

# Annual Report

# 2015-16



## **INDIAN PHYTOPATHOLOGICAL SOCIETY**

Division of Plant Pathology  
Indian Agricultural Research Institute  
New Delhi 110012, India  
[www.ipsdis.org](http://www.ipsdis.org)

# ANNUAL REPORT

2015-16



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# PREFACE

I am happy to present the Annual Report 2015-16 of the Indian Phytopathological Society as the President and take pride in mentoring this society, which has contributed significantly to the cause of Plant Pathology research in the country.

I wish to convey my gratefulness to all the members of the Indian Phytopathological Society for unanimously electing me as President of this prestigious society. I pay my tributes to all the eminent Plant Pathologists of India and past Presidents of the Indian Phytopathological Society, who have nurtured the society, brought international recognition for the society and contributed significantly for the subject.




This year, Society in collaboration with the ICAR institutes based in Delhi and adjoining areas, organized 6th International Conference on “Plant, Pathogens and People” with the theme “Challenges in Plant Pathology to benefit Humankind”, on February 23-27, 2016 at NASC Complex, New Delhi, India. Total 750 delegates including 68 foreign delegates belonging to 36 countries participated in the conference. Seven Zonal Chapters of the Society also actively organized symposia on different themes on important aspects of Plant Pathology in their respective Zones. The International workshop on Trichoderma and Gliocladium was also approved to be organized by “Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola”, “Association of Plant Pathologist” and “Indian Phytopathological Society, New Delhi” in November 2016. A new award is been instituted (“Prof. S. Sinha Memorial Award”) by the Society during the year to honour Prof. S. Sinha.

The memorandum of understanding between the American Phytopathological Society (APS) and the Indian Phytopathological Society (IPS) has been signed during the inaugural session of 6<sup>th</sup> International Conference. This MOU would provide greater association between the two societies, increase memberships in both societies, joint planning of sessions in annual meetings, webinar development and eventually the development of an intergovernmental funding mechanism modeled after US - Israel BARD for joint research projects. The agreement is valid up to September, 2019. I consider, this is a milestone in the history of Indian Phytopathological Society. As part of MOU, APS has extend the benefits to IPS by offering travel grant to IPS student members to attend annual APS meetings in USA every year and joint APS-IPS meeting at International Congress of Plant Pathology, Boston, USA.

The financial support extended for International Conference by Indian Council of Agricultural Research (ICAR), New Delhi; SERB, Department of Science and Technology, New Delhi; Department of Biotechnology (DBT), New Delhi; National Horticulture Board (NHB), Gurgaon, Haryana and NABARD, Mumbai are gratefully acknowledged. The financial support for publication of journal Indian Phytopathology by Indian Council of Agricultural Research (ICAR), New Delhi and SERB, Department of Science and Technology, New Delhi are also gratefully acknowledged.

A summarized salient major activities, achievements and annual events of the society in totality (from all zones) is documented in this document with the hope that it will provide an opportunity to the members for the better insight of the society activities, so that they will provide useful constructive suggestions for the improvements in future.

  
(A.K. Misra)  
President

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# About the Society

The Indian Phytopathological Society (IPS) is a professional society for promoting the cause of science of Phytopathology. The Society focuses in the field of Mycology, Plant Pathology, Bacteriology, Virology, Phytoplasmology and Nematology. It provides a unique platform to the scientists working in the field of plant pathological related research to share their views and research achievements. It also keeps members informed the various activities related to the development of Plant Pathology and about the members of the society. The society was basically formed with the following objectives:

- (i) To advance the cause of Mycology and Plant Pathology in India.
- (ii) To encourage and promote mycological and plant pathological studies and research in the country.
- (iii) To disseminate the knowledge of Mycology and Plant Pathology.
- (iv) To facilitate closer association and relations among members and other scientific workers in India and abroad.

It was the afternoon of 28<sup>th</sup> February, 1947, when about 20 mycologists and plant pathologists from various parts of the country assembled at Indian Agricultural Research Institute, New Delhi. A meeting was conveyed by Dr. B.B. Mundkur under the chairmanship of Prof. S.R. Bose to discuss the possibilities of forming a society to bring together all persons interested in the study of fungi, in view of the fact that plant pathology had begun to assume increasingly greater importance in universities and colleges as well as in State Agriculture Departments. The same day unanimous decision was taken and the Indian Phytopathological Society (IPS) was established. A small sub-committee, consisting of Prof. J.F. Dastur (chairman), Dr. S.R. Bose, Dr. B.N. Uppal, Dr. A. Sattar and Dr. R.S. Vasudeva as members and Dr. B.B. Mundkur as convener was formed to take steps for

starting a journal, framing constitution and bylaws of society. Dr. Mundkur was requested to act as Secretary-Treasurer for 1947 or until new office-bearers were elected. With the zeal and enthusiasm, characteristic of Dr. Mundkur, he devoted his full energy for the given task and invited all persons interested in the study of plant pathology in India and abroad to become members of the society. He enrolled a large number of mycologists and plant pathologists working in India and abroad as members of the Society. He even enrolled persons who had some interest in Plant Pathology. It is said that once he was travelling in a train and while talking to fellow passengers impressed upon them and enrolled them as member of the society. In this way he increased the number of members and much needed finance. Later, industrial concerns interested in the subject, were also approached to become patrons of the Society to protect its financial status. Now, over 2,000 members of the society are spread in India and approximately 50 other countries. It is the third largest society of plant pathologists in the world. They comprise scientists, teachers, technicians, students, extension workers, company for the society and for the cause of plant pathology.

Subsequently, several other activities and awards were added time to time in the fold of Indian Phytopathological Society.

The Society was registered on 3-11-1949, under the Societies Registration Act XXI of 1860 with Registration No. S399 of 1949-50. A very significant step to make the Society stable was taken in the XI Annual General Meeting held in Delhi on 2nd January, 1959 when it was resolved that the Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi would be the permanent Headquarters of the Society.



## Zonal Chapters

The society was earlier having six zones which were later increased to eight zones. Each zone elect or nominate its Zonal President and Councillor every year. The details of zonal chapters are as follows:

Zone	States
Delhi Zone	Delhi
Northern Zone	Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir and Punjab
Mid-Eastern Zone	Uttar Pradesh and Uttarakhand
Eastern Zone	Andaman and Nicobar Island, Bihar, Jharkhand, Odisha and West Bengal
Central Zone	Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Rajasthan and Telangana
Western Zone	Gujarat and Maharashtra
Southern Zone	Goa, Karnataka, Kerala, Pondicherry and Tamil Nadu
North-Eastern Zone	Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura

## Executive Council

The society is having Executive Council, to run the society smoothly, which takes policy decisions. It consists of 25 members and meets at least twice a year. Following are the members of executive council.

President	President Elect will succeed
President-elect	Elected by General Body
Secretary	Elected by General Body
Joint Secretary	Elected by General Body
Treasurer	Elected by General Body
Chief Editor	Elected by Executive Council
Senior Editor	Elected by Executive Council
Zonal President & Councillor	Elected by General Body
Ex-officio	Head, Division of Plant Pathology, IARI, New Delhi





# Executive Council

## Executive Council 2015-16

<i>President</i>	: Dr. A.K. Misra, Central Institute for Subtropical Horticulture, Lucknow, Uttar Pradesh, Email: misra_a_k@yahoo.co.in
<i>President Elect</i>	: Dr. P. Chowdappa, Central Plantation Crops Research Institute, Kasaragod, Kerala Email: pallem22@gmail.com
<i>Secretary</i>	: Dr. Pratibha Sharma, Indian Agricultural Research Institute, New Delhi Email: psharma032003@yahoo.co.in
<i>Joint Secretary</i>	: Dr. R.K. Sharma, Indian Agricultural Research Institute, New Delhi Email: rksharma35@yahoo.co.in
<i>Treasurer</i>	: Dr. Dinesh Singh, Indian Agricultural Research Institute, New Delhi Email: dinesh_iari@rediffmail.com
<i>Chief Editor</i>	: Dr. R.K. Khetarpal, CABI, NASC Complex, New Delhi, Email: r.khetarpal@cabi.org
<i>Senior Editor</i>	: Dr. Rashmi Aggarwal, Indian Agricultural Research Institute, New Delhi Email: raeditor.ips@gmail.com
<i>Ex-officio</i>	: Head (Plant Pathology), Dr. Rashmi Aggarwal, Indian Agricultural Research Institute, New Delhi, Email: rashmi.aggarwal2@gmail.com

## Zonal Chapters (2015)

Zonal President (CZ)	: Dr. B.S. Rathore, S.K. Rajasthan Agricultural University, Jodhpur, Rajasthan Email: rathorebs1957@rediffmail.com
Zonal Councillor (CZ)	: Dr. Richhpal Singh, Government College, Jodhpur, Rajasthan Email: richhpalsinghs@yahoo.co.in
Zonal President (DZ)	: Dr. V. Celia Chalam, National Bureau of Plant Genetic Resources, New Delhi Email: mailcelia@gmail.com
Zonal Councillor (DZ)	: Dr. Jameel Akhtar, National Bureau of Plant Genetic Resources, New Delhi Email: jameelbau@gmail.com
Zonal President (EZ)	: Dr. Apurba Kumar Chowdhury, Uttar Banga Krsihi Viswavidyalaya, Coochbehar, West Bengal, Email: akc_ubkv@rediffmail.com
Zonal Councillor (EZ)	: Dr. Prateek Madhab Bhattacharya, Uttar Banga Krsihi Viswavidyalaya, Coochbehar, West Bengal, Email: pmb_ubkv@yahoo.co.in
Zonal President (MEZ)	: Dr. R.S. Upadhyay, Banaras Hindu University, Varanasi, Uttar Pradesh Email: upadhyay.bot@gmail.com
Zonal Councillor (MEZ)	: Dr. B.K. Sarma, Banaras Hindu University, Varanasi, Uttar Pradesh Email: birinchi_ks@yahoo.com
Zonal President (NZ)	: Dr. H.R. Gautam, Dr. Y.S. Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh, Email: hrg_mpp@yahoo.com
Zonal Councillor (NZ)	: Dr. Dharmesh Gupta, Dr. Y.S. Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh, Email: dkguhf@rediffmail.com



