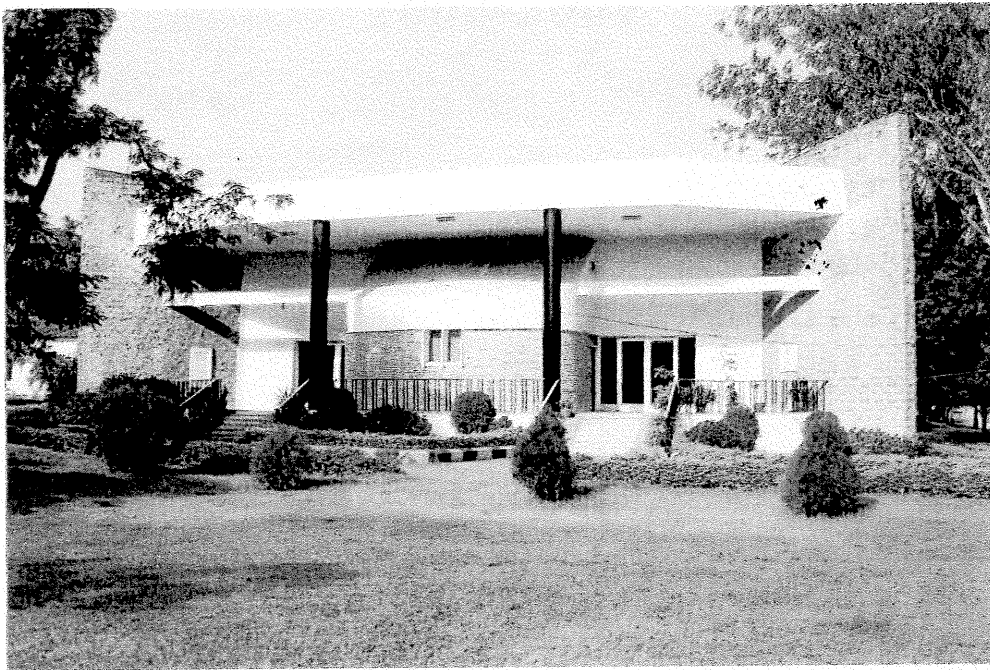


# ANNUAL REPORT

## 2008-2009



GOVERNMENT OF INDIA  
MINISTRY OF AGRICULTURE  
(DEPARTMENT OF AGRICULTURE & COOPERATION)

**NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT**  
Rajendranagar , Hyderabad -500 030 (A.P).

**वार्षिक प्रतिवेदन**  
**2008-2009**

**ANNUAL REPORT**  
**2008-2009**



भारत सरकार, कृषि मंत्रालय

Government of India, Ministry of Agriculture

(कृषि एवं सहकारिता विभाग)

(Department of Agriculture & Cooperation)

राष्ट्रीय वनस्पति स्वास्थ्य प्रबंधन संस्थान

(पूर्व राष्ट्रीय वनस्पति संरक्षण प्रशिक्षण संस्थान)

**NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT**

(FORMERLY NATIONAL PLANT PROTECTION TRAINING INSTITUTE)

राजेंद्रनगर, हैदराबाद-500 030

Rajendra Nagar, Hyderabad – 500 030.

**राष्ट्रीय वनस्पति संरक्षण प्रशिक्षण संस्थान (रा.व.सं.प्र. सं.) ( 23-10-2008 तक) और  
राष्ट्रीय वनस्पति स्वास्थ्य प्रबंधन संस्थान ( 24-10-2008 से 31-03-2009 ) का  
वार्षिक प्रतिवेदन**

**प्रस्तावना**

राष्ट्रीय वनस्पति संरक्षण प्रशिक्षण संस्थान की स्थापना कृषि एवं सहकारिता विभाग के अंतर्गत वनस्पति रक्षा संगरोध व संग्रह निदेशालय की प्रशिक्षण शाखा के रूप में सन् 1966 में हुई। संस्थान का मुख्य उद्देश्य वनस्पति रक्षा में मानव संसाधन विकास करना है। इस उद्देश्य की पूर्ति के लिए विभिन्न राज्यों/केंद्र शासित प्रदेशों के मुख्य प्रशिक्षकों और विषय विशेषज्ञों को वनस्पति रक्षा में प्रशिक्षित करना है। यह संस्थान वनस्पति रक्षा एवं सहयोगी विषयों में विभिन्न प्रकार के दीर्घ तथा लघु अवधि के प्रशिक्षण कार्यक्रमों को आयोजित करने में पूर्ण रूप से सक्षम एवं कार्यरत है। इस संस्थान को संयुक्त राष्ट्र-संघ के खाद्य व कृषि संस्था द्वारा दक्षिण-पूर्व देशों के क्षेत्रीय वनस्पति रक्षा प्रशिक्षण केंद्र के रूप में मान्यता प्राप्त है। तथा विश्व बैंक से सहायता प्राप्त राष्ट्रीय कृषि विस्तार परियोजना (तृतीय) द्वारा वनस्पति रक्षा तकनीकी में विशिष्ट प्रशिक्षण केंद्र के रूप में भी मान्यता मिली हुई है। अभी तक इस संस्थान से 1033 कार्यक्रम किये गये, जिसके अंतर्गत 19500 प्रशिक्षार्थियों को जो कि विभिन्न राज्यों/केंद्र शासित प्रदेशों, तथा कृषि विश्वविद्यालयों द्वारा नामांकित किये थे, तथा भारत सरकार के द्विपक्षीय अनुबंधों के अंतर्गत प्रशिक्षित किये गये। इस क्षेत्र में कुल 32 विकासशील देश हैं।

राष्ट्रीय वनस्पति संरक्षण प्रशिक्षण संस्थान, में मौजूद कार्यक्रम एकीकृत समेकित नाशी जीव प्रबंधन कार्यक्रम की एक कडी के रूप में कार्य करता है, जो कि ग्यारहवीं पंचवर्षीय योजना में भी जारी है। परंतु इस संस्थान इससे भी अधिक स्वायत्तता देने तथा कार्य क्षमता बढ़ाने हेतु एक उच्च स्तरीय कमेटी का गठन हुआ जिसमें कृषि विश्वविद्यालयों के कुलपति, राज्य कृषि विभागों के निदेशक/ कमिशनर एवं पौध संरक्षण संगरोध विशेषज्ञों ने इस संस्थान को एक स्वायत्तता संस्थान "राष्ट्रीय पौध स्वास्थ्य प्रबंधन संस्थान" बनाने के लिए सिफारिश की।

पौध संरक्षण विषय में प्राचीन रूप से ज्ञान बढ़ाने की कोशिशों के अतिरिक्त यह संस्थान भारतीय कृषि क्षेत्र में अंतर्राष्ट्रीय स्तर पर कृषि उत्पादों की बिक्री में कीट सर्वेक्षण में तथा संगरोध में नई तकनीकी लाने में लाभप्रद सहयोग कर पाएगा। इसी प्रकार एक अंतर्राष्ट्रीय उत्कृष्ट केंद्र के एक यह संस्थान इस पूरे क्षेत्र की जैव सुरक्षा को बनाये रखने एवं भारतीय कृषि को आयातित कीट एवं बीमारियों से बचाने में एक बड़ी भूमिका निभायेगा। द्विपक्षीय एवं बहुपक्षीय व्यापार से संबंधित विषयों पर सलाह एवं प्रशिक्षण कार्यक्रमों से देश के पौध संरक्षण कार्यक्षेत्र में कार्यरत उच्च अधिकारियों की कार्य क्षमता में विशेष सुधार होगा।

