



समाचार Newsletter



CENTRAL TOBACCO RESEARCH INSTITUTE, RAJAHMUNDRY

Vol. 11

APRIL—JUNE 1989

No. 2

MAJOR EVENT

TOBACCO NURSERY IN 'RAYAGADA'

Under the chairmanship of Dr. M. S. Chari, Director, CTRI a team of scientists, Tobacco Board Officials and trade representatives visited 'Rayagada' area of Orissa state during 10th to 12th April 1989 to explore the possibilities of growing good quality flue-cured tobacco in the sandy soils. As the soil and water samples indicated suitability, a nursery has been raised with four varieties viz. Bhavya, Godavari Special, 16/103 and McNair-12. It is also proposed to raise a field crop on 2 hectares to study their performance and suitability.

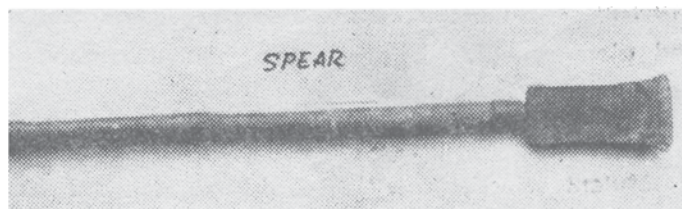
RESEARCH HIGHLIGHTS

CTRI, RAJAHMUNDRY

* In the investigation of alternative crops to tobacco in vertisols, two mustard varieties, viz. Kranthi and Krishna, were found promising by yielding 2000 kg/ha each. Mustard gave a net profit of Rs. 11,000/- per hectare.

* In order to find an alternative to hand removal of *Orobanche*, which is labour intensive, a new implement **SPEAR** was designed. The **SPEAR** comprised of an iron blade of 16 cm long, 8 cm wide and 0.5 cm thick attached to a bamboo stick of about 2 meters length.

This implement is manually operated and the iron blade can easily cut the young broomrape shoots (unflowered) upto 5 cm deep into soil. The implement is locally made cheap, efficient and saves much human energy and time.



* A rapid bio-assay method in petridishes has been developed for assessing the germinability of *Orobanche* seed. The method requires 10 days for completion as against 21 days in the earlier bio-assay test in pots developed in this Institute. This test is useful for assessing the viability of *Orobanche* seed in various experiments.

* It is observed that tobacco seed can be stored at ambient temperatures for more than 12 years without any loss in germinability by keeping the seed moisture content below 4%. The moisture content in the seed is maintained by using a desiccant "Calcium Chloride" in air tight drums. 500 gm Calcium Chloride is sufficient for storing 45-50 kg seed for one year. The finding is useful to preserve seed stocks without any loss in viability.

CTRI RESEARCH STATION, VEDASANDUR

* Drip irrigation in cigar filler tobacco registered significantly higher total leaf yield (2,032 kg/ha) which is 60.1% higher than normal furrow irrigation with a saving of 44.5% (324.6 mm) of irrigation water over the latter. Water use efficiency was also greater with drip irrigation system (5.02 to 6.37 kg/mm) in comparison to normal furrow irrigation (1.75 kg/mm).

* Broad ridges of 60cm width with 30cm furrows and staggered planting on both sides of ridges at 50cm spacing resulted in significantly higher total leaf (2,595kg/ha) of cigar filler tobacco than normal method of planting on one side of the ridge (2,119 kg/ha). Water use efficiency was more in case of broad ridges and staggered planting (4.01 kg/mm) than normal method of planting (3.28 kg/mm).

* **Mutant** selections HV. 86-2 of Bhagyalakshmi base and HV. 86-5 of I-64 base registered mean yield increase of 6 and 11 percent in whole leaf and 5 and 8 percent in total leaf respectively over their parents when compared over three years (1986-87 to 1988-89). They are selected for pre-release bulk trial in farmer's field during the ensuing season.