- Zonal President (NEZ) : Dr. S.V. Ngachan, ICAR Research Complex for NEH Region, Umiam, Meghalaya  
Email: svngachan@rediffmail.com
- Zonal Councillor (NEZ): Dr. Pankaj Baiswar, ICAR Research Complex for NEH Region, Umiam, Meghalaya, Email: pbaiswar@yahoo.com
- Zonal President (SZ) : Dr. M.K. Naik, University of Agricultural Sciences, Raichur, Karnataka  
Email: manjunaik2000@yahoo.co.in
- Zonal Councillor (SZ) : Dr. Gururaj Sunkad, University of Agricultural Sciences, Raichur, Karnataka  
Email: sunkadgururaj@gmail.com
- Zonal President (WZ) : Dr. D.G. Hingole, College of Agriculture, Jalna, Maharashtra  
Email: dilipkumarhingole@gmail.com
- Zonal Councillor (WZ) : Dr. Kshama A. Anubhule, Badrinarayan Barwale Mahavidyalaya, Jalna, Maharashtra, Email: kshamarajmane@gmail.com
- (CZ: Central Zone; DZ: Delhi Zone; EZ: Eastern Zone; MEZ: Mid Eastern Zone; NZ: Northern Zone; NEZ: North Eastern Zone; SZ: Southern Zone; WZ: Western Zone)**

### Advisory Board

Dean W. Gabriel, USA; A.J. Gibbs, Australia; M.N. Khare, India; S.M. Paul Khurana, India; C. Manoharachary, India; S. Nagarajan, India; Y.R. Sarma, India; M.S. Swaminathan, India; R.D. Wilcoxson, USA

### Honorary Fellows

M.R.S. Iyengar, India; C.D. Mayee, India; A.N. Mukhopadhyay, India; R.S. Singh, India; A.S. Summanwar, India; J.P. Tewari, Canada; Anupam Varma, India; R.D. Wilcoxson, USA



# Mid-term EC meeting

**The Mid-Term EC Meeting of the Society was held on June 27, 2015 at Committee Room, Division of Plant Pathology, IARI, New Delhi**

Following members of the Executive Council attended the meeting: Drs. A.K. Misra, President; Pratibha Sharma, Secretary; R.K. Sharma, Joint Secretary; Dinesh Singh, Treasurer; Rashmi Aggarwal, Senior Editor & Ex-officio; V. Celia Chalam, Zonal President (DZ); Jameel Akhtar, Zonal Councillor (DZ); S.V. Ngachan, Zonal President (NEZ); Pankaj Baiswar, Zonal Councillor (NEZ); Gururaj Sunkad, Zonal Councillor (SZ); D.G. Hingole, Zonal President (WZ); B.S. Rathore, Zonal President (CZ); Richhpal Singh, Zonal Councillor (CZ); H.R. Gautam, Zonal President (NZ); Dharmesh Gupta, Zonal Councillor (NZ) and A.K. Chaudhary, Zonal President (EZ).

Other EC members namely, Drs. P. Chowdappa, President-Elect; R.K. Khetarpal, Chief Editor; M.K. Naik, Zonal President (SZ); Prateek Madhab Bhattacharya, Zonal Councillor (EZ); R.S. Upadhyay, Zonal President (MEZ); B.K. Sarma, Zonal Councillor (MEZ); Dr. Kshama A. Anubhule, Zonal Councillor (WZ) could not attend the meeting due to their pre-occupied schedule.

Dr. Pratibha Sharma, Secretary, welcomed Dr. A.K. Misra, President and other EC members who have taken keen interest to attend this meeting despite their busy schedule.

**The following agenda items were discussed during the meeting:**

## Award Nomination

A draft guidelines for the award nomination was placed among the EC members for their suggestion and finalization. The EC approved the guidelines for

call of Nominations and selections for IPS Awards

Guidelines for call of Nominations and selections for IPS Awards will be as follows:

**Calling for nominations:** IPS will invite applications for the different awards in two ways:

- (i) **Open Nomination:** The members of the Society who wish to apply for different awards given by the Society can file their application. The application of the nomination should be as per the format given by the Society which should be duly proposed and seconded by two Fellows of IPS. A fellow can propose/ recommend maximum of two candidates in a year. One member can apply for only one award during the same year.
- (ii) **EC Nomination:** Nomination for the different awards given by the Society each year are invited by the Society from the members of the Executive Council (EC). EC nominees need not to be proposed and seconded by the fellows of the Society.

## Nomination Procedure

Nominations are invited by the Society in the last week of July/August every year (OR alongwith the first circular of national symposium to be held every year) giving a clear time for the members to file their application for nomination. The award for the year called for is given the next year. All the Members shall be intimated by post/electronically about the filing of nominations and applications. The format shall be made available in the website of IPS ([www.ipsdis.org](http://www.ipsdis.org)).

## Procedure for selection of awardees

1. Nominations is invited by the Society for the different awards from the members of the Executive Committee (E.C.) of the Society as well



as from IPS members through open nominations procedure.

2. Nominations received is preliminary scrutinized by the Screening Committee, which select 5 names for each award for further recommendation by the Judging Committee.
3. Judging Committee recommends one name for each award to the Secretary in a sealed envelope.
4. Any member of the Society, who has filed his/her nomination for any award can not be the member of either Screening or Judging Committee during the year.
5. Secretary, IPS, place the result before the EC for approval and subsequently in GB for declaration.

**Award Screening Committee** will be constituted by the Secretary in consultation with the President.

**Judging Committee** will also be constituted by the Secretary in consultation with the President which consists of 4-5 members preferably Past Presidents and Senior Fellows of the Society, for the purpose of recommendation one name for the award.

#### **“Registration and Processing Fee”**

Nomination/Application form submitted for the awards/FPSI should be accompanied with a demand draft of Rs. Rs. 500.00 (Rs. Five hundred only) in favour of **“Indian Phytopathological Society”** payable at New Delhi, as processing fee for the award, which will be non-refundable whether nominees are selected or not. No application will be accepted without processing fee.

#### **TREASURER’S REPORT**

Dr. Dinesh Singh (Treasurer, IPS) presented the financial report of IPS and it was felt that marked improvement in collection of fund has been achieved during this period and Society is in sound financial position.

#### **EDITOR’S REPORT**

On behalf of Chief Editor, Dr. Rashmi Aggarwal, Sr. Editor, presented the report and informed the current status of manuscripts and informed the house that there is no backlog of the manuscripts and journal is timely and up to date. She also informed the house that March & June issues of 2015 have already been published and available online. The contents of September issues are also available online. She appreciated the Editorial Board Members for their support and efforts rendered refereeing and evaluation of the manuscripts.

#### **The decisions taken in the meeting is as follows:**

1. Dr. A.K. Misra contributed additional endowment amount of Rs. 2.30 Lakh (Rs. Two Lakh Thirty Thousand only) for A.P. Misra Life-time Achievement Award with the request to increase the frequency of the award from Biennial to Annual. The EC agreed on the proposal.
2. In view of decreasing submission rate of manuscripts, it was approved by the EC that membership fee will not compulsorily charge from the authors for publication of their manuscripts. However, the processing fee will be different for member and non-member author.
3. The increase in salary of IPS Secretariat were discussed and EC agreed for the increment.



# Zonal Activities

Zones	Date & Venue	Title
Northern Zone	September 28-29, 2015 YSPHAU, Solan, HP	Holistic Approaches for Plant Health Management
Western Zone	November 28-29, 2015 College of Agriculture Badnapur, Jalna	Prospects in Diversity, Diagnosis and Management of Diseases of Horticultural and Field Crops
Mid-Eastern Zone	December 18-19, 2015 BHU, Varanasi	Impact of Climate Change on Plant-microbe Interactions and its Implications
Southern Zone	January 05-06, 2016 UAS, Raichur	Recent Advances in Plant Pathological Research and Education
Eastern Zone	January 7, 2016 UBKV, Coochbehar, WB	Recent Tools in Plant Disease Diagnostics
North-Eastern Zone	January 15-16, 2016 ICAR-RC-NEH Region Umiam, Meghalaya	Plant Health Management in North East India
Delhi Zone	February 20, 2016 IARI, New Delhi	Biosecurity in Food Value Chain

# Northern Zone

Zonal President: Dr. H.R. Gautam  
Zonal Councillor: Dr. Dharmesh Gupta

## Northern Zone Meeting & National Symposium on “Holistic Approaches for Plant Health Management” held at Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni, Solan, Himachal Pradesh, September 28-29, 2015

Two day National Symposium was held on 28-29 September, 2015 on the theme of “Holistic Approaches for Plant Health Management”, organized by Department of Plant Pathology of Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan. In the inaugural function on 28th September, Dr. N.P. Dohroo, Professor and Head of Department of Plant Pathology, welcomed the Chief Guests, other guests and delegates to the symposium. Symposium was inaugurated by distinguished world renowned scientist of plant pathology, Dr. R.S. Mehrotra at Nauni. In his inaugural address, Dr. Mehrotra, stressed the need for the judicious use of pesticides in agriculture. He informed the gathering that the use of chemical pesticides is very less (500 gram/ hectare) in India in comparison to developed countries where it is more than 10 kilograms per hectare. On this occasion, the chief guest also released a souvenir and also a T-Shirt signifying the use eco-friendly disease management practices in agriculture. The inaugural session was presided over by the Honourable Vice Chancellor, Dr.

Vijay Singh Thakur. He stressed the need for improving the post-graduation teaching in agriculture and particularly in Plant Pathology. In this symposium around 100 scientists participated from states like Gujarat, Rajasthan, Utterakhund, Punjab, Haryana, Chandigarh and Jammu and Kashmir. Dr. R.C. Sharma, Director of Research highlighted the achievements of Plant Pathology Department in management of economically important diseases like Apple Scab, premature leaf fall of apple, ginger rhizome rot, buck-eye rot of tomato, and management of wilt of gladiolus and carnation. In the inaugural function, Dr. Harender Raj Gautam, President of Indian Phytopathological Society of North Zone stressed the need for use of bio-resources in disease management of the crops. Dr. J.N. Sharma, Professor, highlighted the role of professional societies in propagating the science of plant pathology.

National Symposium kept its focus on all important disease problems of important cereal, fruit, vegetable and ornamental crops of north India which constitute



Release Abstract & Souvenir in the Inaugural session of the Northern Zone Symposium





the major production area of food commodities. Eight eminent scientists were invited to deliver talks on important disease problems of wheat, potato, oil seed crops, vegetable crops and mushrooms and the delegates were benefitted with their talks which focussed on recent advances in disease management strategies. There were 109 contributory research papers by the scientists and more than 90 per cent were presented in the two poster sessions. In this symposium, there was Prof. M.J. Narasiman Academic Merit Award Contest in which 17 students and scientists participated. Ms. Aditi Sharma, Ph.D. student of Department of Plant Pathology, Dr. Y.S. Parmar UHF, Nauni stood first and Ms Shikha Sharma of Punjab Agriculture University, Ludhiana stood second and both have been recommended for the National contest to be held during the 6<sup>th</sup> International Conference being held at Delhi in February, 2016. Extension officers of State Agriculture and Horticulture Departments and farmers also attended the symposium and interacted with the delegates.