राष्ट्रीय वनस्पति संरक्षण प्रशिक्षण संस्थान, हैदराबाद में सन् 2008-09 सत्र कुल 39 प्रशिक्षण कार्यक्रम आयोजित किये गये । जिनमें 866 प्रशिक्षार्थियों को प्रशिक्षण दिया गया । सम्पूर्ण कार्यक्रमों में चार (4) दीर्घ अवधि के एवं 35 कार्यक्रम लघु अवधि के थे । लघु कार्यक्रमों में से आठ (8) प्रशिक्षण कार्यक्रम विभिन्न राज्यों में आयोजित किये गये ।

संस्थान के अपर वनस्पति संरक्षण सलाहकार / महानिदेशक प्रशिक्षक एवं विशेषज्ञों ने विभिन्न राज्यों के कृषि विभागों व अन्य संस्थाओं द्वारा आयोजित विभिन्न बैठकों एवं कार्यशालाओं में तकनीकी दक्षता प्रदान की गई । तथा कुछ प्रशिक्षक एवं विशेषज्ञों ने जो भारत सरकार द्वारा केंद्रीय कीट नाशक निरीक्षक के रूप में अधिसूचित किये गये हैं समय-समय पर विभिन्न राज्यों से कीट-नाशकों की गुणवत्ता के लिए नमूने लिए गए हैं । यह संस्थान आन्ध्र प्रदेश के कृषि विभाग के निदेशक एवं आयुक्त से वनस्पति रक्षा के विषय में लगातार सम्पर्क बनाये रखता है ।

यह सभी उपलब्धियों, वनस्पति संरक्षण सलाहकार, कृषि मंत्रालय, भारत सरकार के समय-समय पर मार्गदर्शन एवं उनके सहयोग द्वारा ही मिल सकी है।

विभिन्न कार्यक्रमों की सफलता एवं क्रियान्वयन, संस्थान के कर्मचारियों की निष्ठा एवं विश्वसनीय प्रयासों से ही संभव हो सका ।

**(बी.जी.नायक)**

अपर वनस्पति संरक्षण सलाहकार/  
महानिदेशक

**ANNUAL REPORT OF NPPTI (till 23<sup>rd</sup> Oct.2008), and NIPHM (from 24<sup>th</sup> Oct. to 31<sup>st</sup> March, 2009)**

**PREFACE**

The National Plant Protection Training Institute(NPPTI), was established in 1966 for Human Resource Development in Plant Protection Technology under the Directorate of Plant Protection, Quarantine and Storage, to create qualified pest management personnel in adequate numbers both in the Central Government and in the Departments of Agriculture of States/Union Territories (UTs) to impart training to farmers. The institute has been entrusted with the responsibility of organizing both long and short duration training courses for Human Resource Development on different aspects of Plant Protection. Over the years the institute has been recognized as a Regional Training Center for Plant Protection by the FAO of the United Nations and also as a Center of Excellence for Training in Plant Protection Technology under World Bank aided National Agricultural Extension Project-III. The Institute, as NPPTI, since its inception has organized 1033 courses and trained 19,500 plant protection functionaries/Master Trainers, including 216 foreign nationals from 32 developing countries in the Region.

NPPTI was one of the components of the ongoing scheme, "Strengthening and Modernization of Pest Management Approach in the Country", which is continuing in the XI Five Year Plan. However, in order to enhance the reach and functional flexibility for better delivery of its objectives, a High Level Coordination Committee on Plant Protection constituted by the Department of Agriculture and Cooperation, comprising of the Vice Chancellors of important Agricultural Universities, Commissioners/Directors of State Agriculture Departments and Plant Protection and Quarantine experts in its meeting held on 12<sup>th</sup> July, 2007, recommended the up gradation of NPPTI to an autonomous institute namely "National Institute of Plant Health Management"(NIPHM).

In addition to traditional capacity building efforts in the plant protection field, the re-orientation of the institute as the NIPHM will yield significant benefits in terms of the ability of the Indian Agriculture Sector to compete internationally in trading commodities, through increased emphasis on pest surveillance and advanced approaches on plant quarantine. Equally, playing an active role as an international centre of excellence will support plant related bio-security within the region and reduce any risks to Indian agriculture from introduced pests and diseases associated with trade. The training and consultancy work, as well as providing technical advice and guidance on bilateral and multilateral trade related topics, will significantly improve the capacity of the senior officers charged with national plant protection duties.

During the year 2008-09 a total no of 39 courses were organized in which 866 participants were trained. Out of the total programmes conducted, 4 were of long duration and 35 of short duration including 8 In-State Training Programme.

The Additional Plant Protection Adviser / Director General and faculty members of the institute also rendered technical expertise in various meetings, workshop on different aspects of plant protection organized by the State Government of Agriculture and other institutes. Some of

the faculty members, who are notified by the government of India as central insecticide Inspectors for the purpose of monitoring quality of pesticide in various states, have drawn pesticide samples from time to time. The institute has constantly maintained liaison with the Commissioner of Agriculture, Andhra Pradesh with respect to Plant Protection.

The achievements are largely due to active support and guidance extended by Plant Protection Adviser to the Government of India under the Union Ministry of Agriculture. The successful execution of various programmes was possible due to devotion and sincere efforts by the staff of the Institute.

( B.G. NAIK )  
Additional Plant Protection Adviser

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**TRAINING PROGRAMME**  
**Training Programme Organized during 2008-2009**

S.No.	Courses	Duration	No. of Participants
<b>ON-CAMPUS PROGRAMME</b>			
<b>A. Regular Courses</b>			
1.	Post Graduate Diploma Course in Plant Protection	01-07-2008 to 30-04-2009	10
2.	Pesticide Residue Analysis	01-07-2008 to 31-09-2009	4
3.	Pesticide Formulation Analysis	a. 01.10.2008 to 31.12.2008	10
		b. 02-02-2009 to 30-04-2009	12
<b>B. Short Duration Courses</b>			
4.	Training of Trainers Programme on e-Surveillance for Pests & Diseases	05.05.2008 to 09.05.2008	9
5.	Analysis of House hold Pesticide for PTL Analysts	05-06-2008 to 25-06-2008	9
6.	Pesticide Application Techniques and Maintenance of Plant Protection Equipments	a. 17-06-2008 to 24-06-2008	8
		b. 16-09-2008 to 23-09-2008	10
		c. 04-02-2009 to 11-02-2009	1
7.	Integrated Pest Management in Rice	a. 19-08-2008 to 26-08-2008	15
		b. 05-02-2009 to 19-02-2009	5
8.	Integrated Pest Management Course for CIPMC Staff of Dte. of PPQ&S	28-08-2008 to 12-09-2008	16
9.	Safe and Judicious use of Pesticide for Food Safety and Quality	09-09-2008 to 16-09-2008	25
10.	Integrated Weed Management in Major Field Crops	10-09-2008 to 17-09-2008	10
11.	Pest Surveillance	17-09-2008 to 23-09-2008	11
12.	Rodent Pest Management	24-09-2008 to 30-09-2008	20
13.	Analysis of Bio- Pesticide for Quality Control ( for official of Bio-Control Lab.)	15-10-2008 to 24-10-2008	15
14.	Workshop on Integrated Weed Management In Vegetable Crops	19-11-2008 to 21-11-2008	6
15.	Integrated Pest Management in Pulses and Oilseeds	25-11-2008 to 04-12-2008	12
16.	Workshop on Pesticide Application Technology	10-12-2008 to 12-12-2008	6
17.	Integrated Pest Management in Vegetable Crops	10-12-2008 to 24-12-2008	4



