NCIPM
Newsletter

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From the Director's Desk

Application of remote sensing in Integrated Pest Management

Modern agriculture witnesses pressures of both increased need of productivity as well as higher stresses caused by plant pests under changing climate. Among the emerging technologies, Geographical Information System (GIS) has emerged as a powerful tool, which has potential to organize complex spatial environment in tabulated form, thereby helping in establishing relationship among different biotic and abiotic factors. Use of GIS and remote sensing (RS) has been explored for analysis of satellite-based agro-met data products, mapping geographical distribution of pests and delineating the hotspot zones. Application of remote sensing in combination with spatial analyses can be of additional value in integrated pest management practices. Currently, remote sensing (ISRO) data are being used in developing weather forecasts, generating crop estimate in terms of net sown area and yield in certain crops. Recent technological advances, especially high-resolution digital imagery, have resulted in a number of new developments which could further be refined to manage agricultural pests. The tools not only provide valuable information in context of integrated pest management but could also enable understanding through remote mapping or spatial modelling of the characteristics of a crop in a particular field and providing information about pest situation that are prevailing, or likely to occur. Super-imposition of causative abiotic and biotic factors on visual pest maps can be utilized for pest forecasting. In addition, airborne sensors that detect differences in multispectral reflectance between crop canopies and other vegetation characteristics can identify variation in crop vigour vis-a-vis response to insect pests and plant pathogens. Thus, this technology can play an important role in setting priorities for pesticide application and to direct treatment to the locations where it can have the greatest impact on pest populations. As this technology is gradually developing, it is likely that pesticide use will reduce with the change from whole-field to pest-location-specific applications.

Meetings / Events

Institute Research Committee

Institute Research Committee (IRC) was held during 4-5 October, 2012 under the chairmanship of Dr. T. P. Rajendran, ADG (PP) at NCIPM, in which the scientific achievements of the last year (2011-12) and next years' technical programmes (2012-13) were reviewed and discussed.

New Initiatives

E-pest surveillance and pest advisory for pomegranate and banana

The The *RKVY*-funded project on e pest surveillance and advisory for banana in Jalgaon and pomegranate in Sangli, Ahmednagar, Nashik and Solapur districts was executed from July 2012 to Dec 2012. The web-based surveillance methods, tracking system were implemented with integration of GIS system. A large number of pest scouts, pest monitors and data entry operators were recruited. Before the beginning of the e pest surveillance, training on pest identification and data entry was organized for banana and pomegranate at Regional Centre Jalgaon and MPKV Rahuri during 23-25 July 2012 in collaboration with Dept of Horticulture. In all these trainings, data entry operators, technical officers and data approval officers of the respective districts participated. From NCIPM, Dr. D.B. Ahuja, Principal Scientist participated and imparted instructions to the participants. Major pest problems which infested the banana crop were sigatoka disease and thrips. In pomegranate, bacterial blight, thrips and borer were found damaging the crop. Observations on these pests were recorded by the pest scouts in structured sheets. On the basis of ETL and severity of the diseases, short- and long term advisory were issued for the benefit of the farmers and other stake holders. During this period a field visit was undertaken during 26-29 Aug 2012 to farmers' orchards in Ahmednagar and Nasik districts of Maharashtra in order to ascertain the pest situation as well as the orchard productivity in pomegranate. In majority of the orchards, pests were well managed; the productivity as well as monetary benefits was quite high. There were a few orchards that were badly damaged by oily spot diseases and were advised replacing affected trees with newer ones to prevent the spread of damage to nearby orchards. Officials were also trained for use of GPS.