The valedictory function was presided over by Dr. B.P. Singh, Director, Central Potato Research Institute, Shimla. In his address, he stressed the need for more vigil and stringent measures for import of planting material from other countries. He also cautioned the scientists about the changing pathogen populations under changing climatic conditions throughout the world. He appreciated the approach of the national symposium which focussed on 'plant health management' rather 'disease management'. In the award contest for the young researchers of plant pathology on north India, Ms Aditi Sharma bagged first prize and was recommended for the National contest at Delhi.

The proceedings of the symposium were well publicized in the local media, internet and also on the national media. Doordarshan, Shimla telecast a special programme of 20 minutes on the two days proceedings of the symposium on 06.10.2015. The symposium succeeded in its objectives to effectively communicate the research findings to all the intended beneficiaries.



Delegates in the Northern Zone Symposium

# Western Zone

Zonal President: Dr. D.G. Hingole  
Zonal Councillor: Dr. Kshama A. Anubhule

## Western Zone Meeting & National Symposium on “Prospects in Diversity, Diagnosis and the Management of Diseases of Horticultural and Field Crops” held at College of Agriculture, Badnapu, Maharashtra, November 28-29, 2015

Indian Phytopathological Society's (New Delhi) National Symposium (West Zone) on “Prospects in Diversity, Diagnosis and the Management of Diseases of Horticultural and Field Crops” Was organized during 28-29<sup>th</sup> November, 2015, at the Department of Plant Pathology, College of Agriculture, Badnapur in collaboration with Badrinarayan Barwale College,

Jalna.

Dr. S.D. Sawant, Director (NRC On Grapes, Pune) highlighted the use of eco-friendly chemicals in the management of different diseases. He also emphasized the adverse effects of agrochemicals on human health and environment as a whole. Dr. A.S. Dhawan, Director of Instruction and Dean (F/A)



Inaugural session of the Western Zone Symposium

VNMKV Parbhani delivered his presidential speech. He urged to organize such symposiums to boost of new budding scientists. Introductory remarks were given by Dr. D.N. Dhutraaj, Associate Dean and Principal, College of Agriculture Badnapur, Dr. D.G. Hingole, Organizing Secretary delivered welcome address and the vote of thanks were expressed by Dr. Kshama A. Anbhule, (Co-Organizing Secretary).

There were 10 sub-themes distributed amongst six technical sessions. Each technical session comprised the lead lectures of the eminent Plant Pathologists, oral and poster paper presentations.

### Prof. M.J. Narsimhan Academic Award Contest

For this contest, the Jury's were Dr. V.V. Datar, Dr. B.P. Kurundkar and Dr. Sunita J. Magar. Out of Four





registered contestants, only three viz. Rishi Mishra, S. S. Wagh and S.P. kale presented their research work. Based on performance evaluation, the jury declared the nominations of S.P. kale and S.S. Wagh for their participation in the 6<sup>th</sup> International Symposium of IPS being organized at IARI, New Delhi, during 23-27, February, 2016.

This two days symposium was concluded with Plenary session coupled with Valedictory function. This function

was presided over by Hon. Dr. B. Venkateswarlu, Vice-Chancellor, VNMKV, Parbhani. The chief guest was Dr. Pratibha Sharma, Secretary, IPS, New Delhi.

All the chairman's presented brief reports of their respective Technical Sessions. Certificates to the Award Winners were distributed with the auspicious hands of the dignitaries on the Dias. The function concluded with vote of thanks expressed by Dr. D.G. Hingole.



Delegates in the Western Zone Symposium

## Mid-Eastern Zone

Zonal President: Dr. R.S. Upadhyay  
Zonal Councillor: Dr. B.K. Sarma

### Mid-Eastern Zone Meeting & National Symposium on “Impact of Climate Change on Plant-microbe Interactions and its Implications” held at Banaras Hindu University, Varanasi, Uttar Pradesh, December 18-19, 2015

A two-day National Symposium & Mid Eastern Zone meeting of Indian Phytopathological Society was held on the theme “Impact of climate change on plant-microbe interactions and its implications” at Banaras Hindu University, Varanasi during 18-19 December, 2015. Prof. R.S. Upadhyay, Dept. of Botany, Institute of Science, Banaras Hindu University was Convener of the symposium; Dr. B.K. Sarma, Dept. of Mycology and Plant Pathology, Institute of Agricultural Sciences, Banaras Hindu University was Organizing Secretary; Dr. Richa Raghuvanshi and Dr. Neelam Atri, Dept. of Botany, Mahila Mahavidyalay, Banaras Hindu

University were Joint Organizing Secretaries. The symposium was attended by over 150 participants across the country. There were five technical sessions organized during the symposium on the themes such as (i) Impact of climate change on plant-pathogen interactions; (ii) Impact of climate change on plant-beneficial microbe interactions; (iii) Biological control of emerging pathogens of crop plants; (iv) Technological interventions for disease forecasting, diagnosis and management; (v) Biotechnology and Disease resistance.



Release Abstract & Souvenir in the Inaugural session of the Mid-Eastern Zone Symposium

All together there were 6 Key Note speeches, 3 Invited Talks, and 3 Oral Presentations were delivered during the symposium. In addition, presentations were made by scholars who had recently completed their Ph.D. for the prestigious Prof. M.J. Narasimhan Merit Academic Award of IPS from this zone. Two contestants Mr. Somnath Holkar, ICAR-IISR, Lucknow and Dr. Chetan, Keswani, Banaras Hindu University, Varanasi were selected from this zone for the contest

of Prof. M.J. Narasimhan Merit Academic Award at national level. Further, Dr. Dharmendra Kumar, Assistant Professor, NDUAT, Kumarganj, Faizabad delivered the M.K. Patel Memorial Young Scientist Award lecture during the symposium. A separate poster session was also organized and more that 60 posters were displayed.

During the symposium the participants deliberated on the above mentioned themes and all have agreed



to focus on research activities to reveal the changing pattern of interactions between plants and microorganisms under changing climatic scenario. Most of the speakers had presented their work on how microbes adapt to changing climatic scenario. Prof. V.P. Singh from University of Delhi talked on temperature-mediated climate change leads to adaptive evolution of microbial life under diverse environmental conditions, Prof. R.C. Dubey from Gurukul Kangri University, Haridwar talked on significance of exploitation of PGPR for management of soil-borne fungal pathogens for diverse soil and environmental conditions, Prof. K.P. Singh from GBPUAT, Pantnagar talked on a predictive program for forecasting ascospore maturation of *Venturia inaequalis* in apple, Dr. Dinesh Singh from IARI, New Delhi talked on recent developments in diagnosis and management of bacterial wilt of Solanaceous crops, Prof. P. Dwivedi from Banaras Hindu University

talked on significance of nitric oxide signalling in plant growth, development and crop protection, Dr. Amitava Rakshit from Banaras Hindu University talked on impact assessment of indigenous interventions including beneficial plant microbes for nutrient use efficiency for improving crop establishment, etc. Prof. A.N. Rai, Former Chairman NAAC and the Chief Guest of the Valedictory Function in his address said that climate change should not only be seen from a harmful angle. For example he said that climate change can help some useful microbes to acclimatize better and provide better results. He also mentioned that lichens are good indicators of climate change.

An 'Abstract Book' was published comprising abstracts of all presentations of the symposium. The Local Organizing Committee of the national symposium-cum-MEZ meeting of IPS is thankful to Indian Phytopathological Society, New Delhi for the support it received for organizing the national symposium.



Delegates of the Mid-Eastern Zone Symposium held at BHU, Varanasi



## Southern Zone

Zonal President: Dr. M.K. Naik

Zonal Councillor: Dr. Gururaj Sunkad

### **Southern Zone Meeting & National Symposium on “Recent Trends in Plant Pathological Research and Education” held at University of Agricultural Sciences, Raichur, Karnataka, January 05-06, 2016**

The national symposium on Recent Trends in Plant Pathological Research and Education was organized jointly by Department of Plant Pathology, University of Agricultural Sciences, Raichur and Indian Phytopathological Society (South Zone), New Delhi from 5-6th January 2016. The inaugural programme was started with welcome by Dr. M.K. Naik, President, IPS (South Zone) and Dean (PGS), UAS, Raichur. The symposium was inaugurated by Dr. S.R. Niranjana, Vice-Chancellor, Gulbarga University, Kalaburagi. In his inaugural remarks he stressed that plant diseases continued to exert toll on crop and food production. Diseases cause loss worth of several billions worldwide and reducing the yields by over 500 million tonnes annually. In modern agriculture biotechnology is one of the most promising technology in management of plant diseases. He emphasised the role of plant pathologists to achieve food security, plant pathologists must utilize biotechnological tools for diagnosis and management of plant diseases. The key

note address was given by Dr. C.D. Mayee, Ex. Chairman, Agricultural Scientists Recruitment Board, ICAR, New Delhi and Adjunct Professor, IARI New Delhi. In his keynote address, he emphasised that plant pathology has played significant role in the agricultural development of the country. A century of plant pathology research not only provided solution to several diseases that ravaged crop production in the country in the past but also made us self-reliant and confident to deal with any eventualities that is either presently facing the Indian Agriculture or may pose threat in the future. Extensive research on biology, epidemiology and management strategies helped to combat several destructive diseases that were limitation to Indian agriculture during last century. Nevertheless, new challenges to our economy are unending. Continuous selection pressure of resistance hosts or chemical pesticides leads to development of strains with higher virulence and higher pesticide resistance. Changing scenario of Agriculture has



Inaugural session of the Southern Zone Symposium



introduced new pathogen problems, which are being tackled efficiently and boldly from our past training. Advances in Molecular Plant Pathology ushered a new era where molecular diagnostic tools, have made pathogen detection and diseases diagnosis more rapid, accurate and precise. The chief guests of the function, Dr. Rajasab, Vice Chancellor, Tumkur University also gave the address and he stressed the need of practical management of plant diseases. Dr. P.M. Salimath, Honbl'e Vice Chancellor, UAS, Raichur reiterated the role of plant pathologists for breeding disease resistant varieties. Dr. Prathibha Sharma Secretary, IPS, New Delhi graced the function. Inaugural function was presided over by Dr. B. V. Patil, Ex. Vice Chancellor and Director of Education, UAS, Raichur and in his presidential remarks he said that one of the most important challenges we face today is biotic stresses on crop plants causing huge loss and also impact of climate change on plant diseases. These emerging problems have to be addressed by plant pathologists. The Zonal Councillor (IPS) and Professor and Head, Dr. Gururaj Sunkad proposed vote of thanks.