18. Refresher Course on Pesticide Analysis for PTL Analysts	05-01-2009 to 23-01-2009	15
19. Audio-Visual-Aids & Communication Techniques	07-01-2009 to 13-01-2009	7
20. Bio-intensive Nematode Management in Vegetable Crops	11-02-2009 to 18-02-2009	2
21. Apex Level Training on Rodent Control	25-02-2009 to 27-02-2009	29
22. Workshop on Neem-an-Eco-Friendly Pest Management Tool	04-03-2009 to 06-03-2009	6

### **C. COURSES CONDUCTED IN STATE**

23. Instrumental Analysis of Pesticide for Haryana	05.05.2008 to 17.05.2008	14
24. Sampling of Pesticides for Quality Control for Haryana	1 <sup>st</sup> & 2 <sup>nd</sup> August, 2008	176
25. Sampling of Pesticides for Quality Control for Haryana	6 <sup>th</sup> & 7 <sup>th</sup> August, 08	26
26. Rodent Pest Management for Arunachal Pradesh	12 <sup>th</sup> & 13 <sup>th</sup> Dec. 2008	20
27. Rodent Pest Management for Gujarat	6 <sup>th</sup> & 7 <sup>th</sup> Jan. 2009	42
28. Sampling of Pesticide for Quality Control for Uttar Pradesh.	28 <sup>th</sup> & 29 <sup>th</sup> Jan. 09	123
29. Rodent Control for Andhra Pradesh, (Khammam) District	20 <sup>th</sup> to 21 <sup>st</sup> Feb. 2009	45
30 Rodent Control Campaign for Andhra Pradesh	6 <sup>th</sup> & 7 <sup>th</sup> March, 2009	55

### **TRAINING PROGRAMMES FOR PUBLIC /PRIVATE SECTOR/ NGO's ON PAYMENT BASIS \*\*\***

1. IPM in Tobacco and other crops for Tobacco Board officials	01.12.2008 to 5.12.2008	20
2. Phytosanitary Treatment (Methyl Bromide/ Aluminium Phosphide Fumigation) for PCOs	a. 9.12.2008 to 23.12.2008	15
	b. 09.02.2009 to 23.02.2009	12
3. IPM in tobacco and other crops for Tobacco Board Officials	27.01.2009 to 31.01.2009	20

### 31<sup>st</sup> Post Graduate Diploma Course In Plant Protection

This Course of 10 month duration commenced on 1<sup>st</sup> July, 2008 with a total strength of 11 participants, of which 9 participants were un-employed Agriculture Graduates from different states viz, Madhya Pradesh (1), Rajasthan (2) and Uttar Pradesh (6) and two Participants were in-service Agriculture Officers from Andhra Pradesh and Madhya Pradesh. Later, one un-employed trainee from Rajasthan discontinued the course after the first Semester.

This course was conducted in two Semester. The duration of 1<sup>st</sup> semester was from 1<sup>st</sup> July to 7<sup>th</sup> November, 2008. The trainee have undergone field service training in which they undertook plant protection operations in farmer's fields at Devnargarpally village of Chevella Mandal, Ranga Reddy District, covering all kharif crops. As a part of training curriculum, the trainees were on study tour from 8.11.08 to 7.12.2008 of which for first fifteen days they visited various institutions of agricultural importance in South India to acquaint themselves with on going research projects and findings in the field of agriculture. Later, the participants undertook visit to their respective native places/place of duty to collect and assimilate information on plant protection problems concerning their respective areas.

During second semester, which commenced from 8<sup>th</sup> December, 2008 to 30<sup>th</sup> April, 2009, the participants were taken to various national and international institutions located in and around Hyderabad and acquaint them with recent developments in respect of plant protection in different crops etc.

The trainees also presented seminars and Term Papers/Plant Protection Research dissertations which are as follows:

No.	Name of the trainee	Topic (a) / (b)	Guide
	S/Sri		
1.	Chandra Prakash Dubey	a. Knapsack in plant protection apparatus. b. Study of nematode communities associated with Castor, Groundnut, Sunflower, Safflower and linseed. (PPR)	Er.G.Shanker,DD(Eng.) Dr.Narayana,AN
2.	Isver Prasad Yaduwanshi	a. Pendimethalin residue in soil and its management. b. Study on design and performance of foot operated sprayer (PPR)	Mr.K.Jhelum,DD(C) Er.G.Shanker,DD(Eng.)
3.	Jitendra Katiyar	a. Role of information and communication technology in Agriculture. b. Field trial on simulation of defoliation at different stages of ground crop. (PPR)	Dr.D.P.Nagdeve, AD(Extn./WS) Mr.S.Balasubramanian, DD(E)
4.	Pankar Kklumar	a. <i>Parthenium hysteroporus</i> – ecology, biology and its Management. b. Study of neem based pesticides.(Term Paper)	Dr.Tripati,DD(WS) Mr.K.Jhelum,DD(C)
5.	Prabal Pratap Singh	a. Wheat rust and emerging threat to world wheat production.	

	b. Study of Flubendiamide – a new insecticide for the control of Lepidopteran pests (Term Paper)	Mr.K.Jhelum,DD(C)
6. Rahul Singh Parmar	a. Classification of herbicides. b. Pilot study on effect of castor oil based repellent (ECODON) on the damage by wild pig, Sus scrofa in maize around Hyderabad (PPR)	Dr.Tripati,DD(WS) Dr.AMK.Mohana Rao RS
7. Sujatha Sivani, Kola (Smt)	a. Hydraulic nozzles in plant prot.equipment b. Arbuscular mycorrhizae – a valuable microbiological resource in plant biodiversity and ecosystem (Term Paper)	Er.G.Shanker,DD(Eng.) D.Chattopadhyay, PPO
8. Shashi Viswakarma	a. Pesticide hazards on health and environment. b. Study of Novaluron as a component of IPM (Term Paper)	Mr.S.Balasubramanian, DD(Ent.) Mr.K.Jhelum,DD(C)
9. Sukhdev	a. Rodent problem in sugarcane in India. b. Damage caused by wild pig, Sus scrofa to agricultural crops with special reference to maize around Hyderabad, Andhra Pradesh (PPR)	Dr.AMK.Mohana Rao RS -do-
10. Surya Bali Yadav	a. Policy issues in Plant Protection. b. Integrated Weed Management in groundnut (PPR).	Dr.DDK.Sharma,JD(PP) Dr.Tripati,DD(WS)

\* (a) Seminar

(b) Plant Protection Research

Besides the regular lectures by the faculty members of the institute. **Guest lectures** by various experts were also arranged on the topics as under.

