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CENTRAL TOBACCO RESEARCH INSTITUTE

# Newsletter

**CENTRAL TOBACCO RESEARCH INSTITUTE, RAJAHMUNDRY - 533 105**

## Dr. V. KRISHNAMURTHY ASSUMES CHARGE AS DIRECTOR, CTRI

Dr. V. Krishnamurthy, Principal Scientist & Head, Division of Crop Chemistry and Soil Science assumed the charge of Director, Central Tobacco Research Institute, Rajahmundry on the afternoon of 2<sup>nd</sup> June, 2006. Born in Vemulapalli village in Krishna District of Andhra Pradesh on 16<sup>th</sup> January, 1950. Graduated from Agricultural College, Bapatla in 1972, M.Sc. in Agriculture in 1975 with Agricultural Chemistry as the major field of specialisation and Ph.D. from Andhra University, Waltair in 1983.

Dr. Krishnamurthy joined the ICAR service in 1975 as Research Assistant at National Dairy Research Institute, Karnal and served

as Scientist S-1 (Soil Science) at Central Soil Salinity Research Institute, Karnal in 1976 and was transferred to CTRI, Rajahmundry on 16<sup>th</sup> April, 1977. Since, 1977 he worked in different capacities as Scientist S-1 (Soil Science), Scientist S-2 (Soil Science) and Senior Scientist (Soil Chemistry). He also worked as Officer-in-charge of the CTRI Research Station, Dinhata (West Bengal) from 1987 to 1988 and Scientist S-2 (Soil Chemistry) at CTRI Research Station, Kandukur from 1988 to 1990. He is the recipient of Dr. G.S.

Murty Award-1987, Sri K. Devappa Award-1998 and 2000, the Indian Tobacco Association Award-2000 and ISTS Award-2005 for his research contributions to the Indian Tobacco Science. He is also the recipient of the First International Potash Institute (Switzerland) – Fertiliser Association of India (New



Delhi) Award-1997 for his research work on "Effect of Potassium on the Yield and Quality of Crops". He was an elected Fellow of the Institution of Chemists (India) since 1996 and the Indian Society of Tobacco Science since 1998.

He authored seven Research Bulletins on "Soil Fertility Status of FCV Tobacco Soils of India", four books viz., Flue-cured Tobacco Soils of India, Potassium Nutrition of Flue-cured Tobacco, Burley Tobacco in India: Its Production and Quality for Exports and Non-FCV Tobacco

Soils of India: Their Fertility and Management and published over 100 research papers in national and international journals of repute. He developed "A laboratory Manual on Soil Testing and Irrigation Water Analysis for Tobacco" at CTRI for the use of tobacco researchers and extension workers.

Dr. Krishnamurthy is an approved Research Guide for M.Phil and Ph.D. students in the Department of Environmental Sciences, Acharya Nagarjuna University, Guntur and an External Examiner for the evaluation of Post-Graduate thesis in the discipline of Soil Science and Agricultural Chemistry, Tamil Nadu

Agricultural University, Coimbatore and Acharya NG Ranga Agricultural University, Hyderabad. He is a Member of the Management Committee of the National Research Centre for Oil Palm, Pedavegi, Andhra Pradesh. He is the Chairman of "Tobacco and Tobacco Products Sectional Committee" (FAD-4), Bureau of Indian Standards, New Delhi and the Member, Tobacco Board, Ministry of Commerce, Govt. of India, Guntur. Currently he is the Secretary of the Indian Society of Tobacco Science.