They are more than 126 delegates from different parts of country who participated and presented their research papers in various sessions during 2 days deliberations. The symposium was organized in six sessions which conveys various aspects. 1<sup>st</sup> session on detection, diagnosis and diversity of plant pathogen or disease, (II) biological control of plant disease (III) epidemiology, forecasting and impact of climate change on plant disease. (IV) Biotechnological applications and host plant resistance in plant disease

management (V) human resource development and extension Plant Pathology (VI) disease management (VII) Professor M.J Narasimhan meet Academic award.

Total the 300 research abstracts were received and six research papers for Professor M.J. Narasimhan meet Academic award were also presented.

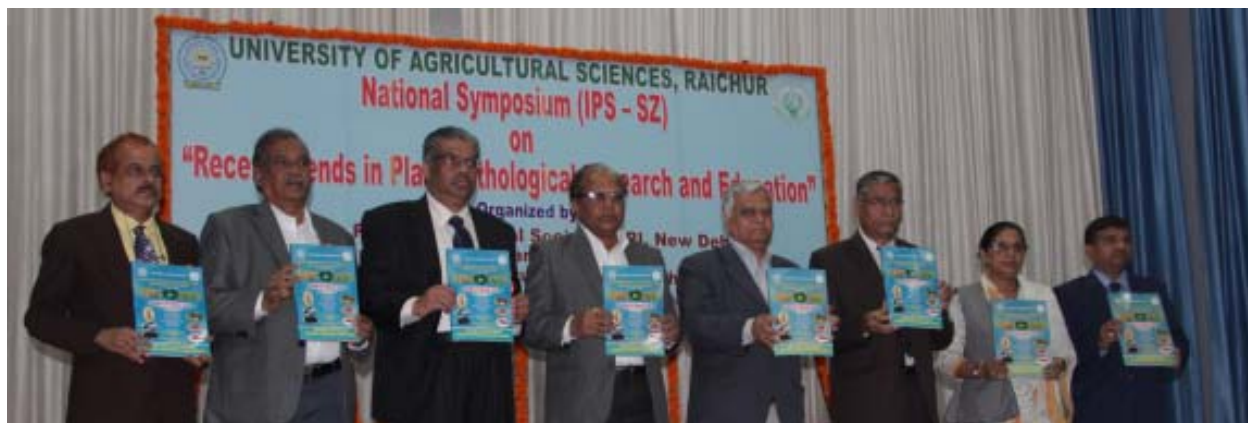
In I-session (Detection, diagnosis and Diversity of plant pathology/Diseases), three lead papers were presented by Dr. Anandaraj, Dr. Ravindra H. and Dr. Gururaj Sunkad and four oral papers were presented. Forty three posters were presented during the session.

In II-session (Biological control of plant diseases) two lead papers, one oral paper and twenty posters were presented. In III session (Epidemiology, forecasting and impact of climate change on plant diseases), two lead papers, two oral papers and thirty five posters were presented.

In IV session (Biotechnological applications and host plant resistance in plant disease management) three lead papers, two oral papers and thirty eight posters were presented. In session V (Human resource development and extension plant pathology), two lead papers and one oral paper were presented. In session VI (Disease management) four lead papers, eight oral papers and forty six posters were presented.

For Prof. M.J. Narashimhan Merit Academic award, six students were applied for award and five presentations were made on their research work.

The plenary session was conducted 6<sup>th</sup> January 2016 and it was chaired by Dr. M.K.Naik and Co-chaired by Dr. Gururaj Sunkad.



Release Abstract & Souvenir in the Inaugural session of the Southern Zone Symposium

## Eastern Zone

Zonal President: Dr. Apurba Kumar Chowdhury

Zonal Councillor: Dr. Prateek Madhab Bhattacharya

### Eastern Zone Meeting & Symposium on “Recent Tools in Plant Disease Diagnostics” held at Uttar Banga Krishi Viswavidyalaya, Coochbehar, West Bengal, January 07, 2016

In this meeting, two special lectures were arranged. Prof. B.N. Chakraborty, NBU and Prof. Ramesh Chand, BHU delivered lectures. Beside this, four scientists from National Plant Protection Centre, Royal Govt of

Bhutan participated. Regarding Pro. M.J. Narasimhan Academic Award competition, only one candidate Dr. Arka Pratim Chakraborty, NBU was selected for national level contest.



Special lecture by Dr. Ramesh Chand during Eastern Zone Symposium



# North-Eastern Zone

Zonal President: Dr. S.V. Ngachan  
Zonal Councillor: Dr. Pankaj Baiswar

## North-Eastern Zone Meeting & Symposium on “Plant Health Management in North East India” held at ICAR Research Complex for NEH Region, Umiam, Meghalaya, January 15-16 , 2016

Symposium was jointly organized by Zonal chapter, North Eastern Zone, Indian Phytopathological Society and ICAR Research Complex for NEH Region, Umiam, Meghalaya.

Chief guest Dr. M.B. Chetti (ADG, Human Resource Development) during the Inaugural session stressed on climate change aspects which are going to influence plant health and commended the efforts by organizing committee for including very pertinent technical sessions like disease management in organic agriculture and plant diseases and climate change. Dr. J.S. Chauhan (Scientific advisor to Honourable Union Minister of Agriculture) addressed

the gathering and emphasized on intensive research inputs required for tackling climate change scenario. Dr. S.V. Ngachan, Director, ICAR Research Complex for NEH Region stressed on soil health aspects in respect to influence of soil microbes on plant health and urged the gathering for developing a holistic approach of tackling plant diseases. Dr. R. Bhagawati, Joint Director, ICAR Research Complex for NEH Region, Basar, Arunachal Pradesh emphasized on modern approaches in detection and diagnosis of plant diseases as well as their management. Dr. L. Daiho, Professor, SASRD, Nagaland University, emphasized on cultural methods which can be used harmlessly for



Inaugural of the North Eastern Zone Symposium 2016



managing some very important diseases in this region. Welcome address was given by organizing secretary, Dr. Pankaj Baiswar and vote of thanks was delivered by Dr. Satish Chandra, HOD, Plant Protection, ICAR Research Complex for NEH Region.

Total thirty nine abstracts were received (Fifteen oral and twenty four poster presentations). Poster and oral presentations were attended by several participants during the sessions. Sessions were chaired by Dr. SV Ngachan, Director, ICAR Research Complex for NEH Region, Zonal President, IPS, North Eastern Zone and Organizing Chairman of the Symposium), Dr. R. Bhagawati, Joint Director, ICAR Research Complex for NEH Region, Basar, Arunachal Pradesh, Dr. L. Daiho (Professor, Department of Plant Pathology, SASRD, Medziphema, Nagaland University), Dr. N. Tiameren Ao (Associate Professor & Head of the Department, Department of Plant Pathology, SASRD, Medziphema, Nagaland University). Very informative lead lectures were also presented by Dr. N. Tiameren Ao, Dr. L. Daiho and Dr. Pranab Dutta (Scientist, Assam Agricultural University, Jorhat). Presentations were mainly focused on molecular characterization, nanotechnology, management of pathogens in organic agriculture, mass multiplication and formulations of bioagents and compatibility studies, etc.

Posters and oral presentations were evaluated by Dr. Satish Chandra, Dr. L Daiho and Dr. Pranab Dutta. Best oral presentation award was given to Dr. Amrita

Banerjee and Ms. Merilina Marak. Best Poster awards were given to Mr. B. Karmakar, Ms. Sarodee Boruah and Dr. D.M. Firake.

Valedictory session was presided by Dr. Satish Chandra and Dr. L. Daiho. Certificates were distributed for lead lecture presentations, best poster and oral, oral and poster presentations, participation and MJN award contest participation. Vote of thanks was proposed by Dr. Amrita Banerjee.

MJ Narasimhan Merit Academic award nominations for North Eastern Zone (IPS) were done by a committee - Dr. S.V. Ngachan (Chairman), Dr. Satish Chandra (Member) and Dr. N. Tiameren Ao, Associate Professor and HOD, Department of Plant Pathology, SASRD, Nagaland University (Member). Total five participants made the presentations during this session. Ms. Diganggana Talukdar and Ms. Himadri Kaushik were nominated from this zone by the committee.

Souvenir and abstract compilation (Print) was also distributed during the symposium.

A meeting chaired by Dr. SV Ngachan, President North Eastern Zone, Indian Phytopathological Society was also convened in the presence of members and participants. Strengthening this society, efforts for increasing the impact factor of the Journal- Indian Phytopathology, inclusion of proceedings in printed form, inspiring students for quality research and increasing membership of this society were discussed in detail.



Poster presentation in North Eastern Zone Symposium 2016



## Delhi Zone

Zonal President: Dr. V. Celia Chalam  
Zonal Councillor: Dr. Jameel Akhtar

### Delhi Zone Meeting & Symposium on “Biosecurity in Food Value Chain” held at Dr. B.P. Pal Auditorium, ICAR-National Bureau Plant Genetic Resources, New Delhi, February 20, 2016

The inaugural Session was chaired by Dr. S.N. Sushil, Plant Protection Adviser to Government of India. Dr. P.K. Chakrabarty, ADG (PP&B), ICAR was the chief guest. The session began with the welcome address by Dr SC Dubey, Head, Division of Plant Quarantine, ICAR-NBPGR followed by the opening remarks by Dr. K.C. Bansal, Director, ICAR-NBPGR. Dr. Pratibha Sharma, Secretary, Indian Phytopathological Society (IPS) has appraised the house about the IPS and recent developments.

Dr. V. Celia Chalam, Principal Scientist, Division of Plant Quarantine & President of the IPS-Delhi Zone delivered the presidential address on “Challenges for Plant Virus

Diagnosis in Certification and Transboundary Movement of Planting Material”. She gave overview of the plant biosecurity system in India including role of plant quarantine, national seed certification programme, National certification system for tissue culture-raised plants and highlighted the challenges for plant virus diagnosis for ensuring biosecured agriculture. She emphasised the need for National Plant Pest Diagnostic and Certification Network to ensure biosecurity of Indian agriculture.