Research Activities/Highlights

Validation of IPM in Basmati rice

A trial on validation of IPM trial in Basmati rice has been conducted in 300 acre with Pusa Basmati 1121 at Bambawad (District Gautam Budhnagar, Uttar Pradesh; 90 km away from IARI) in farmers' participatory mode. In Bambawad village 99% farmers in the village grew basmati rice (Pusa 1121). Yellow stem borer (YSB), leaf folder, brown plant hopper (BPH), Bakanae and blast were the major insect pests and diseases. Major Integrated Pest Management (IPM) tactics along with nutrient management practices included the planting of *Sesbania* ('Dhaincha') or moong for green manuring, seed treatment with carbendazim (2 gm/kg of seed), seedling root dipping in *Pseudomonas fluorescence* (3.0 x 1010 colony forming units; 5ml/litre of water), planting of 2-3 seedlings/ hill, judicious application of fertilizer (60 N:50 P:40 K kg per ha) and ZnSO4 @ 25 kg/ha, installation of pheromone traps (5/ha) for YSB monitoring and straw bundles (20/ha) for augmentation, conservation of spiders, systematic monitoring for insect pests, diseases and natural enemies, need-based application of pesticides (Tricyclazole for blast, streptocycline for BLB, buprofezin for BPH) / bioagents (*Trichogramma japonicum*), drainage of water for 2-3 days soon after the appearance of BPH and manual weed management. The farmers' practice (FP) involved no green manuring and no seed treatment, planting of 7-8 seedlings /hill, higher doses of fertilizer (220 N: 40 P: 0 K kg per ha), no pest monitoring and 1-3 application of chemical pesticides (endosulfan/ monocrotophos/methyl parathion/ phorate/cartap hydrochloride) on the advice of pesticide dealers. Non-IPM farmers also applied zinc sulphate but at low doses.

Pest incidence and yield: Results of the trial indicated low incidence of insect pests and diseases in IPM as compared to Farmers' Practices (FP). Use of straw bundle technology

resulted in enhancement and conservation of spider population in IPM plots as compared to FP. There was no pesticide sprays in IPM plots against 1-2 spray in FP. IPM trial also resulted in higher yield and benefit/cost (B/C) ratio as compared to FP.

Empowerment of farming community: Adoption of IPM empowered the farmers for decision making to release of parasitoids/pesticide application (prior to IPM programme, farmers were applying the pesticides indiscriminately).

- Now they are able to distinguish between harmful and beneficial insects (earlier all insects were considered as pests by them).
- They understand the role of crop management practices in IPM (judicious use of fertilizers, growing of 'Dhaincha' for green manuring).

Sustainability and dissemination of IPM: In Bambawad village, majority of the farmers followed and continued with IPM for Pusa-1121. Although the trial was conducted in 300 acre but the other farmers also followed the IPM tactics. The message spread in the nearby villages also as the farmers of these villages sought the advice of IPM farmers of Bambawad for learning IPM technology, thus helping in horizontal spread of the technology.

Popularization of newly invented IPM gadgets with the farmers' participatory approach on farmers' fields

The innovative pest management gadgets viz., "improved insect light trap" and "Device for beneficial insects" were demonstrated in farmers' fields in NCR Delhi in paddy crop (Pusa Basmati 1121) during *kharif* (rainy) season 2012. The farmers were educated about the technical knowhow, specifications, mode of operation, safety precautions, benefits of the technology, etc. The refinement in these technologies was also done. Insect light trap is one of the important components of IPM which play an important role in managing insect pests such as *Helicoverpa armigera, Spodoptera litura*, semiloopers, hairy caterpillars, beetles, etc. by mass-trapping of both the sexes and is also safer to the beneficial insects (particularly the parasitoids) and non-target insects having smaller body size. The "Device for beneficial insects" has been designed and developed for conservation and enhancement of the population of beneficial insects (i.e., larval parasitoid wasps) in the crop fields. It is an important tool of IPM. For popularization and location specific validation of the improved insect light trap, the light traps were provided to the different research organization viz., PAU, Ludhiana, SAUs, Maharashtra, All India co-ordinated Research Project on white grubs etc. on complementary bases through the entrepreneur M/s Fine Trap (India).. The technology was also exhibited in Global Agri Connect 2012 held at New Delhi during 2-4th November 2012.

Increasing Pigeonpea, Chickpea, Mungbean, Urdbean and Lentil production through intensive application of IPM

