



Central Tobacco Research Institute, Rajahmundry

LABORATORY COMPLEX AT CTRI RESEARCH STATION, JEELUGUMILLI



Shri D. Ramachandram, Dr. A.V.R. Swamy, Dr. M.S. Chari, Shri P. Ramakanth Reddy and Shri C.R. Chettiar. Foundation Stone laid by Shri P. Ramakanth Reddy, Chairman, Tobacco Board

Sri P. Ramakanth Reddy, Chairman, Tobacco Board, Guntur laid the foundation stone of the new laboratory building at CTRI Research Station, Jeelugumilli on 14th June, 1993. While addressing the scientists and farmers he stressed the need for evolving new varieties for high productivity coupled with quality and requested the scientists to develop flavourable tobacco suitable to NLS for export purpose. Dr. M.S. Chari, Director, CTRI

reviewed the various priority programmes to be taken up at Jeelugumilli Research Station. He also mentioned that Natu tobacco research will also be strengthened by acquiring additional land to the station. Sri D. Ramachandram, Officer-in-Charge, CTRI Research Station, Jeelugumilli welcomed the chief guest and other invitees. Dr. A.V.R. Swamy proposed vote of thanks. In the function progressive farmer Sri Vemula Nageswara Rao and others participated.

RESEARCH HIGHLIGHTS

CTRI, RAJAHMUNDRY

Control of Diseases

- ➔ Two sprays of Ridomil MZ 72 WP @ 0.2%, 20 and 30 DAG was found to be the most promising and practical solution for the control of damping off of tobacco and also to obtain maximum number of transplantable and healthy seedlings. Soil drenching with Ridomil MZ 72 WP before sowing is not advisable as there was low degree of phytotoxicity on tobacco seedlings.
- ➔ A new nematicide Basamid G (DAZOMET 98 to 100%) was tested for the control of root-knot nematode in seed beds. Results indicated that Basamid G @ 40 to 50 kg/ha, 10 days before sowing was promising in controlling the root-knot upto 60 days. Nematicur 10 G @ 7.5 kg/ha and Rugby 10 G @ 15kg/ha were very effective upto 75 days.
- ➔ In a preliminary trial on screening varieties for broomrape reaction, Bright Caspalia showed least incidence (12.5% as against 70% average).

CTRI RESEARCH STATION, KANDUKUR

- ➔ The f.c.v. tobacco advanced breeding line CY 79 was found promising with higher yield and better quality of cured leaf.
- ➔ Studies with f.c.v. tobacco pipeline variety L-1158 indicated the requirement of 70 cm x 60 cm spacing with 50 kg N/ha for optimum yield. Topping improved the yields significantly over no topping by 12% in cured leaf and 10.2% in grade index. The bright grade out turn in L-1158 tended to be less than that in Jayasri (MR) under red soil conditions.
- ➔ An addition of 60 kg P₂O₅/ha increased the cured leaf yield by 13.9% and 20.2% in grade index in red soils.
- ➔ Studies with levels and time of application of potassium at 80 kg /ha improved 12% cured leaf yield and 33.0% in bright leaf.
- ➔ Regarding the yield characters the 'D' and 'X'

types of leaf curl disease in field caused maximum damage to the crop and yield reduction was varying from 72.3 to 90.1%; 'A' and 'B' types of leaf curl infection, which were mild in nature, did not cause much damage to the crop. The percentage of different types of leaf curl plants are 'A' type 23.3%, 'B' type 20.3% 'C' type 25.8%, 'D' type 15.7% and 'X' type 4.7%.

CTRI RESEARCH STATION, VEDASANDUR

- ➔ The chewing tobacco selection HV-84-5-2#1 and HV-84-5-3#1 of the cross Thangam X DWFC showed greater homozygosity (more than 95%) to caterpillar resistance on egg mass pinning as well as natural incidence count. In bulk trial these selections recorded an average cured leaf yield of 3547 and 3458 kg/ha compared to their susceptible parent Thangam (3126 kg/ha) with an increase of 13.5 and 10.6 per cent respectively.
- ➔ The chewing tobacco mutant selection HV-86-2 with a cured leaf yield of 3894 kg/ha representing an increase of 10.2% over the control of Bhagyalakshmi (3536 kg/ha) has been advanced to pre-release agronomic evaluation trial.
- ➔ The cigar tobacco advanced breeding line HV. 85-5 registered a mean cured leaf yield of 2812 kg/ha against the control Krishna (2412 kg/ha) with an increase of 16.2%. The smoking quality of this line is also found to be better than Krishna and KV-1 and this line has been selected for pre-release agronomic evaluation.
- ➔ In the replicated yield trial of cigar filler lines, line HV. 91-5 showed significantly superior performance over other lines as well as the check variety KV-1 and Krishna recording 2913 and 3700 kg/ha respectively in whole leaf and total leaf yield as compared to KV-1 (2302, 3078 kg/ha) representing an increase of 26.5 and 20.2% respectively.
- ➔ Evaluation of 75 germplasm lines of chewing tobacco revealed the existence of significant variability for constellation of morphological and yield component traits.