The chief Guest Dr. P.K. Chakrabarty in his remarks emphasised the role of quarantine and the need for concerted efforts of various organizations under



Delhi Zone Symposium 2016



different ministries viz., Ministry of Agriculture & Farmers Welfare, Environment, Forest & Climate Change, Health and Family Welfare, Defence and Food to develop a national biosecurity strategy with respect to biosecurity under their purview and develop national standards.

The inaugural session was followed by three Technical Sessions viz., Session 1: Invited lectures, Session II: Prof. MJ Narasimhan Academic Merit Award Contest 2015 and Session III: Poster Session (Themes include Diagnostics, Plant Quarantine, Biosafety of GM Crops, Integrated Disease Management).

### **Prof. MJ Narasimhan Academic Merit Award Contest 2015**

There were two presentations and both have been selected for the National Level contest and the details are given below:

1st: Development of Infectious Clone and Designing of Gene Expression Vector based on Legume Infecting *Carmovirus* in India by Nagamani Sandra

2nd: Virulence Analysis of *Magnaporthe oryzae* Isolates from Blast Hot Spot Locations and Inheritance of Resistance in Rice Landrace by H. Rajashekara, U.D. Singh and Pratibha Sharma

### **Recommendations**

- Need to Accredit diagnostic laboratories at central and state level for quick and accurate identification of insect pests and diseases and there is a need for National Certification Programme for Seed Health in line with National Certification System for Tissue Culture-raised Plants (NCSTCP) and need to review seed certification standards proposed in Seed Bill 2004.
- Need to establish very effective survey and surveillance programme to identify new insect pests and diseases.
- Use simulation models for developing an early warning system to predict outbreaks of insect

pests and diseases. Remote sensing may also be used for the same.

- Establish proper authenticity for reports of new pests/geographical distribution and deposition of reference cultures in the National Repositories may be made mandatory.
- Develop the web-based information portal for management of plant health information and regulations including database on taxonomists and diagnosticians.
- Need for establishment of National Plant Pest Diagnostic and Certification Network to ensure biosecurity of Indian agriculture.
- Nepal needs an Integrated Sanitary and Phytosanitary (SPS) Systems approach where the key Government and Private sector agencies have to jointly play pivotal role to appreciate and apply SPS measures in the Value Chain to ensure quality agricultural produce/product for the global market.
- Need to harmonize Rules for Manufacture, Use/ Import/Export & Storage Of Hazardous Micro Organisms/Genetically Engineered Organisms or Cells, 1989, Plant Quarantine (Regulation of Import into India) Order, 2003 and Food Safety and Standards Act, 2006 for import of bulk GMO commodities including GM foods.
- Ministry of Environment, Forest & Climate Change, Government of India need to notify Living modified organism (LMO)/ Genetically modified organism (GMO) detection laboratories upgraded under the UNEP-GEF project and also strengthen National Plant Quarantine Station and Regional Plant Quarantine Stations of Directorate of Plant Protection, Quarantine & Storage (DPPQS), Ministry of Agriculture & Farmers Welfare in terms of infrastructure and expertise on detection of LMOs/GMOs.

# 6<sup>th</sup> International Conference

**International Conference on ‘Plant, Pathogens and People’ : Challenges in Plant Pathology to Benefit Humankind, Feb. 23-27, 2016 at NASC Complex, New Delhi**

## Brief Report of the Conference

The Indian Phytopathological Society in collaboration with the ICAR institutes based in Delhi and adjoining areas, organized 6<sup>th</sup> International Conference on **“Plant, Pathogens and People”** with the theme **“Challenges in Plant Pathology to benefit Humankind”**, February 23-27, 2016 at NASC Complex, New Delhi, India. Total 750 delegates including 68 foreign delegates belonging to 36 countries participated in the conference.

## Inaugural Session

Inaugural Session of the 6<sup>th</sup> International Conference was held on 23<sup>rd</sup> February 2016. Dr. A.K. Misra, President, Indian Phytopathological Society welcomed the chief guest, guest of honours, dignitaries, international and national delegates and sponsors. Dr. P. Chowdappa, President elect briefed the audience about the 6<sup>th</sup> International Conference. Dr. Pratibha Sharma Secretary, IPS, presented the about the Society.

**Padma Bhushan Prof. V.L. Chopra**, former Member of Planning Commission and Secretary, DARE & DG, ICAR, inaugurated the conference. In his inaugural address, stressed upon 3Ps (Plant, Pathogens, People) which are interdependent but create a complex situation. All the 3Ps have right to survive and the people should not eliminate the pathogens but allow them to co-survive together. Further, he emphasized



Inaugural addressed by Padma Bhushan Prof. V.L. Chopra



Inaugural Session of the 6<sup>th</sup> International Conference



the importance of plant pathology in agriculture which has a key role in protecting the food produced by the farmers on limited available resources.

**Dr. T. Mohapatra**, Secretary (DARE) and DG (ICAR), pointed out that the pathogens are standing between plants and people. However, the latter want to manage the co-evolved creatures for their benefits. He urged the scientists to know more about the pathogen population, so that they can be managed wisely.



Inaugural addressed by Dr. T. Mohapatra

**Dr. N.K. Krishna Kumar**, Deputy Director General (Horticultural Science), in his address, emphasized the concept of resistance management in plant pathogens against pesticides. He also suggested strengthening of the host plant resistant strategies to manage the pests and diseases of crops by giving more importance on sustainability.



Inaugural addressed by Dr. N.K. Krishna Kumar

**Dr. C.D. Mayee**, Former Chairman, ASRB, exhorted the scientists to give more emphasis on the pulses and oilseed research. The diseases like bacterial blight and fungal wilt of pomegranate, cotton leaf curl, coconut wilt etc. are to be given more importance in resolving the issues related with them and their management.



Inaugural addressed by Dr. C.D. Mayee

**Dr. Rashmi Agarwal**, Head, Division of Plant Pathology proposed the vote of thanks for chief guest, guest of honours, dignitaries, delegates of the 6<sup>th</sup> international Conference and generous sponsors.

**Presidential Address on** “Progressive steps in understanding and solving guava wilt - A national problem” delivered by Dr. A.K. Misra, President, Indian Phytopathological Society, New Delhi on 23<sup>rd</sup> Feb., 2016.



Presidential Address by Dr. A.K. Misra



# Awards/Honours

The following awardees were felicitated during the 6<sup>th</sup> International Conference on “Plant, Pathogens and People” with the theme “Challenges in Plant Pathology to Benefit Humankind”, February 23-27, 2016 at NASC Complex, New Delhi

## Dr. A. P. Misra Life Time Achievement Award (2015)

Prof. A.N. Mukhopadhyay, (former Vice Chancellor, Assam Agricultural University, Jorhat), Lucknow, UP was conferred with the life time achievement award on 23<sup>rd</sup> February in the inaugural session. The Plant Pathologists of the country were bestowed with the IPS recognition awards 2014 and 2015 as listed below.



AP Misra Lifetime Achievement Award to Prof. A.N. Mukhopadhyay

## IPS Recognition Award (2014)

1. Dr. M.P. Srivastava, Former Director Planning and Professor & Head Plant Pathology, CCS Haryana Agricultural University, Hisar, Haryana
2. Dr. R.S. Mehrotra, Professor (Retd.), House No. 263, Sector-7, Urban Estate, Kurukshetra, Haryana

## IPS Recognition Award (2015)

1. Dr. C. Manoharachary, NASI Senior Scientist, Osmania University, Hyderabad, Andhra Pradesh
2. Prof. (Dr) S.M. Paul Khurana, Dean, Amity University, Gurgaon, Manesar, Haryana



IPS Recognition Award to Dr. M.P. Srivastava



IPS Recognition Award to Dr. R.S. Mehrotra



IPS Recognition Award to Dr. S.M. Paul Khurana



IPS Recognition Award to Dr. C. Manoharachary

The following award lectures were delivered during the 6<sup>th</sup> International conference on “Plant, Pathogens and People” with the theme “Challenges in Plant Pathology to benefit Humankind”, February 23-27, 2016 at NASC Complex, New Delhi

**Mundkur Memorial Award Lecture** on “Seed biopriming: A comprehensive approach towards agricultural sustainability” was delivered by Prof. H.B. Singh, Department of Mycology and Plant Pathology, Banaras Hindu University, Varanasi, Uttar Pradesh, India on 24<sup>th</sup> Feb., 2016.



Mundkur Memorial Award Lecture delivered by Dr. H.B. Singh

**A.K. Sarbhoy Memorial Award Lecture** on ‘Studies on fungal endophyte in India: A review’ was delivered by Dr. S.K. Singh, Biodiversity and Paleobiology, Agharkar Research Institute, Pune, Maharashtra, India on 26<sup>th</sup> Feb., 2016.

**Jeersannidhi Award Lecture** on “Seed biopriming in the management of seed and soil borne disease” was delivered by Dr. R.N. Pandey, Department of Plant Pathology, B.A. College of Agriculture, Anand Agricultural University, Anand, Gujarat, India 26<sup>th</sup> Feb., 2016.



J.F. Dastur Memorial Award Lecture by delivered Dr. S.K. Singh



Jeersannidhi Award Lecture delivered by Dr. R.N. Pandey

**J.F. Dastur Memorial Award Lecture** on “Race profiling, genetic diversity, diagnostics and management of *Fusarium oxysporum* f. sp. *ciceris* causing wilt in chickpea” was delivered by Dr. S.C. Dubey, Head, Division of Plant Quarantine, ICAR-National Bureau of Plant Genetic Resources, New Delhi, India on 25<sup>th</sup> Feb., 2016.



J.F. Dastur Memorial Award Lecture delivered by Dr. S.C. Dubey

**M.K. Patel Young Scientist Award lecture** on “True identity of powdery mildew pathogens in north east India- Molecular and morphological approaches” was delivered by Dr. Pankaj Baiswar, ICAR Research Complex for NEH Region, Umiam, Meghalaya, India.