## RESEARCH HIGHLIGHTS

### CTRI, Rajahmundry

- ❑ Thirty one S5 and fifteen S4 generation somaclones and 23 progenies of 9 advanced interspecific cross derivatives were artificially screened for leaf curl and 44 somaclones for CMV. Somaclones recorded 82-100% leaf curl resistant plants. Most of the somaclones showed 100% tolerance to CMV. Per cent leaf curl infection was low in derivatives, viz., 133-31 LP1 (6%); 44-26L (20%); 39-11LP2 (21%). 7-9LP3 (35%). Check cultivars recorded more than 80% infection.
- ❑ The range of Solanesol content in air cured leaves of 98 species/accessions found to be 0.10-4.90% (Lowest in R756, R 785, R 812 and Highest : R 768). Confirmation tests are under progress.
- ❑ The concentration of nitrate, nicotine, nornicotine and TSNA ranged 0.95 - 1.84 mg/g, 0.44 - 3.73%, ND - 1.73% and ND - 1.19 ppm, respectively, in FCV tobacco samples from KLS, NLS and SLS.
- ❑ There was two per cent increase in yield of tobacco grown with trap crops (castor and marigold) than grown without trap crops. There was 1.13 to 1.30 fold increase in parasitoid activity in tobacco grown with trap crops.
- ❑ Significant positive effect of number of rainy days on mean number of *H. armigera* eggs per plant was noticed in Sept.30<sup>th</sup> planting. Number of rainy days and rainfall negatively influenced the incidence of leaf curl.
- ❑ Out of 80 (72 FCV exotic varieties and 8 FCV indigenous) varieties screened artificially, 5 exotic lines (CSIRO, Coker-128, Delcrest-WF, Early Bright and Faucettes sp.) and 2 indigenous lines (Rajkhand - 3 and TI - 70) have showed less than 25% infestation of stemborer.

- ❑ Methanol extract (2%) of 12 botanicals (leaves) tested against growth and development of *Spodoptera litura* under laboratory conditions revealed that *Lantana* and *Calotropis* completely suppressed the growth of pest and all larvae died before entering pupal stage.

### CTRI Research Station, Hunsur

- ❑ Tray nursery seedlings resulted in 6.9% and 8.3% increase in cured leaf and top grade equivalent yield, respectively, over check (direct sown conventional nursery).
- ❑ Vermicompost @ 4 t/ha + recommended NPK has increased cured leaf yield (13%) and top grade equivalent (15%) over recommended NPK schedule and 5.4 and 7.2%, respectively, over Farm Yard Manure + NPK schedule.
- ❑ Plant-hole application of Vermicompost was found better than plant row application for increasing cured leaf and top grade equivalent yield in both on-farm and at research farm.
- ❑ Schedules involving plant hole application of Kocide 101 (copper hydroxide 77%) @ 0.4% and 0.3%, respectively + drench around the plant @ 0.2% at 30 & 45 days after planting were found better as compared to carbendazim application to manage Fusarium wilt in field crops.
- ❑ The modules comprising eco-friendly and bio-intensive components such as soil solarization, soil amendment with neem cake and Kalisena (*Aspergillus niger*) SD or SL have been identified to control soil-borne fungal diseases in FCV tobacco nursery.
- ❑ Application of *Pseudomonas fluorescens* (PF-1 strain) in talc

formulation @ 5 g/m<sup>2</sup> reduced root-knot index in FCV tobacco nursery to the extent of 33.1% compared to check.

- ❑ Out of 17 hybrid entries screened against mixed root-knot nematode species under field conditions, nine were found promising with RKI < 2.0.

### CTRI Research Station, Guntur

- ❑ Cy 135 showed better performance with application of 60 kg N/ha, 70 x 50 cm spacing and topping at bud stage in Central Black Soils and Southern Black Soils.
- ❑ Under irrigated conditions in SBS, application of 60 kg N/ha to Hema variety produced highest green and cured leaf yields while the lowest level of nitrogen i.e. 40 kg N/ha produced higher bright and grade index leaf yields under irrigation @ 720 l/plot at 40 DAP.
- ❑ Foliar application of imidacloprid @ 2.5 ml/10 l was promising for reducing the incidence of whitefly, aphids, *S. litura* and *H. armigera*.
- ❑ Spray through high pressure sprayer @ 2 l/min at every 40 cm swath width is promising. Incidence of whitefly, aphids, *S. litura* and *H. armigera* are comparatively low.

### CTRI Research Station, Vedesandur

- ❑ Two sun-cured chewing tobacco lines, HV 2000-2 and HV 2000-6, have been identified as promising caterpillar resistant lines with mean yield of 3617 and 3738 kg/ha in bulk evaluation trials over different seasons at the Research Station as well as in growers fields in Dindigul and Erode districts of Tamil Nadu.



## TOBACCO VARIETIES RELEASED

The Andhra Pradesh State Seed Sub-Committee on Varietal Release under the Chairmanship of Sri D.K. Panwar, IAS, Principal Secretary to Govt., Agriculture & Cooperation Department, A.P. approved and released the following FCV and Natu tobacco varieties on 2-6-2006.

### 1. FCV tobacco varieties

(i) Kanthi (CY-79) for cultivation in rainfed Southern light soils (yield 1,600 kg/ha) and in Southern black soils (yield 2,000 kg/ha) of Prakasam and Nellore districts of Andhra Pradesh.