- An investigation on irrigation schedules and fertilizer application in chewing tobacco revealed that irrigation at 1.0 IW/CPE ratio resulted in maximum productivity (3399 kg/ha) comparable to farmers practice coupled with better water use efficiency and saving about 120 mm irrigation water. Regarding N application, the existing dose of 75kg/ha may be adequate for realising optimum yield.
- Studies on the effect of biofertilizer (*Azospirillum*) in integrated fertilizer management in tobacco seed beds revealed that application of bio-fertilizer depressed both germination and production of transplants.
- Preliminary trends observed from the studies on production potential of chewing tobacco in relation to preceding crops and nitrogen level in tobacco based cropping systems was that tobacco followed by pigeonpea gave highest yield of 3255 kg and 3848 kg of whole leaf and total leaf yield respectively over other treatments.

CTRI RESEARCH STATION, HUNSUR

- Experiments conducted at the station revealed that soil solarization along with leaves of Ipomoea, Neem, Soobabul and Parthenium resulted in reduction of root-knot at 60 days and substantially increased the number of transplants in both pullings. Combination of oil cakes alongwith solarization increased the number of transplants (140-226%) over check.

CTRI RESEARCH STATION, PUSA

- A Three year study on chemical control of suckers revealed that application of 4% Decanol 10 days after topping cum piercing could suppress the growth of suckers by 67% as compared to the practice in vogue i.e. hand desuckering

which in turn, has registered additional yield of 194 kg/ha amounting to 10% more yield over the practice of hand desuckering.

- Performance of chewing tobacco Line B21-3 was consistently superior to the variety Bandi in a 3 year trial, in which B21-3 excelled Bandi in as much as 15% more total yield commensurating 8% more first grade out turn.
- Performance of Line B21-3 was excellent when planted at 90 cm x 75 cm spacings and manured with 200 kg N, 50 kg each of P₂O₅ and K₂O/ha.

CTRI RESEARCH STATION, DINHATA

- Performance of Hookah tobacco line, 8-2-6, which proved its superiority over other selections and control, is being tried in AICRP trials and bulk trials for further release.

Crop sequence programme



Onion, Garlic, Cabbage, Tobacco, Mustard niger etc. crops

TRANSFER OF TECHNOLOGY

RADIO TALKS

- పాగాకు రెలుపు తరువాత పాగాకు భూములలో పాటించవలసిన యాజమాన్య వద్దతులు. (Management of tobacco fields after completion of harvests) by Sri S.K. Naidu on AIR, Visakhapatnam, 7.4.93.
- సోయా - మంచి పోషకాహారం. (Soya - a nutritional

food) by Smt. N. Arunakumari on AIR, Vijayawada, 22.4.93.

- Crop rotation in tobacco (in Tamil) by Sri A.C. Rajasekharan on AIR, Madurai, 29.4.93.
- వశువులలో నూక్షుపోషకవదార్దాల ఆవశ్యకత. by Dr. B. John Babu on AIR, Visakhapatnam, 30.4.93.

OTHER ACTIVITIES

- బర్లీ పాగాకు నారుమళ్ళ వెంపకంలో సూచనలు. (Management of Burley tobacco nurseries) by Dr. B.V. Ramakrishnaya on AIR, Visakhapatnam, 3.5.93.
- Summer ploughing - why and how? by Dr. S.N. Tripathi on AIR, Darbhanga, 23.5.93.
- పశువుల ఎరువు - గోబార్ గ్యాస్ పాయిల్ తయారీ - లాభాలు. by Smt. N. Arunakumari on AIR, Visakhapatnam, 2.6.93.
- వేసవిలో పాగాకు పండించే భూములలో చీడ, పీడల నివారణలో ఆచరించే పద్ధతులు. (Control of pests and diseases of tobacco in summer) by Sri T.S.N. Reddy on AIR, Visakhapatnam, 4.6.93.