Name and Address of Guest speaker	Topic
S/Sri	
1. Dr. M.N. Reddy, Principal Scientist (sta.) NARAM, Rajendranagar, Hyderabad.	a) Introduction of Agriculture Statistics b) Design of experiments.
2. Dr. F. Mallik, Jt. Director(PP).Retd. NPPTI, R.Nagar, Hyd.	a) Diseases of Temperate Fruits and their Management. b) Diseases of Tropical fruits and their Management. c) Surveillance on plant diseases.. d) Epidemiology of Plant disease. e) Plant Disease forecasting.

- f) Cultural and mechanical control of plant disease.
- g) Disease of Wheat, Oat & barley and their Management.
3. P.T.Setty, Dy. Director (PP) Retd.  
NPPTI, R.Nagar, Hyd. Diseases of Sorghum, Bajra & Maize and their Management.
4. S.N. Pathak, Plant Protection Officer (Engg.) Retd, NPPTI, R.Nagar, Hyd. a) Aerial spraying of pesticide.  
b) Calibration.
- 

Examinations were conducted at end of each semester and total of 30 credits were completed by each participant. All the participants successfully completed the course and were awarded Post Graduate Diploma course in Plant Protection.

### PESTICIDE RESIDUE ANALYSIS COURSE

The 66<sup>th</sup> batch of Pesticide Residue Analysis training commenced from 01.07.2008 to 30.09.2008. A total of 4 officer trainees from Andhra Pradesh (1), Punjab (2) and Rajasthan (1) have participated in the course.

The objective of the course was to generate trained human resources for working in the pesticide residue labs of Universities. ICAR research Institute, Government Department, etc.

The officer trainees were trained in detection and estimation of pesticide residues in food products, agricultural produces and environmental samples by GLC, HPLC, Spectroscopy. The standard methods adopted by BIS PAM, FDA (US), FAO etc., were followed in this course. Background theory was covered in respect of all relevant topics. This was followed by practical exercises wherein officer trainees analyzed market samples as well as samples drawn from field. Interpretation of results were also taught.

The topic like pesticide residue analysis techniques, in addition to provided information on pesticide chemistry, toxicity, safe handling etc., were covered. The practical includes screening of samples of cereals and cereal products, pulses, vegetable, fruits, eggs, meat, soil, water etc, for qualitative identification as well as quantification of residues of various pesticides.

Major emphasis was given on application of thin layer chromatographic techniques for Residue analysis. However methods adopted by Bureau of Indian Standards, if available, were also adopted. The trainees proceeded on study tour to Bangalore, Mysore, Coimbatore, Koyaugulam, Trivandrum, Madurai and Padappai (Chennai) to acquaint themselves with the latest developments in Pesticide Residue Analysis.

The officer trainees undertook local study Tour to visit R&D Labs/ University, Lab/State Government Labs engaged in pesticide residue analysis. They also visited pesticide Industries, SPTLs etc. They also chose a topic, collected literature/ information on the same and presented seminar talks at the end of the course. Both theory and practical examinations were conducted to grade the performance of the officer trainees.

Seminars were presented by the participants on topic given below :

Name of the officer trainee	Seminar Topic
Sarvasri	
1. A.Nirmal Jyothy	Environmental pollution by pesticide
2. Kanwal Jindal	Methods of sampling for Agriculture Food Commodities for Pesticide Residue Analysis.
3. Ravinder Singh	Power and duties of Insecticide Inspector.
4. R. Sharma	Safety in Pesticide Testing Laboratory with special reference to pesticide Residue Lab.

### PESTICIDE FORMULATION ANALYSIS COURSE.

There were two batches of this course during 2008-09 – First 103<sup>rd</sup> batch of this course was conducted from 1-10-2008 to 31.12.2008. Ten officers were joined the course from Bihar(1), Maharashtra (7) and Rajasthan (2) participated in this course.

The second batch 104<sup>th</sup> of this course was conducted from 02.02.2009 to 30.04.2009. A total of 12 officer trainees from Andhra Pradesh (4), Karnataka (6), Panjab (1) and West Bengal (1) participated in this course.

The objective of this course was to generate trained Human Resources for working in State Pesticide Testing Laboratories run by State Governments to enforce the Insecticide Act. 1968, so that rule 21 (B) of the Insecticide Rule 1971 is complied with by the enforcing authorities. The participants, nominated by various State Governments were trained in using legally valid analytical methods approved by the Registration Committee for analysis of commonly used pesticide formulations. These methods are volumetric, chromatographic and spectroscopic techniques. Background theoretical lectures on all related topics were delivered. This was followed by laboratory practical wherein, the officer-trainees analyzed samples of commonly used pesticides, using legally approved methods.

#### a) 103<sup>rd</sup> Batch

The officer trainees undertook a study tour to South India & North India. They have chosen a topic for their seminar, collected and collated literature/information and presented seminars at the end of the course.

Name of the officer trainee	Seminar Topic
Sarvasri	
1. S.J. Pathak	Salient features of the Insecticide Rule 1971.
2. S.N. Nainwad	Sampling of pesticide under Insecticide Act. 1968.
3. J.P. Singh	Pesticide Hazard in Environment.
4. D,G, Gade	Safe Use of pesticide.
5. Thigale M.T.	Environmental Pollution by pesticide.
6. Dr. D.P.Singh	Hazards in PTL and Safety measures.

7. A.U. Kulkarni Disposal of date expired pesticide.  
 8. Dr. Promod Kumar Neem based pesticide.  
 9. M.B. Yadev Toxicity – symptoms of poisoning and antidotes.  
 10. R.K. Ingle Packing & Packing of the pesticide.

Both theory as well as practical examinations were conducted to grade the performance of the officer trainees.

b. 104<sup>th</sup> Batch :

The participants presented seminar on the following topics :

Name of the officer trainees	Seminar topic
Sarvasri	
1. V.Saraswathi Devi	Powers & Duties of Insecticide Inspector.
2. Sumangala. S.	Toxicity, Symptoms of poisoning & antidotes.
3. Poornima.R.	Safety in pesticide Testing Laboratory.
4. Dr. Sulanta Chakraborty	Quality Control of pesticide.
5. A.M. Nadaf	Effect of insecticides on wild life.
6. R. Janardhan Reddy	Sampling of pesticide under Insecticide Act.
7. Dr. G.S. Bala	Pesticide hazards in environment.
8. Ramegowda. G.	Pesticide pollution, possible remedy and a case study of Endosulfan in Kasargod.
9. Rajeswari	Botanical insecticide in insect pest management.
10. Kiranmayi	Pesticide and soil (environment)
11. I. Santhi	Packing and Labeling of Insecticide.
12. Manjunath Reddy	Development of new pesticide.