M.K. Patel Young Scientist Award lecture by Dr. Pankaj Baiswar

### Prof. M.J. Narasimahan Academic Merit Award Contest

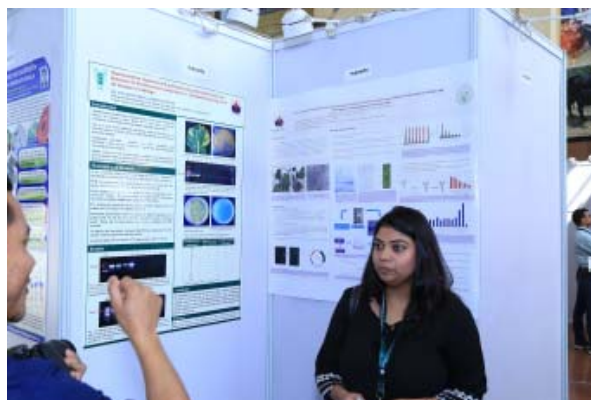
Prof. M.J. Narasimahan Academic Merit Award contest was held on 26<sup>th</sup> Feb. 2016. The judging committee recommended Dr. Nagamani Sandra, IARI, New Delhi for the paper presentation on “Development of infectious clone and designing of gene expression vector based on legume infecting carmovirus in India” for this Award. However, The name of Shikha Sharma, PAU, Ludhaiana, for paper entitled “Survival, detection and management of *Cucumber mosaic virus* (CMV) and *Zucchini yellow mosaic virus* (ZYMV) infecting cucurbits in Punjab” and Dr. H. Rajashekara, VPKAS, Alomra, for the paper entitled “Virulence analysis of *Magnaporthe oryzae* isolates from blast hot spot locations and inheritance of resistance in rice landrace” were recommended for Commendation Award.



Prof. M.J. Narasimahan Academic Merit Award delivered by Dr. Nagamani Sandra

### Best Poster Award

The judging committee has recommended 77 names for Best Poster Award in different sessions of the international conference.



Poster presentation during the conference





## Technical sessions

In this conference, total **1092** abstracts were received for presentation in 20 different technical sessions. Out of which 308 abstracts were presented orally including Plenary and Award Lectures by eminent speakers. Out of 784 abstracts, 347 were presented by delegates in the form of posters.

Session No.	Technical Session	Lead/Oral Lecture	Poster	Total
1.	Taxonomy of fungi, bacteria and viruses	9	20	29
2.	Plant disease diagnostics	16	58	74
3.	Population genetics and pathogen diversity	12	59	71
4.	Host-pathogen interaction and plant immunity	18	68	86
5.	Impact of climate changes on epidemiology of emerging diseases	14	38	52
6.	Challenges in post-harvest disease management	12	14	26
7.	Disease management in organic and protected cultivation	10	41	51
8.	Challenges in Integrated Crop Management with respect to diseases	27	106	133
9.	Bio-prospecting in biocontrol agents for sustainable agriculture	32	117	148
10.	Biopesticide industry and entrepreneurship development in crop protection	16	9	25
11.	Use and risk assessment of next generation fungicides	11	35	46
12.	Genomics and bioinformatics in plant pathology	10	17	37
13.	Biotechnological approaches for plant disease management	14	28	42
14.	Extension plant pathology : challenges to implement	9	7	16
15.	Education and human resource development in plant pathology	-	2	2
16.	Role of plant pathology in International trade, biosecurity and food security	14	5	19
17.	Plant mollicutes : challenges in research	14	19	33
18.	Advances in use of tools and techniques in plant pathology	8	7	15
19.	Mushroom fungi : friend of human being	12	18	30
20.	Host-resistance for sustainable agriculture	19	45	64
21.	Endophytes as bio-control agents	7	-	7
	PGPR Session	11	48	59
	Plenary	8	-	8
	Award Lectures	19	-	19
<b>Total</b>		<b>259</b>	<b>761</b>	<b>1092</b>



## Total 08 Plenary Lectures were delivered during the conference:

**Plenary Lecture 1** on “Humans, crops and soil borne diseases: Contemporary explorations” was delivered by **Dr. Krishnamurthy Subbarao**, Department of Plant Pathology, University of California, USA on 23<sup>rd</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Krishnamurthy Subbarao

**Plenary Lecture 2** on “Of production situations, plant health, and global changes - and from lock-in to new prospects in disease management” was delivered by **Dr. Serge Savary**, INRA, Université Toulouse, France on 24<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Serge Savary

**Plenary Lecture 3** on “The introduction of Phytiatry (Plant medicine) in universities as a distinct science, is a primary necessity for food security and modernization of global agriculture” was delivered by **Dr. Eleftherios C. Tjamos (Eris)**, Department of Plant Pathology, Agricultural University of Athens, Greece on 24<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Eleftherios C. Tjamos (Eris)

**Plenary Lecture 4** on “Simulation modelling in botanical epidemiology and crop loss analysis: An online course in the plant health instructor on the APSnet education center” was delivered by **Dr. Laetitia Willocquet**, INRA, Centre INRA Occitanie-Toulouse, France on 25<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Laetitia Willocquet

**Plenary Lecture 5** on “Asian PGPR and IPS: Win-win global relationship for sustainable crop productivity, education and collaboration” was delivered by **Prof. M.S. Reddy**, Auburn University, Auburn, AL, USA on 25<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. M.S. Reddy

**Plenary Lecture 6** on “Opening the Black-box: Superpowers in the PGPR world” was delivered by **Dr. Dilantha Fernando**, Department of Plant Science, University of Manitoba, Canada on 25<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Dilantha Fernando

**Plenary Lecture 7** on “Enhanced food production by novel technologies” was delivered by **Dr. Peter Palukaitis**, Department of Horticultural Science, Seoul Women’s Univ., Seoul 139-774, Korea on 26<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Peter Palukaitis

**Plenary Lecture 8** on “Innovative approaches for delivery of RNA interference towards sustainable crop protection” was delivered by **Dr. Neena Mitter**, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane, Australia on 26<sup>th</sup> Feb., 2016.



Plenary Lecture delivered by Dr. Neena Mitter

## Recommendations

The recommendations of the various sessions were presented by Chairmen of the respective sessions and were discussed for finalization.

### The recommendations are as follows:

#### Research

- MOU between IPS and APS is signed. It is desired that more and more members take the advantage of this provision for academic benefit.
- There is urgent need to develop schools on traditional fungal taxonomy in India, as at present only limited resource persons are available for the correct identification of fungal pathogens. These may be supplemented with the modern technique of DNA finger printing and bar coding etc. The ITCC at Division of Plant Pathology, IARI need to be strengthened substantially.
- Characterization of races/strains of major fungal, bacterial and viral pathogens showed pathogenic variability and genetic diversity. Their distributions in different agro-climatic regions are also worked out in several cases. These information need to be utilised for the proper management of the diseases at national level. National Programme may be prepared and initiated on these aspects.
- Biocontrol is identified as the most important area for the management of several diseases. More emphasis needs to be given and school to be developed in this area for identifying efficient strains.
- The correct identification of biocontrol agent is very important. Presently much confusion exists for the existence of *Trichoderma viride* in India. Scientist working on *T. viride* or *T. asperillum* may send their cultures to ITCC for confirmation of existence of *T. viride* in India. The combined publication may be made, which will remove the existing confusion.
- Efficient biocontrol agents (strains) should be characterized at molecular level and the culture should be deposited in national and internationally recognized repository with proper protection of right.



- Efforts should be made to develop microbial biopesticides with higher shelf life and potentiality. Strict bio-safety measures should be followed while testing/developing microbial biopesticides.
- Effective consortia of bio agents need to be Identified aiming at multiple benefits for sustainable agriculture with proper bio-safety measures.
- Bioactive metabolites produced by rhizobacteria and endophytes need to be Identified and utilized for plant growth promotions and plant disease management.
- Biocontrol component should be incorporated in IDM schedule especially for seed and soil born diseases.
- Correct diagnosis is the important component of Plant Pathology for fungi, bacteria, phytoplasma, viruses and nematodes. Manpower training in this area need to be strengthened with support of modern techniques, which are highly reliable, fast and accurate, highly sensitive and low cost. Testing kit developed by reputed companies may be used as diagnostic kits. Diagnosis-linked nation-wide pest surveillance needs to be undertaken.
- Researchers and consumers should be sensitized for the risk of mycotoxins and about health hazard related chemicals used in post harvest disease management. Regulatory agency should restrict the use of hazardous chemicals.
- Management of plant diseases through botanical is an important area and must be explored intensively, however economics, availability and stability should be analysed while recommending botanicals.
- Atoxigenic strain-based biological control in conjunction with other practices can dramatically reduce aflatoxin production and improve food security, safety and trade. There is a need to adapt the same technology in India.
- Critical analysis on the regulatory mechanism of plant defense exploring the possibility of augmenting induced resistance as part of the integrated disease management.
- Proteomics can be used as a valid tool for complementing information generated through NGS platforms, so that a comprehensive understanding could be attained at the protein-protein level of interaction.
- More focused approach is needed to document quantitative effect of climate change on economically important plant diseases of key crops i.e. cereals, oilseeds, pulses vegetables and fruit crops. Major economically important diseases, where change is alarming, needs to be flagged to attracted the attention of research workers and government.
- All pest management recommendation need to be necessarily made part of package of practice for any crop in tune with label claims for cultivars and chemical pesticides so they are more generic, dynamic and web-enabled.
- Regulatory mechanisms may be strengthened to check spurious certification for propagating materials.
- It is needed to study development of resistance in pathogens against fungicides/antibiotics and provide guidance to farmers.
- Nanotechnology is a new area of research, which needs to be explored extensively for the management of plant diseases. More concentrated efforts and emphasis should be given by research organizations on this aspect.
- Survey and surveillance of plant diseases should always be the integral part of Plant Pathology to identify new diseases, new vectors, hot spots, exotic pests etc. to combat with the any emergent problem. Separate budgetary provision needs to be provided by government.
- Different edible mushrooms like species of *Lentinus squarrossulus*, *L. sajor-caju* etc. whose cultivation technology has been worked out should be encouraged for large scale cultivation. Bioactive compounds like lovastatin etc. in different wood rotting, medicinal and wild fleshy fungi should be well worked out, documented and must be exploited for making their commercial value including herbal drugs by pharmaceutical industries.



- For effective management of stripe rust of wheat, there is a need for deployment of rust resistance genes in the vulnerable areas particularly in North India.
- Pyramiding of bacterial blight and blast resistance genes is a good option for development of durable resistance in rice varieties. Concentrated efforts should be made on this area by the research organizations working on rice diseases.

### Extension

- Extension Plant Pathologists are less recognized though their role is very important for guiding the farmers. Specialized training is needed for them from research organizations/SAUs. They need to be sensitized and well-motivated and government should encourage the young researchers by providing them some incentive.
- Facilities of field diagnosis be created to find immediate answer the problem and sensitized and well-motivated to field workers.
- Model Plant Health Clinics needs to be established in all villages under the supervision of KVKs to provide right guidance to the farmers. It can be implemented through Government's skill development programme. Computer based programme be developed for identifying diseases and their management. Diagnostic kits developed for some diseases should be made available to Plant Health Clinic.
- Regular training programme should be essential part of SAUs and research organisations for pesticide dealers and farmers to educate them for the right chemicals, their doses, handling risks, safety measures etc.