An area-wide IPM strategy was implemented through awareness campaign using conventional and electronic media and establishment of "National Pest Reporting and Alert System" covering more than 42000 ha in five growing states viz. Uttar Pradesh, Madhya Pradesh, Maharashtra, Karnataka and Andhra Pradesh in collaborative mode. Based on the feedback and successful adoption of IPM strategies in pigeonpea and chickpea, three more crops (mungbean, urdbean and lentil) have been taken up at smaller level in farmers' participatory mode. As Bidar is emerging as major pigeonpea producing district, therefore, IPM was implemented in 4000 ha in collaboration with *KVK*, Bidar. IPM was focused on the transplanted pigeonpea. The impact of climatic change could be easily observed in the form of appearance of secondary pest. The incidence of *Maruca* webber and podbug is on the rise and infestation was wide-spread covering all varieties. Similarly, seedling rot in pigeonpea (*Fusarium verrucosa*) again staged a comeback in Gulbarga causing seedling mortality in some localities. The powdery mildew at Anantapur, *Cercospora* leaf spot at Jabalpur, *Phytophthora* blight at Gulbarga, Badnapur and Jabalpur and wilt at Anantapur, Gulbarga, Badnapur, Parbhani, Osmanabad, Nanded, Jabalpur and Kanpur continued to be serious problems in non-A3P fields. The yield of pigeonpea has increased 20% in A3P (IPM) fields with significantly low pest and disease in comparison to non-A3P (IPM) fields. The mungbean and urdbean crop were infested with powdery mildew and damage by stemfly. All the A3P registered farmers have been provided with critical inputs and timely plant protection advisories, which enabled them to apply appropriate measures (chemicals/cultural practices/biocontrol agents) at right time. Farmers' Field School (3-4) have been organized at each centre during the cropping season to refresh knowledge with respect to plant protection. Refresher trainings on sampling and field observations were imparted to SRFs, Technical Assistants, etc., working under NFSM project. The media persons visited to *KVK*, Bidar to have first hand assessment of the achievements made under A3P programme.

Damage by girdle insect Damage by pod bug

Survey News

Survey was conducted in 10 villages in Sirsa and Fatehabad districts of Haryana, three villages in Hanumangarh district of Rajasthan and seven villages from Abohar, Muktsar , Bhatinda and Mansa districts of Punjab during October 21-23, 2012 for insect pests, diseases and natural enemies in cotton. Among the insect pests jassid and whitefly were recorded at most of the places with mild to moderate infestation in all the three states. Mealybug, in general, was found in traces along with its parasitoid, *Aenasius bambawalei* . Among the diseases mild incidence of Leaf Curl Virus and leaf reddening was recorded at few places in Punjab and Haryana.

Fig. Cotton mealybug (*Phenacoccus solenopsis*) infestation (Left) along with its parasitoid, *Aenasius bambawalei* cocoon (right)

Kisan Mela/*Kisan Pathshala*/Farmers' Field School

Kisan Mela at Bambawad (District Gautam Budhnagar, U.P.)

A *Kisan Mela* was organized at Bambawad (District Gautam Budhnagar, U.P.) on 15 October 2012 on successful completion of IPM programme in Basmati rice in farmers' participatory mode at village level in 300 acres. The programme was inaugurated by Dr. (Mrs.) Saroj Singh (Acting Director, NCIPM). More than

300 farmers from the IPM village and adjoining villages participated in the programme. The programme was also attended by officials from State Agriculture Departments and *KVK*. In the inaugural address, Dr. (Mrs.) Saroj Singh highlighted the achievements of NCIPM in popularizing the IPM practices in different crops. She appreciated the efforts made by the farmers of Bambawad village and Rice NCIPM team for successful implementation IPM programme at village level. She also congratulated the IPM farmers for successfully managing the pests in Basmati rice without spray of any chemical during 2012 season. Dr. R.K. Tanwar, Rice Team Leader apprised the farmers about the role of pest monitoring, economic threshold level and need-based application of pesticides in managing the pest. A small exhibition was also organized in which posters and live material of bio-agents was displayed to bring awareness among farmers visiting from adjoining villages.

Farmers' Field School IPM at Rambha-Singhoi-Singhoa (Karnal, Haryana)

A Farmers' Field School was organized on `Integrated Pest Management in Onion Crop' at the adopted IPM villages `Rambha-

Singhoi-Singhoa', Block Indri, District Karnal, Haryana on 18th December, 2012 under the new institute project `Validation of deliverable IPM technology for onion crop' with a view to bring awareness among vegetable growers as well for validation and promotion of IPM technology in the onion crop, which is grown in about more than 50 acre area in these villages. Onion occupies an important place among a basket of vegetables grown in Haryana. This crop is however, infested by several pests namely thrips, purple blotch, Stemphylium blight and nematodes, which can be managed by applying 2-5 sprays in a season, however, farmers resort to 5-6 chemical sprays which can be avoided/reduced using IPM technology. This meeting was organized mainly to make the growers aware about the use of biopesticides and avoidance of injudicious use of hazardous chemicals in vegetable crops in general and onion in particular. Scientists from NCIPM and officials from NHRDF apprised the growers about the important components of IPM programme The *Goshthi* was attended by more than seventy farmers from Rambha, Singhoi and Singhoa and other neighbouring villages.