(ii) Siri (CY-135) for Traditional black soils of A.P. The variety has the yield potential of 2,900 kg/ha under favourable rainfed conditions in Northern and Southern black soil areas.



(iii) Hemadri (II-1624) for Central black soils, Southern black soils and Northern black soils of A.P. This variety has a yield potential of 2,000 kg/ha.



### 2. Natu Tobacco variety

Bhairavi (NG-73) for traditional black soils of A.P. in Kurnool, Mahaboobnagar, Guntur and Prakasam districts of A.P. (yield 2000 kg/ha).



### Important meetings attended by Dr. V. Krishnamurthy, Acting Director, CTRI

- ❑ Visited AINRPT Centre, Berhampur and Farmers' Fields on 9-4-2006.
- ❑ Attended the briefing meeting for Indian delegation attending the ISO/TC 126 meeting at LAS VEGAS, USA, organized by BIS, New Delhi on 28-4-2006.
- ❑ Monitored the soil fertility survey work of Hasaan District of Karnataka and visited the CTRI RS, Hunsur on 28-4-2006.
- ❑ Visited Tobacco Board Auction Platform, Jangareddygudem in connection with the visit of the Hon'ble Chief Minister of Andhra Pradesh to lay the foundation stone for Auction Floor-II on 31-5-2006.
- ❑ Attended the Brain-storming session on "Role of Agriculturally important Microorganisms in Sustainable Food and Agricultural Production" at NBAIM, MauNath Bhanjan (U.P.) on 17<sup>th</sup> April, 2006.

## TRANSFER OF TECHNOLOGY

### RYTHU SADASSU AND FARMERS' DAY

- ❑ Sri M. Sanni Babu, Principal Scientist (Agricultural Extension) participated in 'Rythu Sadassu' programme on tobacco, rice, horticulture and animal husbandry, organized by the State Department of Agriculture at Jangareddygudem on 5.5.2006.
- ❑ Sri R. Subba Rao, Principal Scientist (Agronomy) participated in the training programmes on "Burley tobacco production" organized by ITC, ILTD, Rajahmundry at Visakhapatnam, Vizianagaram and Parvathipuram on 22-25<sup>th</sup> May, 2006.

### CONFERENCES/TRAININGS/WORKSHOPS

- ❑ Dr. Y. Subbaiah, Programme Coordinator, KVK attended Annual Review and Action Plan meeting of ZC Unit for Zone V at CRIDA Complex, Hyderabad from 10-11<sup>th</sup> April, 2006.
- ❑ Dr. (Smt.) D.V. Subhashini, Sr. Scientist attended the Brain-storming session on "Role of Agriculturally important Microorganisms in Sustainable Food and Agricultural Production" at NBAIM, MauNath Bhanjan, U.P. on 17<sup>th</sup> April, 2006.
- ❑ Dr. (Mrs.) K. Sarala, Sr. Scientist attended National Seminar on "Gene Constructs" at IIHR, Bangalore from 17-18<sup>th</sup> May, 2006.
- ❑ Dr. P. Venkateswarlu, Sr. Scientist and Sri S. Gunneswara Rao, Scientist (Sel. Grade) attended the Annual group meeting of AICRP on Biological Control & National symposium on "Biological Control of Sucking Pests" at PDBC, Bangalore from 24-27<sup>th</sup> May, 2006.
- ❑ Dr. P. Harishu Kumar, Principal Scientist & Head, Crop Production attended the Biennial workshop



of "All India Coordinated Research Programme on Weed Control" at ANGRAU, Hyderabad from 1-3<sup>rd</sup> June, 2006.

- Sri C.V.K. Reddy, Technical Officer attended the training programme on "Information Bank" at NBPGR, New Delhi on 12<sup>th</sup> June, 2006.

### PAPERS PUBLISHED

- చీనీ నిమ్మతోటలో బహుళ పోషక లోపాలు by E. Vijaya Prasad and Y. Subbaiah. Andhra Jyothi, 24-4-06.
- పేదలపాలిట పెన్నిధి - తాడిచెట్టు by K. Suman Kalyani and S.K. Naidu. Annadata, April, 2006 pp.61-3.
- గుండె జబ్బులకు దివ్యబేషదం - సోయాచిక్కుడు by K. Suman Kalyani and S.K. Naidu. Annadatha, May, 2006. pp.54-6.
- Impact Analysis of KVK Training Programmes by K. Suman Kalyani and K. Deo Singh. Indian Res. Journal of Ext. Edu., 6(1 & 2) Jan. & May, 2006. pp.34-6.