Nursery Management Training

Five management trainees of M/s Godfrey Phillips were trained in nursery management at CTRI Research Station, Hunsur.

CONFERENCES / SYMPOSIA / SEMINARS / WORKSHOPS / TRAINING COURSES

- Sri T. Krishna Murty, Technical Officer (T-5) was deputed for training on Research on agricultural implements and machines at Central Institute of Agriculture Engineering, Bhopal, from 26.4.93 to 27.5.93.
- Sri P.V. Prasada Rao, Sri B. Narasimha Rao, Smt. V.V. Lakshmi Kumari, Technical officers were deputed to participate in the State level Training-cum-orientation programme for KVK Scientists in Andhra Pradesh from 26.4.93 to 1.5.93, at APAU, Rajendranagar, Hyderabad.
- Sri K.V. Ramana Murthy, A.A.O (S) has successfully undergone Junior level course on "Improving the efficiency of Office Administration" from 14.6.93 to 19.6.93 at NAARM, Hyderabad.

INSTITUTIONAL SEMINAR

Dr. G. Madhava Reddy, Professor, Dept. of Genetics, Osmania University, Hyderabad gave a talk on "Biotechnological approaches in crop improvement with special reference to rice" on 29.4.93.

CTRI RESEARCH STATION, DINHATA

- Planting of Neem : The Station initiated the Planting of Neem on 10th April, 1993 under the leadership of Dr. M.S. Chari, Director as per the decision taken at World Neem Conference held at Bangalore, February 24-28, 1993.
- Dr. A.G.K. Murthy, Sr. Scientist and Officer-in-Charge, CTRI Research Station, Dinhata attended the 3rd Zonal Research Extension Advisory Committee meeting (ZREAC) held at Bidhan Chandra Krishi Viswa Vidyalaya, North Bengal Campus, Pundibari on 22.6.93.

VISITORS AND OBSERVATIONS

CTRI, RAJAHMUNDRY

- Well maintained information museum.
Keep it up.
Sri V. Krishnamurthy, Agricultural Banking Dept., Hyderabad, 28.4.93
- Very well maintained museum, informative and hence useful to public.
Dr. B.F. Hulagur, Deputy Manager, NABARD, Hyderabad, 28.4.93
- My hearty congratulations to Dr. Chari, and all his colleagues for developing this Institute. rised to International standards.
Dr. G. Madhava Reddy, Dept. of Genetics, Osmania University, Hyderabad, 29.4.93
- I am impressed by the Research activities of the Institute and my congratulations to all the staff.
Prof. M. Nageswara Reddy, APAU, Hyderabad, 17.5.93
- *First time, I have seen the good Museum of tobacco cultivation. It is found interesting and have a knowledge for tobacco cultivation.*
Sri T.C. Jain, Asst. Soil Conserv. Officer, Sukuma, Bastar District, 28.6.93

CTRI RESEARCH CENTRE, JEDDANGI

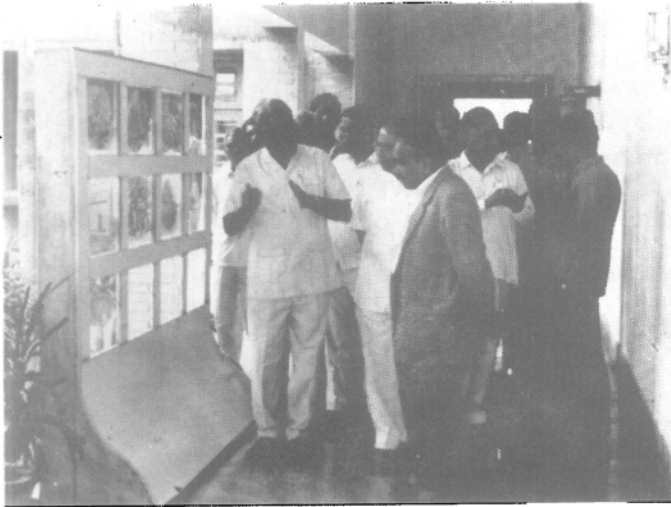
- ➔ *In view of the fact that white burley tobacco is fast becoming a major bread earner for a large number of tribals I wish this station all success.*

Sri Randeep Sudan, IAS, Collector and District Magistrate, E.G. District, Kakinada.
11.4.93

- ➔ *It is nice to see the Institution of this nature located in agency area. Thanks a lot to the technical officer for the hospitality extended to us by him and his team.*

Sri B.R. Meena, IAS, Executive Director, G.C.C. Society, Kakinada.
11.4.93

CTRI RESEARCH STATION, PUSA



Dr. K.D. Singh explaining Research activities of the station to Dr. S. K. Sinha.