The officer trainees also undertook study tour to Faridabad, Delhi, Gurgaon and Jaipur. They chose a topic for their seminar, collected and collected literature/information and presented a seminar at the end of the course. Both theory as well as practical exams were conducted to grade performance of officer-trainees.

## SHORT DURATION COURSES

### 1. Training of Trainer's programme on E-surveillance :

The programme was conducted from 5<sup>th</sup> May to 9<sup>th</sup> May, 2008. Nine participants from Dte. of Plant Protection, Quarantine & Storage, participated.

### 2. Analysis of Household Pesticides for PTL Analysts ( 5<sup>th</sup> to 25<sup>th</sup> June 2008)

A total of 9 Officers representing different states i.e. Andhra Pradesh (2), Bihar (1),Maharastra (4) and Taminadu (2) participated in this course.

### 3. Pesticide Application Techniques and Maintenance of plant Protection Equipment :

Three courses were conducted during the year.

i. 17<sup>th</sup> to 24<sup>th</sup> June 2008 - A total of 8 Officers representing Bihar (1), Himachal Prdesh (1), Karnataka (1), Madhya Pradesh (1), Orissa (2), Punjab (1) and Taminadu (1) participated in this course.

ii. 16<sup>th</sup> to 23<sup>rd</sup> September 2008 - A total of 9 Officer representing Bihar (1), Haryana(1), Maharashtra (2), Punjab (3), Tamilnadu (2) participated in this course.

iii. 4<sup>th</sup> to 11<sup>th</sup> February, 2009 - Only one offier trainee from Madhya Pradesh participated in this course.

### 4. Integrated Pest Management of Rice (19<sup>th</sup> August, 2008 to 26<sup>th</sup> August, 2008)

A total of 15 Officers representing Chattisgarh (2), Haryana(2), Kerala (2), Madhya Pradesh (2), Orissa (2), Punjab (2), Tamilnadu (2) and Uttaranchal (1) participated in this course.

### 5. Integrated Pest Management course for CIPMC staff of Dte. PPQ&S (28.8.08 to 12.09.2008).

A total of 16 Officers representing Directorate of Plant Protecction, Quarantine & Storage and one Agricultural Officers from Uttar Pradesh, participated in this course.

### 6. Safe and Judicious use of Pesticides for Food safety and Quality (9.9.08 to 16.9.2008)

A total of 25 officers representing different states viz., Chattisgarh (1), Goa (2), Haryana (2), Jammu & Kashmir (3), Kerala (3), Maharashtra (3), Madhya Pradesh (2), Punjab (1), Rajasthan (2), Tamilnadu (3), West Bengal (1), Union Territory (1) and Central Organisation (1) participated in this course.

### 7. Integrated Weed Management in Major Field Crops (10.9.2008 to 17.9.2008)

A total of 10 officers representing Chattisgarh (1), Goa (1), Haryana (1), Himachal Pradesh (1), Maharashtra (1), Madhya Pradesh (2), Tamilnadu (2), Uttar Pradesh (1), West Bengal (1) participated in this course.

**8. Pest Surveillance (17.9.2008 to 23.9.2008)**

A total of 11 Officers representing Haryana (2), Maharashtra (1), Madhya Pradesh (2), Punjab (2), Rajasthan (1), Tamilnadu (2), Tripura (1) have participated in this course.

**9. Rodent Pest Management ( 24.9.2008 to 30.9.2008)**

A total of 20 officers representing Andhra Pradesh (7), Bihar (1), Chattishgarh (1), Haryana (1), Maharashtra (2), Punjab (1), Tamilnadu (3), Agricultural University (4), participated in this course.

**10. Safe and Judicious use of pesticide for safety and Quality (09.09.2008 to16.09.2008)**

A total of 25 officers representing Chattishgarh (1), Goa (2), Haryana(2), Himachal Pradesh (3), Kerala (3), maharashtra (3), Madhya Pradesh (2), Punjab (1), Rajasthan (2), Tamilnadu (3), Utter Pradesh (1), West Bengal (1),Union Territory (1) and Central Organization (1) participated in this course.

**11. Integrated Weed Management in Major Field crops (10.09.2008 to 17.09.2008)**

A total of 10 officers representing Chattishgarh (1), Gujrat (1), Himachal Pradesh (1), Jammu & Kashmir (1), Maharstra (1), Madhya Pradesh (2), Tamilnadu (2), West Bengal (1), and Union Territory (1) participated in this course.

**13. Rodent Pest Management (24.09.2008 to 30.09.2008)**

A total of 20 officer representing. Andhra Pradesh (7), Bihar (1), Chattishgarh (1), Haryana (1), Maharashtra (2), Punjab (1), Tamilnadu (3), Agriculture University (4) participated in this course.

**14. Analysis of Bio- Pesticide for Quality Control (15.10.2008 to 24.10.2008)**

A total of 15 officers representing Bihar (2), Chattishgarh (2), Gujrat (1), Haryana (3), Tamilnadu (2) , West Bengal (2) and Other Organization (3) participated in this course.

**15. Workshop on Integrated Weed management in Vegetable Crops (19.11.2008 to 21.11.2008)**

A total of 6 officers representing Andhra Pradesh (1), Chattishgarh(3), Himachal Pradesh (1), and Tamilnadu (1) participated in this course.

**16. Integrated Pest Management in Pulses and Oilseeds (25.11.2008 to 04 12.2008)**

A total of 8 officers representing Chattishgarh (2),Haryana (2), Punjab (1), Tamilnadu (2) and Tripura (1) participated in this course.

**17. Workshop on Pesticide Application Technology (10.12.2008 to 12.12.2008)**

A total of 6 officers representing Chattishgarh (1), Haryana (2), Maharashtra (1), Punjub (1) and Tamlnadu (1) participated in this course.



### **18. Integrated Pest Management in Vegetable Crops (10.12.2008 to 24.12.2008)**

A total of 4 officers representing Himachal Pradesh (1), Orissa (1), West Bengal (1) and Union Territories (1) participated in this course.

### **19. Refresher Course on Pesticide Analysis for PTL Analysis( 05.01.2009 to 23.01.2009)**

A total of 15 officers representing Himachal Pradesh (1), Madhaya Pradesh (1), Mizoram (1), rissa (5), Punjab (4), Rajasthan (2), and Tamilnadu (1) have participated in this course.

### **20. Audio-Visual-Aids & Communication Techniques (07.01.2009 to 13.01.2009)**

A total of 7 officers representing Chattishgarh (2), Jammu & Kashmir (1), Maharastra (1), Madhaya Pradesh (1) and Punjab (2) participated in this course.

### **21. Bio-intensive Nematode Management in Vegetable Crops (11.02.2009 to 18.02.2009)**

A total of 2 officers representing Madhya Pradesh (1) and Punjab (1) participated in this course.

### **22. Apex Level Training on Rodent Control (25.02.2009 to 27.02.2009)**

A total of 29 officers representing Andhra Pradesh participated in this course.

### **23. Workshop on Neem-an-Eco-Frindly Pest Management Tool (04.03.2009 to 06.03.2009)**

A total of 6 officers representing Chattishgarh (1), Haryana (1), Himachal Pradesh (1), Karnataka (1), Punjab (1) and Dte. of PPQ&S (1) participated in this course.