### RADIO TALKS

- వర్షీనియా పొగాకు సాగుకు అనువైన నేలలు - భూసార పరీక్షలు by Dr. V.Krishnamurthy on AIR, Visakhapatnam on 13.4.2006.
- కెవికె ద్వారా గ్రామీణ మహిళా ఆర్థికాభివృద్ధి కార్యక్రమాలు by Dr. Y. Subbaiah at AIR, Vijayawada on 28.4.2006.
- వ్యవసాయంలో పెట్టుబడుల సద్వినియోగం by Dr. Y. Subbaiah at AIR, Visakhapatnam on 28.4.2006.
- వంగడాల రూపకల్పనలో జీవ సాంకేతిక విజ్ఞానం by Dr. K. Sarala on AIR, Vijayawada on 9.5.2006.
- లాభసాటి విస్తరకుల పరిశ్రమ by Sri R. Sudhakar at AIR, Vijayawada on 15.5.2006.
- వేసవిలో పానీయాలు by Smt. V.V. Lakshmi Kumari at AIR, Visakhapatnam on 18.5.2006.

- పెరటిలో పెంచుకునే వివిధ రకాల కోళ్ళు జాతులు by Dr. B. John Babu at AIR, Visakhapatnam on 30.5.2006.
- ఏజన్సీ ప్రాంతాల్లో బర్డ్ ఫాగాకు నారుమళ్ళ యాజమాన్యం by Sri I.V. Subbarao at AIR, Visakhapatnam on 11.6.2006.
- గ్రామీణ మహిళల అభివృద్ధికి కె.వి.కె చేపడుతున్న శిక్షణా కార్యక్రమాలు by Sri R. Sudhakar at AIR, Visakhapatnam on 29.06.2006.

### HUMAN RESOURCE DEVELOPMENT

- Sri B.S.N. Reddy, Technical Officer, T-5, CTRI Farm, Katheru completed his M.Sc.(Botany) from Kuvempu University, Karnataka in 2005.

### APPOINTMENTS

- Sri D. Srinivasa Rao, S/o. Sri D. Balaiah, Ex-SS Gr IV, CTRI R.S., Guntur has been appointed as SS Gr. I on compassionate grounds on 03.04.2006 at CTRI Research Station, Guntur.

### RETIREMENTS

- Sri J. Satyanarayana, Tech. T-2, CTRI, Rajahmundry was retired from Council's Service on 31.05.2006.
- Sri V.A. Paul, Technical Officer, T-6, CTRI, Rajahmundry was retired from Council's service on 30.06.2006.
- Smt. F. Mariapushpam, Personal Assistant, CTRI RS, Vedasandur was retired from Council's Service on 30.06.2006.
- Smt. Ch. Subbayamma, SS Gr. II, CTRI, Rajahmundry was retired from Council's Service on 30.06.2006

### OBITUARY

- Sri K. Venkateswara Rao, SS Gr.II, CTRI, Rajahmundry expired on 20.04.2006.
- Sri M. Naga Rajeswara Rao, T.O.T-6, CTRI Research Station, Guntur expired on 13.05.2006.
- Sri K. Pattabi Ramayya, SS Gr.I, CTRI, Rajahmundry expired on 22.05.2006.

### KRISHI VIGYAN KENDRA

- A total of 1810 farmers, farmwomen, rural youth and extension personal were trained in 47 training programmes. Ten vocational training programmes on different topics such as Jute cloth products making, leaf plate making, coir doormat making, food processing etc. were conducted.
- KVK participated in two Kisan Melas at Mukkamala and Pulletikurru villages organised by Abhyudaya Karshak Parishad, Mukkamala & State Department of Agriculture, Govt. of A.P., Kakinada on 25.04.2006 and 06.05.2006, respectively. A total of 175 farmers, farm women and rural youth participated. Several progressive farmers have also shared their views/ ideas with other farmers.
- Farmers' Day was organized at KVK Instructional Farm, Kalavacherla on 13.06.2006. A total of 232 farmers have participated.
- Five Banana Fibre demonstrations were arranged at KVK. A total of 43 farmers, rural youth and traders have participated from Chennai, Vijayawada, Adilabad and Sattupalli.

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