- ➔ *It was nice to have visited this Centre of Tobacco Research. A small but good set up. I wish all success to workers here.*

Dr. S.K. Sinha, Director, I.A.R.I, New Delhi.
4.4.93

PAPERS PUBLISHED

Chari, M.S., G. Ramaprasad, R.S.N. Rao and N. Krishnananda. Present status of *Helicoverpa armigera* in tobacco and strategies for its management in India. **Proc. 1st National Workshop on Helicoverpa Management; Current status and future strategies**, Kanpur, Aug. 30-31, 1990. pp. 125-33.

Chari, M.S., R. Subba Rao and S. Nageswara Rao. A note on the performance of Burley cultivars Banket-A1 and Banket-102 in the agency of Andhra Pradesh. **Tob. Res.** 18(1&2) : 165-7, 1992.

Kameswara Rao, B.V., C.V. Narasimha Rao and K. Nageswara Rao. Effect of Potassium on tar and nicotine delivery from cigarette. **CORESTA Congress Smoke Study Group Papers 1992.** pp. 223-33.

Krishna Murthy, V. తేలిక నేలల్లో వర్షానియా పాగాకు పాగు-నీటి నాణ్యత. **Eenadu** 9.7.93, E.G. District.

Sreedhar, U., G. Ramaprasad and M.S. Chari. Preliminary studies on chemical control of tobacco aphid, *Myzus nicotianae* Blackman. **Pestology** 17(5) : 8-11, 1993.

Suryanarayana, Y.V. and M. Ramam. Library and documentation services at Central Tobacco Research Institute, Rajahmundry. **Indian J. Agric. Lib. and Information Science** 20 : 24-31, 1992.

Activities of CTRI Research Station, Vedasandur. **The Hindu** (Special edition of Madurai and Dindigal, Anna District) 14.4.93.

APPOINTMENTS

Name	Grade	Place of Duty	Date
Sri K. Malakondaiah	Techn. T-1	CTRI RS, Kandukur	19.4.93
Sri P. Pullaiah	Jr. Clerk	CTRI RS, Guntur	19.4.93
Sri P. Devanagaraju	Jr. Clerk	CTRI RS, Jeelugumilli	19.4.93
Smt. S. Atchamamba	Jr. Clerk	CTRI RS, Kandukur	19.4.93

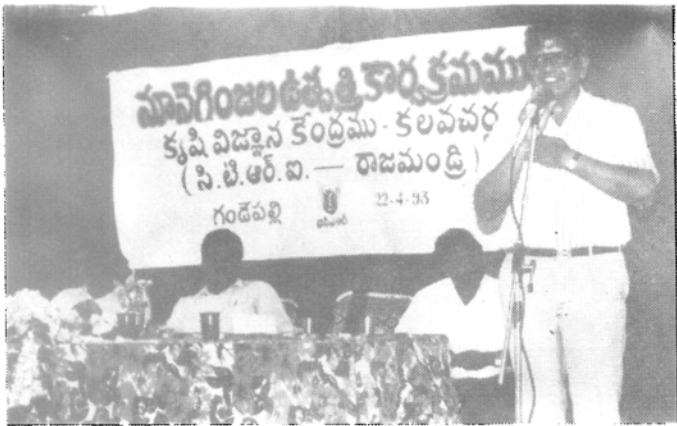
RETIREMENTS

Name	Reason	Date
Sri G.S.R. Murty Scientist (SG)	Superannuation	30.4.93
Sri Aji Parthasarathi Technician T-4	Superannuation	31.5.93
Sri P.R. Gopalakrishnan Superintendent	Superannuation	30.6.93