* In the out-station trials conducted during 1988-89, advanced breeding line HV.80-4 produced an average yield of 3,762 kg/ha recording an increase of 15 percent over the control variety Bhagyalakshmi (3,268 kg/ha).

* Four selections in HV.84-5 line of Thangan X DWFC cross exhibited greater homozygosity to caterpillar resistance and they are proposed to be tested in farmers' fields in the ensuing season.

CTRI RESEARCH STATION, HUNSUR

Pre-sowing drench with 0.5% Bordeaux mixture and 0.2% spray of Ridomil MZ 72 WP at 30 days and 45 days after sowing controlled the damping-off and black shank diseases effectively in tobacco nurseries and increased number of healthy transplantable seedlings.

CTRI RESEARCH STATION, PUSA

* Diammonium phosphate and Triple superphosphate proved to be equally effective sources of phosphorus for chewing tobacco in calcareous soil of North Bihar.

* Smearing of neem oil emulsion @ 35% concentration on 10th and 25th days after topping suppressed emergence and growth of suckers and enhanced leaf yield appreciably.

* Transplanting of tobacco on 5th October resulted in the highest yield while further delay caused a marked decline in total yield as well as first grade out turn.

* The line HH 76-1 fared well at the spacing of 90 cm X 75 cm and at the level of 140 kg N/ha. and out yielded variety **sona**.

* Breeding lines BC₁ S-6-15-1 and BC₁ S-6-11 exhibited high yield potentials with superior leaf quality and out yielded the local variety **Bandi**.

* Tobacco produced in Samastipur contained high concentration of nicotine and magnesium and was found to be superior in physical appearance and chewability as compared to the tobacco samples of Vaishali and Muza-farpur districts.

OTHERS

Honours and Awards

1. Sri. Kapil Deo Singh, Principal Scientist and Officer-in-charge, CTRI Research Station, Kandukur has been awarded the degree of Doctor of Philosophy by IARI, New Delhi for his thesis entitled "Influence of excess soil water and nitrogen fertilization on growth, yield, quality and nutrient use in soybean (*Glycine max* (L) Merrill)" on 20-3-89.
2. Sri. T. Venkateswarulu, Scientist (Selection Grade), CTRI, Rajahmundry has been awarded the degree of Doctor of Philosophy by Andhra University, Waltair for his thesis entitled "In vitro production, Cytogenetics and biochemical studies of two interspecific hybrids in the genus *Nicotiana* on 27-5-89.

Seed Distribution

There was a high demand for seed of Jati (chama) variety for this season. The available stock of 87 kg of this variety was distributed to the needy farmers at CTRI Res. Station, Dinhat.

EXTENSION ACTIVITIES

Radio & TV

A documentary feature on CTRI was broadcasted by AIR, Vijayawada, on 9-4-89.

Exhibitions

1. CTRI, Rajahmundry conducted an exhibition on tobacco at APP Mills, Rajahmundry from 25-4-89 to 27-4-89.
2. CTRI, Rajahmundry exhibited its research achievements for the farmers at Platinum Jubilee celebrations of Sugarcane Research Station, Anakapalli from 13-5-89 to 14-5-89.

KRISHI VIGYAN KENDRA

1. Forty three training programmes were conducted under different disciplines covering 480 farmers and 329 farm-women from villages adopted by the KVK.

2. Thirty five "method and result demonstrations" were conducted in crop production, Home Science, Horticulture, Animal Science Production and Rural crafts. A total of 587 farmers/farm-women had participated.
3. One group discussion, Two Agric. Exhibitions and 61 film shows/slide shows were arranged with the collaboration of Regional Agricultural Research Station, Anakapalli and A. P. P. Mills, Rajahmundry benefiting 1,225 persons. KVK secured the first prize in Agricultural Exhibition arranged by the Regional Agricultural Research Station, Anakapalli on 13-5-89.
4. Three villages viz. Singavaram, J. Kothur and Punyakshetram have been surveyed and selected to carryout KVK activities in the coming years.