### **IN STATE PROGRAMMES**

1. Instrumental Analysis of Pesticide for **Haryana (05.05.2008 to 17.05.2008)**. A total of 14 officers participated in this course.
2. Sampling of Pesticide for Quality Control for **Haryana ( 01.08.2008 to 02.08.2008)**. A total of 176 officers participated in this course.
3. Sampling of Pesticide for **Arunachal Pradesh ( 06.08.2008 to 07.08.2008)**. A total of 26 officers participated in this course.
4. Rodent Pest Management for **Himachal Pradesh (12.12.2008 to 13.12.2008)**. A total of 20 officers participated in this course.
5. Rodent Pest Management for **Gujrat (06.01.2009 to 07.01.2009)**. A total of 42 officers participated in this course.
6. Sampling of Pesticide for Quality Control for **Uttar Pradesh ( 28.01.2009 to 29.01.2009)**. A total of 123 officers participated in this course.

7. Rodent Control for Andhra Pradesh (Khammam) (20.02.2009 to 21.02.2009). A total of 45 officers participated in this course.

8. Rodent Control Campaign for Andhra Pradesh (Nalgonda) (06.03.2009 to 07.03.2009). A total of 55 officers participated in this course.

**TRAINING PROGRAMME FOR PUBLIC/ PRIVATE SECTOR/ NGO's ON PAYMENT BASIS \*\*\***

1. Integrated Pest Management for Tobacco board officials (01.12.2008 to 05.12.2008). A total of 20 officer participated in this course. The participants are Senior Grading Officers and Field Officers of Tobacco Board representing Andhra Pradesh attended.
2. Phytosanitary Treatment (Methyl Bromide/Aluminium Phosphide Fumigation (09.12.2008 to 23.12.2008) A total of 15 officers participated in this course.
3. Phytosanitary Treatment (Methyl Bromide/Aluminium Phosphide Fumigation (09.02.2009)to (23.02.2009) A total of 12 officers participated in this course.
4. Integrated Pest Management tobacco and other crops. (27.01.2009 to 31.01.2009) A total of 20 Officer participated in this course.
5. Integrated Pest Management in Tobacco and other crops (24.02.2009 to 28.02.2009) A total of 20 officers participated in the course. The trainees are Senior Grading Officers and field officers of Tobacco Board representing Andhra Pradesh participated.

## PLANT PROTECTION RESEARCH

### ENTOMOLOGY DIVISION

Field trial on simulation of defoliation at different stages of groundnut.

Farmers predominantly use pesticides against defoliators in groundnut, whereas the healthy crop can compensate the defoliations to a large extent. Though a large number of research studies available pertained to other crops, the studies on this line in groundnut are limited.

Two field trials in NPPTI were conducted using the variety TAG 24 during Kharif 2008. Randomized block design with 3 replications and 4 treatments viz, 25% defoliation, 50% defoliation, 75% defoliation and no defoliation as control was laid. In the first experiment, defoliation was effected on 35 DAS by removing appropriate number of leaflets from each leaf and every plant in the plot. In the second set of experiment defoliation was effected on 50 DAS. Integrated Pest Management (IPM) practices were adopted for managing the crop in all the treatments. Observations on plant growth parameters were recorded on critical stages of crop growth. All the data were subjected to statistical analysis.

All the plant growth parameters including pegs recorded during the growth season in all the treatment plots do not differ significantly with that of control plot, indicating that the defoliation up to 75% during early flowering and peg formation stage do not affect the health of the plant adversely and thereby not affecting the yield. The present study results are not in conformity with the results reported by Prasad et al (2007). The variety, the soil health of the experiment plot and environmental condition may influence the plant compensation ability of groundnut crop differently. The present study was done during the Kharif season whereas Prasad et al (2007) conducted trial using the variety GG2 during summer season. However the experiment may be redone for one more season to confirm the results obtained in the present study.

(Mr. Jetendra Katiyar and S. Balasubramanian)

### WEED SCIENCE

Integrated Weed Management in Groundnut (*Arachis hypogaea L.*)

A field experiment was conducted in experimental farm of the institute, during Rabi season of 2008-2009 to assess the effect of herbicide and hand weeding on weed population and yield of groundnut and to compare their performance with conventional method of two hand weeding at 30 & 45 days after sowing. Three herbicide viz., Alachlor @ 1.0 kg a.i/ha, Pendimethalin @ 1.0 kg a.i/ha and oxyfluorfen @ 0.25 kg a.i/ha and alachlor @ 0.75 kg a.i /ha + one hand weeding 30 DAS, Pendimethalin @ 0.75 kg a.i/ha + one hand weeding 30 DAS and Oxyfluorfen @ 0.20 kg a.i/ha + one hand weeding at 30 DAS were evaluated with twice hand weeding (30 & 45 DAS) one weedy check (control plot). The herbicide were applied 24 hours after sowing with Knapsack sprayer fitted with flood jet Nozzle.

The predominant weed found in experimental plots were *Cyperus rotundus*, *Trichodesma indica*, *Ageratum conizodes*, *Dactylactenium aegyptium*, *Lochenera prusalla*, *Parthenium hysterophorus*, *Euphorbia hirta*, *Bracharia mutica*, *Cleome viscosa*, *Commelina benghalensis* etc. Among all these weed *Cyperus rotundus* was most troublesome and was recorded in higher of individual weed species (26-75 m<sup>2</sup>) with higher relative density of (41%). All the methods of weed control reduced the total weed population and dry weight of weeds substantially over unweeded control (check plot). The higher level of weed control efficacy and groundnut yield was recorded with Oxyfluorefen 1.0 kh a.i./ha and one hand weeding at 30 days after sowing. The second best treatment was Pendimethalin + one hand weedin at 30 DAS which was at par with Alachlor + one hand weeding (30DAS). When compared to other treatments, pre-emergence application of Oxyfluorfen reduced the population of *Cyperus rotundus* considerably.

(Suryabali Yadav and B. Tripathi)

**a): Study of Novaluron : As a component of IPM**

Novaluron, one of the benzoylurea insecticide, acts by inhibition of chitin synthesis. It is a racemic mixture, the compound having single chiral centre. It has low volatility, very low water solubility, and is mainly used in the form of EC formulation. It is stable to hydrolysis at pH 5 and 7 but is slowly hydrolyzed at pH 9.2. It undergoes only slow photolysis (pH 5). In field tests the degree of bioaccumulation was less and bio-accumulated Novaluron was eliminated fairly rapidly. Novaluron has generally low acute, sub-acute and chronic toxicity. High doses can lead to erythrocyte damage and consequential effects on the spleen, together with some evidence of weight gain although erythrocyte formation is not significantly affected and recovery appears to occur within weeks. Novaluron dose not show signs of reproductive or developmental toxicity.