KRISHI VIGYAN KENDRA



Dr. S. Kori, Dr. M.S. Chari and Shri M. Sanni Babu



Dr. M.S. Chari addressing on Oil seeds production programme



Dr. M.S. Chari addressing the Sea-Shells programme trainees

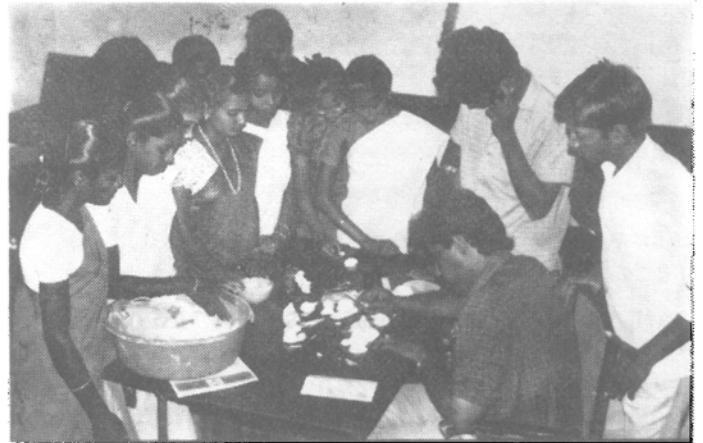
Twenty five training programmes were conducted and a total of 784 farmers, farm women and school dropouts were trained in different disciplines.

The following four long duration skill oriented and income generation training programmes were conducted.

- Preservation of fruits and vegetables (one week)
- White burley tobacco nursery management (one week)
- Processing of sea shells and preparation of decorative articles (15 days)
- Sea shells rehabilitation programme (one month)

During training demonstrations on sterilization of juice and jam bottles; preparation of mango, lemon, orange, pine-apple and grape squashes and jams; pickles and tooti-fruity were conducted. Preparation and application of Bordeaux mixture and Ridomil MZ 72 WP for control of damping off, cleaning and drying of sea-shells, making door curtains, lamp shades and decorative articles were also demonstrated.

- A Tailoring Centre was opened at Gandepalli village on 2.6.93 and a total of 30 school dropouts and housewives were trained in drafting, cutting and stitching of garments.



Demonstration on Making decoratives with Sea-Shells by Sri R. Sudhakar

संक्षिप्त समाचार

केन्द्रीय तम्बाकू अनुसंधान केन्द्र जीलुगुमिल्ली में प्रयोगशाला परिसर :

दिनांक 14 जून 1993 को श्री पी. रामाकान्त रेड्डी, अध्यक्ष, तम्बाकू बोर्ड, गुन्दूर ने केन्द्रीय तम्बाकू अनुसंधान केन्द्र जीलुगुमिल्ली में नये प्रयोगशाला भवन की आधार शिला रखी। वैज्ञानिकों और किसानों को सम्बोधित करते हुए उन्होंने वैज्ञानिकों से गुणवत्ता से पूर्ण अधिक उपज देनेवाली किस्म, जोकि उत्तरी हल्की मिट्टियों के लिए उपयुक्त हों तथा जिन का निर्यात किया जा सके, उनका विकास करने का निवेदन किया। डा. एम.एस. चारी निदेशक, केन्द्रीय तम्बाकू अनुसंधान संस्थान ने बताया की अनुसंधान केन्द्र पर नाटु तम्बाकू अनुसंधान को भी अतिरिक्त जमीन खरीदकर शक्ति प्रदान की जायेगी।

अनुसंधान मुख्य अंश

सी.टी.आर.आई., राजमन्त्री

बीमारियों की रोकथाम :

तम्बाकू के पौध गलन को रोकने तथा रोपने के लिए स्वस्थ पौध प्राप्त करते के लिए रिडोमिल एम जेड 72 की 0.2% धुल के दो छिड़काव, जमाव के 20 और 30 दिन के बाद अधिक उपयोगी पाये गये।

पौधशालाओं में रुट-नाट परजीवी की रोकथाम के लिए एक नया परजीवी नाशी वासमिड जी का परीक्षण किया गया।

टोकरा परजीवी की पूर्वगामी परख के लिए विभिन्न किस्मों की प्रतिक्रिया में ब्राइट कैपसुला ने ओसत की तुलना में कम संक्रमण (2.5%) दिखाया।

सी.टी.आर.आई. अनुसंधान केन्द्र, कन्दुकुर :

शोधित पत्तों की अधिक उपज तथा गुणवत्ता के लिए सी.वाई-79 अग्रिम प्रजनन लाइन अच्छी साबित हुई।

किसानों को उपलब्ध कराने के लिए तैयार किस्म 1158 पर किये गये अध्ययनों से यह साबित हुआ कि 70 सेंमी x 60 सेंमी की दूरी और 50 किलों नत्रजन उचित उपज के लिए आवश्यक थी।

सी.टी.आर.आई. अनुसंधान केन्द्र, वैदसदूर :

खाने वाले तम्बाकू की चयनित किस्म एच वि-84-5-2#1 तथा एच वि. 84-5-3#1 ने गिडार के प्रतिरोधन के प्रति