### Education

- Up scaling and regular capacity building of teachers/researchers to meet the challenges of crop protection should be part of government's

regular programme. Separate budgetary provision should be there for research organizations and SAU's.

- Introduction of courses contents on trans-boundary migration of pathogens, climate change on plant diseases with reference to epidemiology, tools and techniques for precision, regulatory affair on crop protection, molecular biology techniques, cloning R gene & disease resistant breeding, MAS, CIB registration of biocontrol, plant clinic course at graduate level
- The moulding of plant pathology students into highly knowledgeable, skillful with full exposure of real field situation through farmer participatory approach for practicing integrated plant health management.
- For agrochemicals and biocontrol agent dealerships, it should be restricted only to Plant Protection qualified agricultural graduates or qualified plant protection specialists.

### Planning

- While appreciating the contribution of National Horticulture Mission, steps be taken to create organized plant clinic at sub-division level too as we have primary health centre. Such clinics may be created at focal point easily accessible to growers.
- Simplification and transparent of registration guidelines with more stringency on lab/field testing and quality control.
- Need to review and update pests list and strengthen domestic quarantine in India.
- All SAUs must launch programme for entrepreneurship development in the area of Plant Pathology with knowledge of bio-safety and bio-security.
- Preparedness is needed for biosecurity of SAARC region and funding needs to be explored from FAO, WTO etc.



# Glimpses of International Conference



Registration of the delegates



Arrival of Dignitaries



Dignitaries on dais



Lighting of lamp



August gathering



August gathering



Felicitation to former Presidents



Panel discussion on human resource development in Plant Pathology by eminent scientist & academicians



Stalls of agricultural related companies



Dinner time



Cultural Program performed by artists



## APS-IPS MOU Exchange

The memorandum of understanding between the American Phytopathological Society (APS) and the Indian Phytopathological Society (IPS) was signed by President IPS, Dr. A.K. Misra and APS President, Sally

A. Millar and exchanged during the inaugural session to facilitate mutually beneficial interactions through scientific exchanges and increased sharing of science by joint memberships and professional interactions.



Exchange of Memorandum of Understanding (MoU) between the American Phytopathological Society (APS) and the Indian Phytopathological Society (IPS) during IPS International Conference



## **Memorandum of Understanding between the American Phytopathological Society (APS) and the Indian Phytopathological Society**



October 23, 2015

This memorandum of understanding between the American Phytopathological Society (APS) and the Indian Phytopathological Society (IPS) is developed to facilitate mutually beneficial interactions through scientific exchanges and increased sharing of science by joint memberships and professional interactions.

This agreement is effective October 2015 through September 2019, after which time it will be evaluated to benchmark activities and assess the effectiveness of our collaborative interactions.

### **The APS and IPS agree to the following terms:**

#### **Establish an APS-IPS Working Group:**

Primary coordination of activities between our respective societies will be through the APS–IPS Working Group, which will support and facilitate continued cooperation by identifying potential endeavors of mutual benefit. The APS–IPS Working Group (“Working Group”), composed of at least four joint members of APS and IPS, will operate under the Office of International Programs (OIP) of APS. One member of the Working Group, selected by Working Group members, will serve as a liaison to the OIP Board and attend one in-person OIP meeting held during the APS Annual Meeting, and any conference calls scheduled during the year. The OIP will provide an annual report of activities to APS Council and the executive leadership of IPS. The primary linkage of communication between the respective societies will be the standing president of APS and president of IPS as rotations in leadership occur. We propose the first meeting takes place at the 2016 APS Annual meeting in Tampa, FL to begin planning of joint activities

#### **Joint APS-IPS Activities:**

The APS and IPS have a history of scientific exchanges that have been beneficial to members of both societies. Under this agreement, the Working Group will develop proposals for APS and IPS annual meeting activities such as symposia, workshops, and other special sessions that are mutually appealing to our members. Proposals for APS annual meeting activities will be submitted to the APS Annual Meeting Board (AMB) for consideration according to the guidelines established for APS committees, boards and offices. Development and execution of joint webinars outside the APS Annual Meeting on topics of mutual interest is encouraged and will be supported by APS headquarters staff. The goal of joint symposia, webinars and/or special sessions is to leverage expertise and scientific exchanges that will result in collaborations and sharing of relevant information between the Indian and North American plant pathology communities. The APS-IPS Working Group will also work with OIP to identify needs and opportunities for translation of APS publications as appropriate.





#### APS-IPS Leadership Team Meetings:

Under this agreement, the presidential leadership teams of APS and IPS will convene regular meetings to assess progress and consider new initiatives. With guidance from the Working Group, a face-to-face meeting will be held at the APS annual meeting in each year under this agreement with a video link to connect the presidential teams during mid-year.

#### Special Offer for Members and Students of the Indian Phytopathological Society (IPS):

APS is now pleased to offer international members employed or residing in economies with low or lower-middle incomes as defined by the World Bank one of two options: 1- a \$15 flat fee for all members (a \$69 discount for regular members, \$41 discount for post-docs and an \$18 discount for students; *electronic only delivery of the newsletter and any additional journals purchased*); or, 2- with payment of existing regular dues rates of \$84 regular/\$57 post-doc/\$34 student, members will receive one (1) complimentary 12-month online journal subscription of their choice (a discount of \$86 or \$98 depending on journal selected).

For international members not residing in low- or lower-middle income countries, APS will offer a discounted Student Membership of \$15 (current Regular Student Membership dues are \$32.00; *electronic only delivery of the newsletter and any additional journals purchased*). As an international organization, APS welcomes the opportunity to encourage international students to join our society. The special discount offered by APS will allow the student members of IPS to take advantage of all scientific resources that APS has to offer, upholding the APS vision of 'being a truly global organization and providing opportunities for its members'.

The parties agree to implement this cooperative agreement under the terms and conditions expressed above in good faith and understanding.

A handwritten signature in blue ink, appearing to read 'Sally A. Miller'.

Sally A. Miller  
APS President

A handwritten signature in blue ink, appearing to read 'A.K. Misra'.

A.K. Misra  
IPS President

Date: October 23, 2015

# Workshop

## Asian PGPR Satellite Workshop on “PGPRs for Sustainable Crop Productivity” was organized on February 25, 2016 during the IPS 6<sup>th</sup> International Conference held at NASC Complex, New Delhi

With the introductory remarks from Dr. M.S. Reddy, President, APGPR who narrated the genesis of Asian PGPR society in India. Dr. Kumar, Principal Scientist (Plant Pathology), ICAR-IARI, New Delhi anchored the programme with brief history of PGPR workshops in India and abroad conducted by APGPR who further highlighted the role played by Dr. Y.R. Sarma, Dr. M.S. Reddy, and Dr. Appa Rao Podile in organizing the conferences. The sessions started with the keynote lecture by Dr. Dilantha Fernando, Professor in University of Manitoba.

A total of 10 lead lectures on diversified topics related to Basic research on PGPR and Application technologies for PGPR were delivered by invited speakers representing various countries. The first session on basic research was chaired by Drs. M.S. Reddy and Annapurna while the second session was handled by Dr. Dilantha and Er. Noga Bashan.

### Recommendations

- Long term strategies should be developed to improve plant growth and health including exploring potentiality to fix N<sub>2</sub> by plant to reduce N<sub>2</sub> fertilizer, and utilizing phosphorous solubilizing bacteria to reduce cost of input in agriculture.
- Potential of endophytic bacteria for plant disease management in agriculture must be strengthened.
- Suitable and appropriate strain selection policy must be evolved with due importance to biosafety.
- Awareness programme on microbial biosafety must be conducted to educate researchers for strain selection with collaboration with DBT and BCIL.
- Novel delivery methods for bio-inoculants for biological control and other environmental application must be developed.



Asian PGPR Satellite Workshop on “PGPRs for Sustainable Crop Productivity” organized by the Society on February 25, 2016

# Annual General Body Meeting

## 68<sup>th</sup> Annual General Body Meeting held during International Conference on “Plant, Pathogens and People” at NASC Complex, New Delhi on February 27, 2016

The Valedictory Function and General Body Meeting of the 6<sup>th</sup> International Conference was held on 27<sup>th</sup> February, 2016 under the chairmanship of IPS President Dr. A.K. Misra. Dr. Pratibha Sharma, Secretary, IPS, presented the report of the 6<sup>th</sup> International conference and Secretary's report about the activities of the Society. Editor's report was presented by Dr. R.K. Khetarpal, Chief Editor, *Indian Phytopathology*. Treasurer's report was presented by Dr. Dinesh Singh, Treasurer, IPS. Different issues of the societies were discussed and the different awards were declared by the secretary of the society. The results of elections were also announced. The feedbacks regarding the international conference were presented by the international and national delegates. International delegates from Indian origin desired to help Indian Plant Pathologists by offering travel grants for specialized training/participation in international conferences etc. IPS may workout the details.

### The Confirmation of the minutes of Mid-Term EC Meeting held on June 27, 2015 at IARI, New Delhi

1. Dr. A.K. Misra contributed additional endowment

amount of Rs. 2.30 Lakh (Rs. Two Lakh Thirty Thousand only) for A.P. Misra Life-time Achievement Award with the request to increase the frequency of the award from Biennial to Annual. The EC agreed on the proposal.

2. In view of decreasing submission rate of manuscripts, it was approved by the EC that membership fee will not compulsorily charge from the authors for publication of their manuscripts. However, the processing fee will be different for member and non-member author.
3. The increase in salary of IPS Secretariat were discussed and EC agreed for the increment.

### The following decision were taken and approved by the General body:

#### International Workshop on *Trichoderma* and *Gliocladium*

The International workshop on *Trichoderma* and *Gliocladium* will be organised by “Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola”, “Association of



Valedictory and General Body Meeting



Plant Pathologist” and “Indian Phytopathological Society, New Delhi” in November 2016.

### **Institution of New Award on the Name of “S. Sinha Memorial Award”**

The EC felt that the Society has too many annual lecture awards. Hence, it was suggested that the “**S. Sinha Memorial Lecture Award**” will be held biennial and the detailed guidelines will be sent to donors for mutual consent.

### **IPS-APS MOU**

The memorandum of understanding between the American Phytopathological Society (APS) and the Indian Phytopathological Society (IPS) was signed to facilitate mutually beneficial interactions through scientific exchanges and increased sharing of science by joint memberships and professional interactions.