(Shashi Vishwakarma & K.C. Jhelum)

**b): Study of Neem based Pesticide :**

Neem based pesticide is ecologically safe, chemical with systemic activity. The details about cost benefit ratio of neem based pesticide is not available in the literature, however data giving some idea based on percentage increase in yield over control has been reported. NBP are not toxic to mammals as well as to beneficial insects. NBP has medium persistence between 7 to 14 days. Combination of NBP with conventional pesticides should be described because such combinations may over shadow the advantage of NBP and also be more harmful to beneficial insects. More and more neem trees will have to be grown to meet the increasing demand for industrial and insecticidal use. Selection of superior genotypes will be desirable to increase the productivity and quality of neem produce. So, it must be incorporated in the IPM programme.

(Pankaj Kumar & K.C. Jhelum)

**c). Study of Flubendiamide a new insecticide for the control of Lepidopterus pests :**

Flubendiamide is a novel class of insecticide having unique chemical properties. It showed excellent activity against a broad spectrum of lepidopteron insects. The novel biochemical of

flubendiamide exhibits excellent larvicidal activity as an orally ingested toxicant by targeting and disrupting the  $Ca^{2+}$  balance. These result in rapid cessation of feeding and extended residual control, providing superior plant protection against a broad-range of economically important lepidopteron pests

including *Helicoverpa spp.*, *Heliothis spp.*, *Spodoptera spp.*, *Plutella spp.*, *Pseudoplusia spp.*, *Trichoplusia spp.*, and *Agrotis spp.* As a new mode of action, flubendiamide exhibits no cross-resistance. Flubendiamide is safe against natural enemies. Flubendiamide will have an excellent fit in IPM and Insecticide Resistance Management (IRM) programmes in a variety of crops. A favourable environmental and ecological (low toxicity) profile, short REI/PHI, and low use are rated for less environmental loading.

**(Prabal Pratap Singh & K.C.Jhelum)**

### **STUDY ON DESIGN AND PERFORMANCE OF FOOT OPERATED SPRAYER**

A Plant Protection research study "Design and performance of foot operated Sprayer" was conducted with the following objectives.

- 1) To study the design of foot operated sprayer.
- 2) To conduct trials for study of performance of foot operated sprayer.

The design of a foot sprayer was studied and trials were carried out in the field and the workshop of engineering division. The trial led to the following results.

- 1) Mechanical efficiency (mech. Advantage) the sprayer was found out be = 2.7.
- 2) The discharge rate of the foot operated sprayer was found 103.5ml/ strokes using adjustable nozzle @ 10Kg /cm<sup>2</sup> working pressure.
- 3) The volumetric efficiency of the foot operated sprayer was found =84.08%.
- 4) The height of spray reach was observed to be using a sexton = 20.483 feet.
- 5) The foot operated sprayer was later assembled and tested as per BIS specification for evaluating its performance in the workshop.

From the above study, it was observed that the performance of foot operated sprayer was good.

It is recommended that all the manufacturing companies manufacture the products as per BIS specification to get maximum efficiency and performance for the paid value of plant protection equipment. Periodical evaluation helps in proper calibration and maintenance for improved application efficiency.

**(Iswer Prasad Yaduwanshi & G. Shankar)**

## **WORKSHOP/MEETING/PROJECTS ATTENDED**

E-Surveillance meeting of senior officers of State Department at NIRD chaired by Shri P.K.Basu, Additional Secretary, Ministry of Agriculture, Government of India.

Meeting of FFS facilitators of Government of Karnataka at Bangalore to plan the activities of ToF and FFS for Karnataka State.

Joint study on farmers level non pesticidal practices carried out at Warangal and Mehboobnagar districts by SERP Government of Andhra Pradesh.

Delivered lecture on AESA based IPM to the participants on international workshop on IPM organized by FIICI.

## FARM ACTIVITIES

Several crops viz., Rice, Maize, Groundnut, Bajra, Jawar, Pigeon Pea, Sunflower, Green gram, Tomato, were raised during the year 2008-09 for demonstration/Research/Experimental purpose. These crops were also utilized by Plant Pathology, Entomology, Chemistry and Weed Science Divisions for conducting practical training classes for various training programmes. Sun hemp and green gram were also grown in the field for improvement of soil structure, texture and fertility.

Plant Protection research on groundnut crop was conducted by Entomology and Weed Science Division during this year.

Tobacco crop was also grown for special training programme on "Integrated Pest Management in Tobacco" conducted by Entomology division.

All the field staff of the weed science division were actively involved in various field operation starting from land preparation, field layouts to till harvesting of the crops. Farm staff were also given responsibility of maintenance of garden and orchard, collection and preservation of weed specimens and weed seeds. Besides these activities, staff were also actively and regularly involved in maintaining of campus neat and clean.

## LIBRARY AND DOCUMENTATION

This Institute's Library has good collection of books and journals which are being referred to by all faculty members, officer-trainees, faculty of neighboring institutes and Acharya N.G. Ranga Agriculture University Post Graduate Students etc..

Seven hundred Ninety Five (795) books on Plant Protection and allied subjects were procured and added to the library during the year under report. Now the library has 7942 books. Besides this, nearly 200 free publications from different institutions (including books, bulletins, reports etc.) were added.

The institute subscribed 44 Indian Journals and 10 Foreign Journals during the year 2008-09. Further, for the general interest of the readers, India Today, Frontline, Kadambini (Hindi) and Employment News were subscribed.

The list of Indian Journals subscribed during the year 2008-09 are given below :

1. Agriculture Situation in India
2. Andhra Agriculture Journal
3. Agriculture Science Digest
4. Current Science
5. Entomon
6. Farmner Journal
7. Farmer and Parliament
8. Indian Coconut Journal
9. Indian Farmers Digest
10. Indian Farming
11. Indian Phytopathology
12. Intensive Agriculture
13. Indian Journal of Agriculture Science
14. Indian Journal of Agronomy
15. Indian Journal of Entomology
16. Indian Journal of Extension Education
17. Indian Journal of Mycology and Plant Pathology
18. Indian Journal of Plant Pathology
19. Indian Journal of Nematology
20. Indian Journal of Weed Science
21. Indian Journal of Agriculture Research
22. Indian Journal of Plant Protection
23. Journal of Coffee Research
24. Journal of Entomological Research
25. Journal of Indian Potato Association



26. Journal of Oilseeds Research
27. Journal of Research (PAU)
28. Journal of Plantation Crops
29. Journal of Biological Research
30. Madras Agriculture Journal
31. Oryza
32. Pestology
33. Pesticide Information
34. Pesticide Research Journal
35. Progressive Farming
36. Plant Disease research
37. Science and Culture
38. South Indian Horticulture
39. Science Reporter
40. Yojana

List of Foreign Journal Subscribed during the year 2008-09.