Dr H.R. Sardana briefed about the various IPM interventions to be followed in onion crop at various stages. He further said that IPM in onion will be initiated in about 10 acres, which will be gradually increased covering whole of Karnal district in 2-3 years. Other scientists from NCIPM, Dr. M.N. Bhatt and Dr. R. V. Singh also addressed the farmers and educated them about the importance of diseases management in onion with the minimum use of chemical pesticides. The focal point was the raising of healthy nursery and need-based application of safer pesticides. The lead IPM farmer, Mr. Mohinder Singh narrated about the use of ITK (cow dung, ash) in onion for managing thrips and as a source of potash. The onion farmers were very eager to adopt IPM in their fields.

Kisan Pathshala at Daha Jagir -Bajidan Jattan-Madanpur-Sirsi (District Karnal, Haryana)

A `*Kisan Pathshala*' was organized on `Integrated Pest Management in Bell Pepper' at the adopted IPM villages `Daha Jagir – Bajidan Jattan-Madanpur-Sirsi' of District Karnal, Haryana on 1 November, 2012 under National Horticulture Board (NHB) Project `Demonstration, Promotion and Popularization of IPM in bell pepper and tomato' with a view to study the impact of IPM in bell pepper and constraints faced by farmers in implementing IPM. Almost entire area of 125 acres has been covered under IPM in bell pepper. Dr H.R. Sardana said that IPM will have larger and more tangible impact only when more area is brought under IPM and it is adopted by all farmers in a cooperative

manner. Mr. Bhati, Deputy Director, National Horticulture Board interacted with them regarding the area undertaken, benefits due to impact of IPM technology on produce, yield and quality. All the vegetable growers informed about significant reduction in consumption of chemical pesticides, increase in bell pepper yield, better quality produce, etc. as a result of IPM implementation under NHB. Bell pepper growers expressed their willingness to continue with the IPM technology in bell pepper beyond 2012-13 even if the project was discontinued, which indicated the impact of IPM technology demonstrated under the above scheme.

Organizing Training Programmes/Field visits

Training imparted under CROPSAP (Mango) project

One-day training programme on e-pest surveillance and advisory for mango under CROPSAP (Horticulture) Project was organized on 18 Dec 2012 at BSKKV, Dapoli Campus in collaboration with Dept of Horticulture, Government of Maharashtra. In the trainings, data entry operators, technical officers and data approval officers of four districts namely Sindudurg, Raigarh, Ratnagiri

and Thane participated. Dr. H.K.Patil presided over the training and apprised the trainees of the genesis of the project. He provided the guidance for successful implementation of the project. Dr. D.B. Ahuja briefed up about the surveillance plan and the various project activities and the data sheet that is being used by pest scout and pest monitor for recording the pest incidence data and also laid emphasis on the benefit of the surveillance. Dr. S.K. Godse, Entomologist and nodal officer of CROPSAP (Hort.) Project at Dapoli instructed the trainee about the pest problems likely to affect the production and cultivation of mango adversely. He told that hopper activities have started and its incidence on mango tree is seen on shoots. Pest Scouts/field staff have been recruited and training on identification of pests and their occurrence/incidence, was held on 23 Nov 2012 in which scouts were trained for identification of pests and how to record data. Emphasis was laid on procedure of surveillance plan. Format of pest advisory was also discussed by. Discussions were made on ETL and reporting system. Sh Niranjan Singh, Scientist at NCIPM trained the participant about the operation of software viz., data entry, village registration and tracking of data, user password and creation of user Id etc. There were queries and questions related to village registrations, tracking of data and pest advisories which were attended.

Student-farmer interaction visit

A field visit was arranged for students of IPM course PP516 and Ent 502 offered by Post graduate students of Indian Agricultural Research Institute, New Delhi to farmers' fields in erstwhile adopted Palari village of Sonipat district for providing hands-on trainings and acquainting the students about the implementation of various IPM components adopted by farmers in rainy season cauliflower. Different IPM components such as application of

Trichoderma to FYM and its application in nursery field, formation of raised bed with mechanical device/ implements operated by tractor, monitoring of adults of *Spodoptera litura* pheromone traps, scouting of pest damage, need-based application of safer pesticides, conservation of natural enemies, particularly *Telenomus* egg parasitoid of *S. litura*, adoption of mechanical and cultural methods, etc. for reducing the number of application of pesticides. Farmers are still using the improvised method of preparation of raised bed in nursery, application of *Trichoderma*, need-based application of pesticides, etc. Students interacted with farmers and learnt about the strategy for implementation of IPM programme. Forty participants including the course instructor Dr. Gogoi, Principal Scientist and farmers attended the training programme.