CONFERENCES/SYMPOSIA/SEMINARS/ WORKSHOPS/TRAINING COURSES

Sri J. S. L. Mosses, Scientist Selection Grade and Officer-in-charge and Dr. S. S. Hussaini, Scientist Selection Grade of CTRI Research Station, Hunsur have attended the seminar on "Emerging area for pest control, environment protection and welfare" organised by CFTRI, Mysore and Indian Pest Control Association, New Delhi at CFTRI, Mysore on 7-4-89.

VISITORS

CTRI, RAJAHMUNDRY

- Dr. S. Kedarnath, Retd. Director, Forest Research Institute, Dehradun, on 26-4-89.
- Sri G. V. K. Ranjan, General Manager, M/s. Vajir Sultan Tobacco Co., on 25-5-89.
- Dr. E. C. Subba Rao, Tata Research Development and Design Centre, Pune on 16-6-89.

CTRI, RESEARCH STATION, HUNSUR

- Sri Ramdas, Deputy Director of Agriculture, Bangalore on 2-6-89.

- Sri V. Bore Gowda, Instructor in Public Health and Sri H. S. Anantharaman, Instructor in farm implementation from Rural and Development Training Centre, Kudige along with 30 trainees on 22-6-89.
- Sri S. Kori, Director, Directorate of Tobacco Development, Madras on 23-4-89.

CTRI RESEARCH STATION, PUSA

- Sri A. N. Singh, Additional Commissioner, ICAR Krishi Bhavan, New Delhi.

PAPERS PUBLISHED

1. DOBHAL, VK and CR. NAGESWARA RAO. Variability and Character associations for certain economic traits in hookah and chewing tobacco (*N. Rustica L.*) **Tob. Res.** 14 (2) : 88-97, 1988.
2. KAMESWARA RAO, BV; P. S. N. MURTY and M. K. CHAKRABORTHY. Chemical studies on *Lanka* tobacco (Indigenous to India) and its smoke. 3 Lipid constituents. **J. Indian Chem. Soc.** 65: 855-8, 1988.
3. MURTHY, NS; C. R. NAGESWARA RAO and M. V. S. S. V. ACHARI. Studies on rainfall pattern at Katheru farm during the tobacco growing season. **Ann. Agric. Res.** 9 (2) : 147-53, 1988.
4. RAMPRASAD, G; B. G. JOSHI; S. SITARAMAIAH and M. S. CHARI. Efficacy of insecticides in bait formulations for control of fourth instar larvae of *Spodoptera litura* F. in tobacco nurseries. **Indian J. Plant Protection** 17 (1) : 53-8, 1989.
5. RAMJILAL; K. NAGARAJAN and G. V. G. KRISHNA MURTHY. How to control root-knot nematode in tobacco nurseries. **Farmer and Parliament** 24(5) : 4, May 1989.
6. SINGH, KD. Studies on Soil-Versus-Folier application of nitrogen in relation to yield and smoking scores in cigar wrapper tobacco. **Ann. Agric. Res.** 8 (2) : 194-200, 1987.

APPOINTMENTS

No.	Name	Grade	Place of duty	Date of appointment
1	Sri G. Adinarayana	T-II-3	CTRI Res. Stn., Kandukur	24-4-89
2.	Sri K. Sesha Sayi	T-II-3	CTRI Res. Stn., Jeelugumilli	24-4-89
3.	Sri V. Gopal	Tractor Driver	CTRI Res. Stn., Hunsur	4-5-89
4.	Kum. M.V. Vijayalakshmi	Jr. Clerk	CTRI, Rajahmundry	8-5-89
5.	Sri R. Raman	S.S. Gr. I	CTRI Res. Stn., Veda sandur	22-5-89

RETIREMENTS :

No.	Name	Designation	Place	Retirement Reason	Date
1.	Sri G. Thomas	S.S. Gr. II	CTRI, Rajahmundry	Superannuation	30-6-89
2.	Sri Pal Bahadur	S.S. Gr. IV	CTRI, Rajahmundry	Superannuation	30-6-89
3.	Sri P. Neelakantam	Tech. T-I	CTRI, Rajahmundry	Superannuation	30-6-89
4.	Sri M. Ramachandra Rao	Sr. Clerk	CTRI, Rajahmundry	Voluntarily	1-7-89