1. Weed Abstracts
2. Review of Agriculture Entomology
3. Review of Plant Pathology
4. Journal of AOAC
5. International Journal of Pest Control
6. Weed Science
7. Weed Technology
8. AMA- Agriculture Mechanism in Asia
9. International Journal of Pest Management
10. Plant Disease

## STAFF

<b>Additional Plant Protection Adviser</b>	-	<b>Vacant</b> <b>I/C Dr. B.G. Naik</b>
<b>Entomology Division</b>		
Joint Director (Ent.)	-	<b>Dr. B.G. Naik</b>
Deputy Director (Ent.)	-	Sh. S. Balasubramanian
Assistant Director	-	Vacant
Rodent Specialist	-	Dr. A.M.K. Mohan Rao
Plant Protection Officer (Ent.)	-	Vacant
Assistant Nematologist	-	Sh.R. Narayana
Sr. Scientific Assistant-III	-	Dr. V.Markendeya
Stenographer Grade-III	-	C.Prabhakar
Laboratory Attendant	-	Sh. S. Seshubabu
<b>Plant Pathology Division</b>		
Joint Director (PP)	-	D.D.K. Sharma
Deputy Director (PP)	-	Ashim Choudhury
Deputy Director (PP)	-	Vacant
Assistant Director (PP)	-	Vacant
Plant Protection Officer (PP)	-	Sh. D. Chattopadhyay
Assistant Plant Protection Officer	-	Vacant
Laboratory Attendant	-	Sh. Mohd. Ibrahim
<b>Pesticide Chemistry Division</b>		
Joint Director (Chem.)	-	Vacant
Deputy Director (Chem.)	-	<b>Sh. K.C. Jhelum</b>
Assistant Directors (Chem.)(2)	-	Sh. B.N. Jha
	-	Sh. V.D. Gaikwad
Plant Protection Officer (Chem.)	-	R.S.Sharma
Senior Scientific Assistant-II (3)	-	Sh.C.V. Rao
	-	Smt. C.Vijayalakshmi
	-	Sh.Dilip Kapgate
Stenographer Grade-II	-	Smt. G. Navaratna Kumari
Laboratory Attendants (2)	-	Sh.B. Sudershan
	-	Sh. S. N. Sinha
<b>Weed Science Division</b>		
Deputy Director (WS)	-	Dr. Bhaskar Tripathi
Assistant Director (WS)	-	Vacant

Plant Protection Officer (WS)	-	Sh. A. Krishna Reddy
Senior Scientific Assistant Grade-III	-	Sh. P. Prabhakar
Scientific Assistant Grade-I	-	Sh. G. Ramakrishna Reddy
Tractor Driver	-	Sh. M. Janardhan Reddy
Laboratory Attendant	-	Vacant
Mali	-	Smt. J. Anasuja
Baildars (3)	-	Sh. K. Yadiah
	-	Smt. A. Anasuya
	-	Smt. Saleema Bee

### **Agriculture Engineering Division**

Deputy Director (Eng.)	-	Er. G. Shankar
Plant Protection Officer (Eng.)	-	Vacant
Assistant Agriculture Engineer (1)	-	Sh. K. John Ninan
Stenographer Grade-II	-	Vacant
Mechanic	-	Sh. N. Achuta Rao
Caretaker Mechanic	-	Sh. Prabhudayal
Blacksmith	-	Sh. B. Hanumantha Rao
Drivers (7)		
(i) Staff Car Driver Special Grade (1)	-	Sh. N. Balanralesh
(ii) Staff Car Driver Grade-I (2)	-	Sh. Mohd. Babu
	-	Sh. T. Jangaiah
(iii) Drivers (4)	-	Sh. S. Purna Chandra Rao
	-	Sh. Gyan Singh
	-	Sh. B. Narsinga Rao
	-	Sh. Usman Khan
Machinery Attendant	-	Sh. S. Ramesh

### **Extension /Communication Division**

Assistant Director(WS)	-	Dr. D.P. Nagadeve
Senior Artist	-	Sh.V.V.S.B. Koteswara Rao
Verityper Operator	-	Sh. K. Laxminarayana
Machine Minder	-	Sh. Dharamvir Sharma
Print technician	-	Sh.C.M. Vasistha
Binder	-	Vacant
Laboratory Attendant	-	Sh. Rajkumar SinghKushwah

### **Administration Division**

Administrative Officer	-	Vacant
Stenographer Grade-II	-	Sh.S. Chakradhara Rao
Senior Library Information Assistant	-	Sh. S. Paramsivam

Accountant	-	Sh. Y.P.Sharma
Caretaker	-	Sh. B.V. Narasing Rao
Store Supervisor	-	Sh. U.S. Benglour
Head Clerk	-	Vacant
Stenographer Grade-III	-	Vacant
Upper Division Clerks (3)	-	Sh.A. Siva Rami Reddy
	-	Sh. Man Singh
	-	Sh. J.S.R.C. Murthy
	-	Sh.C.S. Kumar
Lower Division Clerks (6)	-	Sh. G.T. Anil Kumar
	-	Smt. S. Prameela Rani
	-	Sh. M.J. Antony
	-	Smt.D. Bhanumathi
	-	Smt. K.Rani Vijaya Kumari
	-	Vacant
Field Attendant	-	Sh. A. P. Bujji Babu
Peons (3)	-	Sh. S. Raghu Ram
	-	Sh. Anthony Francis
	-	Sh. M. Narsiah
	-	Sh. A. Rajak *
Wardboy	-	Sh. P. Raghu
Farash	-	Vacant
Sweepers (4)	-	Smt. P. Laxmi
	-	Smt. T. Shantamma
	-	Smt. E. Advamma
	-	Sh.T. Eswar
Daftry	-	Vacant
Chowkidars (8)	-	Sh.G. Kistiah
	-	Mohd. Saleem
	-	Sh. K. Lakshmiah
	-	Sh. N. Haridass
	-	Sh.G. Eshwariah
	-	Sh. D. Nagiah
	-	Sh.D. Bheemiah
	-	Sh. J. Mallesh
<b>Evaluation Division</b>		
Assistant Agriculture Engineer (1)	-	Sh. V.P. Prasad
Mechanic	-	Sh.B. Prabhakar
Laboratory Attendants (2)	-	Sh.K. Swamy Dass
	-	Sh. B. Hanumantha Rao

**STATEMENT SHOWING THE DETAILS OF EXPENDITURE INCURRED DURING THE  
YEAR 2008-09**

**Non – Plan**

(Rs. in lakhs)			
S. No.	Sub Head	RE/Excess Saving	Actual Expenditure
1.	Salaries	226.09	255.75
2.	Wages	0.04	-----
3.	OTA	0.03	0.17
4.	Medical Treatment	15.24	7.67
5.	Domestic Travel Expenses	8.00	7.20
6.	Office Expenses	12.00	11.56
7.	S & M	3.00	1.99
8.	Minor Works	10.00	9.93
9.	M & E	4.00	2.01
<b>Total</b>		<b>279.03</b>	<b>296.28</b>

**Plan**

(Rs. in lakhs)			
S.No	Sub - Head	RE/ Excess Saving	Actual Expenditure
1.	Salaries	----	-----
2.	Wages	----	-----
3.	OTA	----	-----
4.	Medical Treatment	----	-----
5.	Domestic Travel Expenses	0.30	-----
6.	Office Expenses	30.00	30.02
7.	Rent. Rates & Taxes	2.50	2.07
8.	S & M	3.00	2.33
9.	Minor Works	----	-----
10.	M & E	----	-----
11.	Publications	2.00	6.97
12.	OAE	0.12	9.10
<b>Total</b>		<b>49.80</b>	<b>50.49</b>
<b>Capital Outlay</b>		<b>73.00</b>	<b>72.55</b>