Forthcoming events

Under the chairmanship of Dr. Anupam Varma, Adjunct Professor, Division of Plant Pathology, Indian Agricultural Research Institute, New Delhi, the Quinquennial Review Team has been constituted by ICAR to review the work done by NCIPM during 2008-12. The honourable members of the committee are Dr. A.N. Mukhopadhyay, former Vice Chancellor, Assam Agriculture University, Jorhat, Dr. B.V. Patil, Vice Chancellor, University of Agricultural Sciences, Dr. Virendra Kumar, Professor (Agril Economics), Department of Agril Economics, Extn Edn & Rural Sociology, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur and Dr. D.J. Patel, former Principal, BA College of Agriculture, Anand Agril. Univ., Anand.

Dr. C. Chattopadhyay takes over as Director of NCIPM

Born at Kolkata on 06 October 1962, Dr C. Chattopadhyay obtained his Ph.D. degree from the Indian Agricultural Research Institute, New Delhi in 1992. He joined the Indian Council of Agricultural Research as Scientist (ICAR: ARS) in 1992 and served at the Directorate of Oilseeds Research, Hyderabad (1993-99), as Senior Scientist and Principal Scientist at the Directorate of Rapeseed-Mustard Research, Bharatpur (1999-2009) and as Head, Division of Crop Protection, Indian Institute of Pulses Research, Kanpur (2009-12) before joining the National Centre for Integrated Pest Management, New Delhi on 30 Nov 2012. His areas of research interest are host resistance to plant diseases, disease and insect-pest forecasting, bio-intensive integrated pest management. He has 65 research papers in Indian and foreign journals of repute to his credit besides a patent, five books, etc. and has mentored five Ph.D. and nine M.Sc. graduate programmes. He has visited Australia, Bangladesh, Cambodia and UK. His contributions in the field of crop protection have been recognised by several awards and honours viz., the P.P. Singhal Memorial Pesticides India Award (Indian Society of Mycology and Plant Pathology, 1996), *Vividhlaxi Audyogik Samshodhan Vikas Kendra (VASVIK)* award for Agricultural Sciences & Technology (VASVIK Apex Committee, Mumbai, 2004), Hexamar Agricultural Research and Development Foundation (HARDF) Award (Indian Society of Oilseeds Research, 2005), Prof V.P. Bhide Memorial Award (Indian Society of Mycology and Plant Pathology, 2010), Vice-President of the Plant Protection Association of India (2010-12), etc. He has also been Fellow of the National Academy of Agricultural Sciences – India, Plant Protection Association of India, Indian Phytopathological Society, Indian Society of Mycology and Plant Pathology, Indian Society of Oilseeds Research and Bioved Research Institute of Agriculture & Technology.

हिन्दी चेतना सप्ताह 2012 का आयोजन

राष्ट्रीय समेकित नाशीजीव प्रबन्धन केन्द्र, पूसा नई दिल्ली में **हिन्दी चेतना सप्ताह 2012** का आयोजन निदेशक राजभाषा, भा.कृ.अ. प. के निर्देशानुसार दिनाँक 14 से 22 सितम्बर 2012 तक किया गया । दिनाँक 14 सितम्बर 2012 को उद्घाटन समारोह मनाया गया जिसकी अध्यक्षता केन्द्र के (कार्य.) निदेशक महोदया, डॉ. सरोज सिंह द्वारा की गयी। हिन्दी अनुभाग के प्रभारी, डॉ. आर. वी. सिंह के द्वारा हिन्दी चेतना सप्ताह के विज़य पर प्रकाश डाला गया तथा कार्यक्रम का संचालन किया गया। केन्द्र के सभी अधिकारियों, कर्मचारियों को सम्बोधित करते हुए हिन्दी भाषा के महत्व पर प्रकाश डाला गया। इस हिन्दी चेतना सप्ताह के अन्तर्गत केन्द्र के सभी स्तर के कर्मचारियों, वैज्ञानिकों एवं अधिकारियों हेतु विभिन्न प्रतियोगिताएं आयोजित की गयी ताकि सभी की इस कार्यक्रम में सहभागिता हो सके। दिनाँक 14 सितम्बर 2012 को **श्रुतिलेख** प्रतियोगिता का आयोजन किया गया जिसमें सभी श्रेणी के कर्मचारियों ने भाग लिया। दिनाँक 17 सितम्बर 2012 को **राजभाषा नीति, वैज्ञानिक शब्दावली एवं सामान्य ज्ञान** प्रतियोगिता का आयोजन किया गया, जिसमें वैज्ञानिक एवं तकनीकी कर्मचारियों ने हिस्सा लिया। तत्पश्चात दूसरी पाली में सभी **सहायक कर्मचारियों** हेतु **शब्द ज्ञान** पर प्रतियोगिता रखी गयी।

