and government credit facilities.

Key features of Tobacco Farming in Malawi

Economic Importance

Tobacco is a primary export for Malawi, accounting for a significant portion of the country's export value and impacting its GDP and tax base.

Smallholder Dependence

Many smallholder farmers in Malawi, particularly in the central and northern regions, rely on tobacco as their main income source.

Tenancy System

A significant portion of tobacco cultivation is conducted under the tenancy system, where farmers work on land they do not own, often on large estates.

Market Dependence

The sale of Malawi's tobacco is dominated by a few global leaf-buying companies, and farmers may have limited market access.

KRISHI VIGYAN KENDRAS

KVK, Kalavacharla

- Krishi Vigyan Kendra, Kalavacharla organized the golden jubilee torch travel program of KVKs on 2nd July, 2024. The torch was taken over by Dr. M. Sheshu Madhav, Director, ICAR-CTRI from the Head, KVK, Kondempudi on 1st July, 2024. The day 21st March, 2024 marks the 50th anniversary (golden jubilee) of establishment of the first KVK at Puducherry. The year 2024 is being celebrated as the golden jubilee year for the KVKs.
- Skill Training of Rural Youth (STRY) on Nursery management and grafting techniques in horticultural crops was organized in collaboration with ATMA-East Godavari during 7-13 August, 2024.
- Trained around 20 women on coir door mat making for 30 days (26th August - 25th September, 2024) at Pedapalem village, Dr. B.R. Ambedkar Konaseema District under the Schedule Caste Sub-Plan.
- A training programme on construction methods of fish ponds was organised at Sitharampuram village, Rajanagaram mandal, East Godavari district on 19.10.2024.
- Conducted an awareness workshop on Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan (PM-KUSUM)- Component A to 50 farmers from districts of East Godavari, Kakinada and Dr. B.R. Ambedkar Konaseema on 13.11.2024.
- Celebrated the National Farmers Day on 23rd December, 2024 in the presence of around 70 farmers. The Head, KVK, Kalavacharla honoured and awarded the Challa Naganna, a model farmer from Kalavacharla village of East Godavari district.
- Participated in National Agri Innovation Summit by stall exhibition of KVK, Kalavacharla products organised by Godavari Global University, Rajahmundry during 20-24 December, 2024.



KVK, Kandukur

- Organized field days on ICM technology on groundnut at Alagayapalem village on 25.09.2024 and IPM in brinjal at Sanampudi village on 05.11.2024.
- National Farmers Day was celebrated on 23.12.2024 and felicitated progressive farmers
- KVK, Kandukur is extending technical support on nursery seedlings production on tobacco, chilli, vegetables, seed production in paddy, blackgram, millets, business plan preparation, supply chain management, market linkages, online sale platforms linkages to the 5 FPOs.
- Organized skill development trainings on Natural Farming with a budget outlay of 2.88 lakh covering 320 farmers in 8 villages and imparted knowledge on natural farming practices in paddy, vegetables, chickpea and groundnut crops



PERSONNEL

Appointments

Name & Designation	Date of Joining
Dr. Ravindra Harish Sontakke Subject Matter Specialist	13.07.2024
Sri Ganni Sandeep Assistant	14.08.2024

Retirements

Name & Designation	Date
Sri V. Narasimha Rao UDC	31.07.2024
Sri G. Satyanaraya Murthy STO	31.07.2024
Smt. Divi Seshamma SSS	31.08.2024
Smt. Tanikonda Chinnammai SSS	31.08.2024
Sri C. Puttamallaiah Technical Assistant	30.09.2024
Sri Manchala Raju SSS	31.10.2024
Sri Baidyanath Ghosh Assistant	30.11.2024
Sri D. Babji SSS	31.12.2024
Smt. K. Kantham SSS	31.12.2024
Smt. N. Ramayamma SSS	31.12.2024

CROP SURAKSHA

An Android app, "CROP SURAKSHA", was developed using Xamarin (.Net) and Android Studio. Available on Google Play Store, it delivers Integrated Pest Management (IPM) practices for 15 major crops in Andhra Pradesh, including cereals, pulses, oil seeds, and commercial crops. It is useful for farmers, agricultural officials, researchers, educators, NGOs, FPOs, consultants, and others involved in agricultural extension activities. The URL is: https://play.google.com/store/apps/details?id=com.companyname.cropsuraksha&hl=en_IN.