संक्षिप्त समाचार

मुख्य घटनाएँ :

उड़ीसा राज्य में रायगढ़ा क्षेत्र के बलुई मिट्टियों में अच्छी गुणवत्ता वाली वर्जीनिया तम्बाकू उगाने की संभावना ढूँढने हेतु डा. एम. एस. चारी, निदेशक, केन्द्रीय तम्बाकू अनुसंधान संस्थान, राजमंड्री की अध्यक्षता में सी. टी. आर. आई के वैज्ञानिक, तम्बाकू बोर्ड के अधिकारी और वाणिज्य प्रतिनिधि का संयुक्त दल दिनांक 10-4-1989 से 12-4-1989 तक उसके विभिन्न क्षेत्रों का दौरा किया। उस दौरान उस क्षेत्र के मिट्टी और जल नमूनों का परीक्षण किया गया। इस वर्ष प्रथम जाँच के रूप में तम्बाकू की चार किस्में- भविष्या, गोदावरी स्पेशल, 16/103 तथा मंक नेयर-12 उगाये जा रहे हैं।

अनुसंधान उपलब्धियाँ :

- 1) आंध्रप्रदेश के भारी मिट्टी वाले क्षेत्रों के लिए तम्बाकू की बैकलिपक फसलों के रूप में सरसों की दो किस्में-क्रांति आर कृष्णा अधिक उपयोगी सिद्ध हुई हैं।
- 2) ठोकरा (ओरोबेकी) उखाड़ने के लिए एक नया औजार "स्पयर" का स्थानिक निर्माण किया गया है। यह हस्तचालित औजार सस्ता, कार्य कुशल तथा मानव शक्ति एवं समय को बचाता है।
- 3) ज्ञात हुआ है कि वायु सूद्व ढोल (ड्रम) में कैल्शियम बलोराइड इस्तेमाल करने से तम्बाकू

बीजों को सामान्य तापमान पर 12 वर्षों से भी अधिक समय तक भंडारण किया जा सकता है।

- 4) तमिलनाडु में टपकन सिचाई द्वारा सिगार फिल्लर तम्बाकू की पैदावार 2,032 कि. ग्रा. प्रति हेक्टेयर हुई जो मामूली सिचाई से 60 प्रतिशत ज्यादा है।
- 5) बिहार के वैशाली तथा मुजफ्फरपुर जिलों की अपेक्षा समस्तीपुर क्षेत्र में उत्पादित खैनी तम्बाकू पत्तों में निकोटिन, मेगनीशियम एवं अन्य भौतिक गुणों की अधिकता पायी गयी।

* * *
श्री के. डी. सिंग प्रधान वैज्ञानिक और श्री टी. वेंकटेश्वर्लु प्रवरण कोटि वैज्ञानिक को, पी.एच.डी. की उपाधि प्रदान की गयी।

कृषि विज्ञान केन्द्र

- 1) विभिन्न अनुशासनों के अंतर्गत 48 प्रशिक्षण कार्यक्रम आयोजित किये गये।
- 2) सस्य उत्पादन, गृह विज्ञान, बागवानी, पशु विज्ञान उत्पादन तथा ग्राम्य दस्तकारी में 35 "मेथेड आर रिसल्ट डिमान्स्ट्रेशन्स" (तरीका तथा परिणाम निरूपण प्रदर्शन) आयोजित किये गये।
- 3) आगामी वर्षों में कृषि विज्ञान केंद्र द्वारा चलाने वाले कार्य कलापों के लिए सिगवरम, जे. कोत्तूर और पुण्यक्षेत्रम का सर्वेक्षण करके उन गावों का चयन किया गया।

सी. एच. श्रीरामाराव
हिन्दी अनुवादक