विशेष रूप से **प्रशासनिक वर्ग** के लिए दिनाँक 18 सितम्बर 2012 को **राजभाषा नीति, प्रशासनिक शब्दावली एवं अनुवाद** प्रतियोगिता का आयोजन किया गया, जिसमें सभी प्रशासनिक वर्ग के कर्मचारियों ने भाग लिया। दूसरी पाली में **निबन्ध प्रतियोगिता** का आयोजन किया गया, जिसका शीर्षक था **"जल समस्या - कारण एवं निवारण"** इसमें सभी वर्ग के कर्मचारियों एवं अनुसंधान सहायकों ने भी भाग लिया। दिनांक 22 सितम्बर 2012 को **वाद-विवाद प्रतियोगिता** का आयोजन किया गया, जिसमें सभी वर्ग के कर्मचारियों ने बढ़-चढ़कर हिस्सा लिया। तत्पश्चात उसी दिन **कविता पाठ** प्रतियोगिता का आयोजन भी किया गया, जिसमें सभी कर्मचारियों ने भाग लिया और विभिन्न प्रकार की कविता पाठ करके आनन्द उठाया। उसके बाद दिनांक 22 सितम्बर 2012 को ही इस कार्यक्रम के हिन्दी चेतना सप्ताह के अंतर्गत केन्द्र में हिन्दी को विभागीय कार्यों में प्रोत्साहन देने हेतु **नगद पुरस्कार योजना** के लिए आमंत्रित कर्मचारियों को प्रसश्ति पत्र के साथ नगद पुरस्कार भी वितरित किए गए। इस समारोह के मुख्य अतिथि डॉ. टी. पी. राजेन्द्रन, सहायक महानिदेशक, भा. कृ. अ. प. नई दिल्ली थे। इस प्रतियोगिता के विजेता प्रतियोगियों का निर्णय डॉ. टी. पी. राजेन्द्रन, सहायक महानिदेशक, डॉ. कुमुदिनी नौटियाल उपनिदेशक (राजभाषा) भा. कृ. अ. प. कृषि भवन, नई दिल्ली एवं कवयित्री, श्रीमती अल्का सिंह के द्वारा किया गया। दिनांक 22 सितम्बर 2012 को ही **हिन्दी चेतना सप्ताह 2012 का समापन समारोह** केन्द्र के (कार्य.) निदेशक एवं राजभाषा कार्यान्वयन समिति की अध्यक्षा डॉ. (श्रीमती) सरोज सिंह की अध्यक्षता में सम्पन्न हुआ एव प्रतियोगिता में विजेताओं को पुरस्कार वितरित किए गए।

Deputation

- Shri M. K. Mulani was relieved on 24 July 2012 to join CBSE, New Delhi on deputation.

Joining

- Shri Krishan Kumar joined as Sr. F&AO of NCIPM on 01 November 2012.
- Dr Chirantan Chattopadhyay joined as Director of NCIPM on 30 November 2012 (A.N.).

Promotion

- Shri Pradeep Kumar was promoted from LDC to UDC w.e.f. 12th December 2012.
- Dr.(Mrs.) S. Vennila, Dr. M. Narayan Bhatt, Dr. Surender Kumar Singh, Dr. Naved Sabir and Dr. (Mrs.) Sumitra Arora were promoted from Sr. Scientist to Principal Scientist. They are wished a better future by members of NCIPM family.

Obituary

- Sh Sanjay Chopra (T-2), Dr. D. K. Garg (Principal Scientist) and Sh Suresh Chand (T-2) left for their respective heavenly abodes on 22 July, 11 and 20 September 2012, respectively. Members of NCIPM family condole their passing away and wish their souls may rest in peace.

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