विशेष गुण दिखाया।

खाने वाले तम्बाकू की म्यूटेन्ट चयनित किस्मों की प्रति हैक्टर उपज ने 10.2% की बढ़त भाग्य लक्ष्मी की बुलना में हासिल की।

सिगार तम्बाकू की अग्रिम प्रजनन लाइन एच वि. 85-5 ने शोधित पत्ते की 2812 किलो प्रति हैक्टर औसत उपज की कृष्णा किस्म की तुलना में (2412 किलो प्रति हैक्टर) 16.2% की बढ़त प्राप्त की।

सी.टी.आर.आई., अनुसंधान केन्द्र, हनसूर :

केन्द्र पर किये गये प्रयोगों से पता चला है कि आईपोमिया, नीम, सुबाबुल व पारथीनियम की पत्तियों के साथ भूतपन करने से रुट-नाट के प्रभाव को 60 दिन में कम करने से लाभ हुआ तथा दोनों बार अच्छी पौध प्राप्त करने में बढ़ोतरी हुई।

सी.टी.आर.आई., अनुसंधान केन्द्र, पूसा :

लाइन बी 21-3 तीन वर्ष के परीक्षण में बन्डी किस्म की तुलना में अधिक क्षेष्ट साबित हुई।

लाइन 21-3 जब 90 सेंमी x 75 सेंमी; तथा 200 किलो नत्रजन, 50 किलो फास्फोरस और पोटैश के साथ रोपा गया उस समय उसकी स्थिति सर्व श्रेष्ठ थी।

कृषि विज्ञान केन्द्र

विभिन्न विषयों में 25 प्रशिक्षण कार्यक्रम आयोजित किये गये जिनमें 784 किसानों, कृषक महिलाओं तथा पाठशाला छोड़े हुए युवक युवतियों ने भाग लिया।

निम्नलिखित 4 लम्बी अवधि के दशतापूर्ण तथा रोजगार देनेवाले प्रशिक्षण कार्यक्रम आयोजित किये गये।

1. फलों व सब्जियों का संरक्षण (एक सप्ताह)
2. बर्ली तम्बाकू पौधशाला प्रबन्ध (एक सप्ताह)
3. समुन्दी शेल्स से सजावटी सामान बनाना (15 दिन)

गनडेपल्ली गाँव में दिनांक 2.6.93 को एक सिलाई केन्द्र खोला गया जिसमें 30 पाठशाला छोड़े हुई युवतियों तथा महिलाओं ने प्रशिक्षण प्राप्त किया।

NEW BOOK

BOTANICAL PESTICIDES IN INTEGRATED PEST MANAGEMENT

Proceedings of National Symposium on Botanical Pesticides in Integrated Pest Management held on 21-22, Jan. 1990 at CTRI, Rajahmundry have been published as **Botanical Pesticides in Integrated Pest Management** by Indian Society of Tobacco Science, Rajahmundry in 1993 and this was released at the **World Neem Conference (WNC)** organised by **ISTS** and sponsored by **ICAR** in collaboration with **M/s. ITC Limited**, Feb. 24-28, 1993 at Hotel Windsor Manor Sheraton, Bangalore.

The book (Proceedings) was edited by **Dr. M.S. Chari, Director, CTRI** and **Mr. G. Rama Prasad, Principal Scientist, CTRI**. It contains very valuable papers presented at the symposium by eminent scientists from India and Abroad working on botanical pesticides. The book was divided into four chapters.

Session I : Invited Lectures and General Papers (12 papers)

Session II : Insect Pest Control (25 papers)

Session III : Chemistry of Plant Products and Insect Pest Control (16 papers)

Session IV : Control of Diseases, Nematodes and Pests (17 papers)

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Contents

Neem production and Development - Constraints at Grass Root Level, by N.G..Hegde1-7
Development of Neem Research and Industry in Australia, by Martin rice8-24
Neem Research in Andhra Pradesh, by M.V. Rao & S. Ramapandu25-29
Scope of Neem for Developing countries, by R.C. Saxena30-36
Neem in Pest control : Progress and Perspectives, by S. Jayaraj37-43
Some effects of Neem (<i>Azadirachta indica</i>) Products on Locusts and Grass-hoppers, by H. Schmutterer44-52
Biochemistry of Neem, by Heinz Rembold53-58
Development of Neem Chemistry in India, by B.A. Nagasampagi59-68
Neem for the Management of Stored Grain Insect in Developing Countries, by R.P. Singh69-80
Neem as an Antifeedant and Ovipositional Repellent for Spodoptera Litura F, by M.S. Chari & G. Rama-prasad81-90

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