### **Travel grant to student members for participation in APS Meeting**

A proposal was given by the Dr. Krishna Subbarao, APS Representative, to provide financial assistance to the student members of the Society for participation

in APS Meeting and the proposal was introduced and accepted by the General Body.

### **Declaration of awards**

1. Mundkur Memorial Award: Dr. S.V. Ngachan, ICAR Research Complex for NEH Region, Umiam, Meghalaya
2. S.N. Dasgupta Memorial Award: Dr. S.C. Bhardwaj, IARI Regional Station, Shimla
3. K.C. Mehta and Manoranjan Mitra Award: Dr. J. Kumar, NIBSM, Raipur, Chhattisgarh
4. M.K. Patel Memorial Young Scientist Award: (i). Dr. Prashant P. Jambhulkar, ARS, Banswara, Rajasthan; (ii). Dr. Deeba Kamil, IARI, New Delhi
5. J.F. Dastur Memorial Lecture Award: Dr. Rakesh Kr. Pandey, CIMAP, Lucknow, Uttar Pradesh
6. J.P. Verma Memorial Award: (i). Dr. Kalyan K. Mondal, IARI, New Delhi; (ii). Dr. Dinesh Singh, IARI, New Delhi
7. Sharda Lele Memorial Award: (i). Dr. A.K. Misra, CISH, Lucknow, Uttar Pradesh; (ii). Dr. Indu Sawant, NRC for Grapes, Pune, Maharashtra



# Publications

## Journal: *Indian Phytopathology*

### Chief Editor's Report

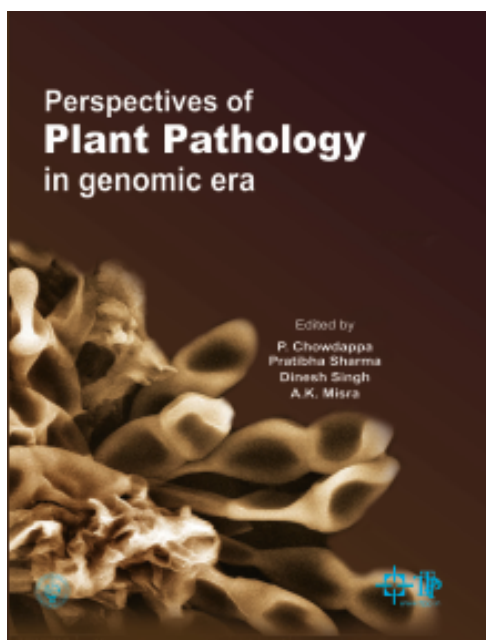
The report was presented by the Secretary on behalf of Chief Editor, IPS. During 2015-16, total 199 papers were received through on-line submissions. Out of these, 55 were rejected, 84 published, 38 are in review, 7 have been accepted for next issue and 18 have been sent back to authors for revision. This shows approximately 27% articles rejection rate.

The journal Indian Phytopathology is up-to-date. March issue of the journal is in process of publication. The contents with abstract is available online. Efforts are being made to get better rating and boost image of the journal nationally and internationally.





# Publications Books



## Perspectives of Plant Pathology in Genomic Era

*Edited by P. Chowdappa, Pratibha Sharma, Dinesh Singh and A.K. Misra*

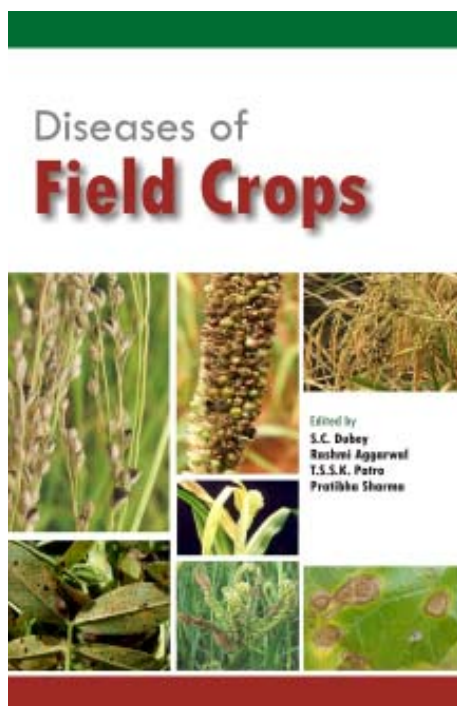
*Year: 2016 / Pages : 514*

*Price : Rs: 5995.00, US\$ 120.00 (Discount 20%)*

*ISBN: 81-7019-526-4 (India), 1-55528-382-9 (USA)*

### Description

This book provides an up to date knowledge on taxonomy of fungi, threats of invasive and emerging diseases, diagnostics, interaction of host and pathogens, induced host resistance, utilization of biological control agents for practical applications and the underlying mechanisms, RNAi mediated gene silencing, strategies to identify targets of new disease control with plant derived products and chemicals and special emphasis on bio-security for safeguarding agricultural production and trade. This book is the most comprehensive resource of current knowledge and will be highly useful to academia or industry related to crop health management.



## Diseases of Field Crops and their Management

*Edited by S. C. Dubey, Rashmi Aggarwal, T.S.S.K. Patro and Pratibha Sharma*

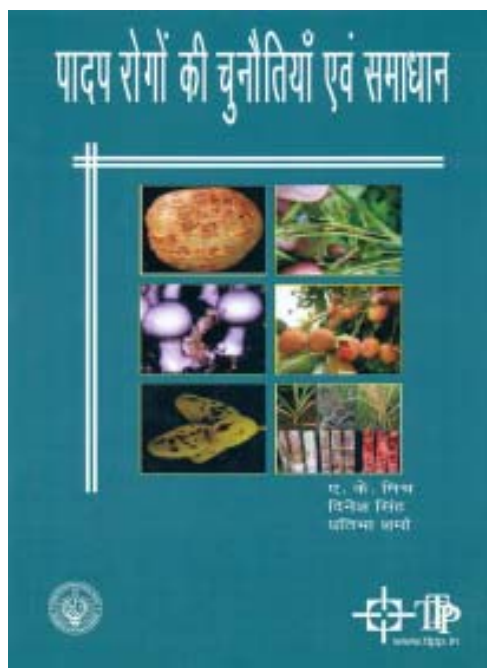
*Year: 2016 / Pages : 650*

*Price : Rs: 5995.00, US\$ 120.00 (Discount 20%)*

*ISBN: 81-7019-528-0 (India), 1-55528-383-7 (USA)*

### Description

This book focuses on diseases of oilseeds, pulse and field crops. This occurrence, distribution, economic importance, disease signs, biology and pathology of etiological agents, molecular diagnosis, host range, disease cycle and integrated disease management strategies are covered. This book would serve as valuable resource for plant pathologist, nursery managers, teachers, students, exporters, importers, extension specialists and those who are associated with cause of field crops.



## पादप रोगों की चुनौतियाँ एवं समाधान

संपादक : ए. के. मिश्र, दिनेश सिंह एवं प्रतिभा शर्मा

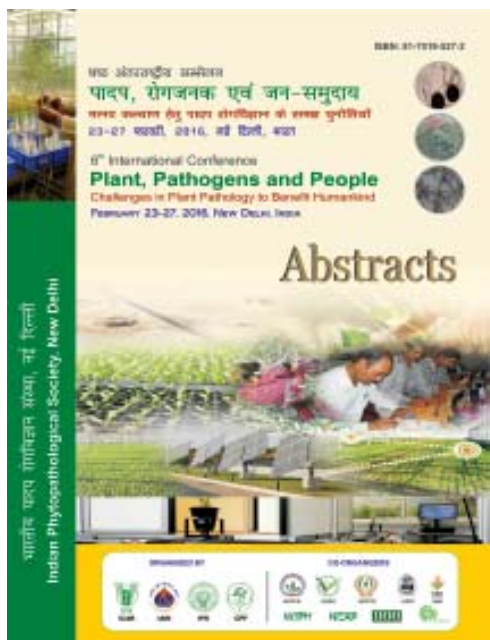
वर्ष : 2016 पृष्ठ : 297

मूल्य : Rs: 2995.00 (छूट 20%)

ISBN: 81-7019-529-9 (India), 1-55528-384-5 (USA)

### विवरण

इस पुस्तक में फल फसलों, सब्जियों, औषधीय व सुगंधीय फसलों, शोभाकारी फसलों, दहलनीय, तिलहनीय फसलों तथा गेहूँ, धान, गन्ना आदि प्रमुख फसलों के रोगों तथा उनके प्रबंधन के विषय में जानकारी दी गई है। जैविक नियंत्रक का ग्रामीण स्तर पर उत्पादन तथा उसके द्वारा उपचार के विषय में भी जानकारी दी गई है। कृषक मशरूम की खेती द्वारा भी अपनी आय बढ़ा सकते हैं। आशा है कि यह पुस्तक किसानों, बागवानों, फसल सुरक्षा अधिकारी एवं विद्यार्थियों के लिए विशेष उपयोगी सिद्ध होगी।



### Abstracts Book: International Conference

Edited by R.K. Khetarpal et al.

Year: 2016 / Pages : 676

Price : Free for delegates

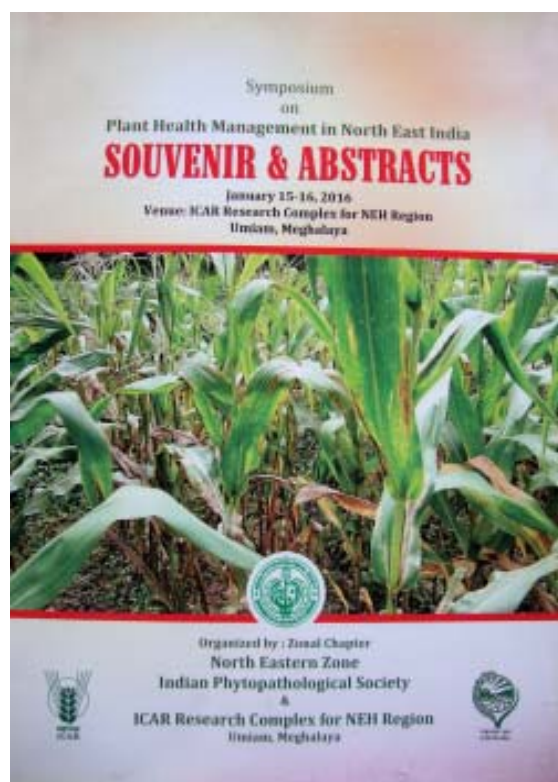
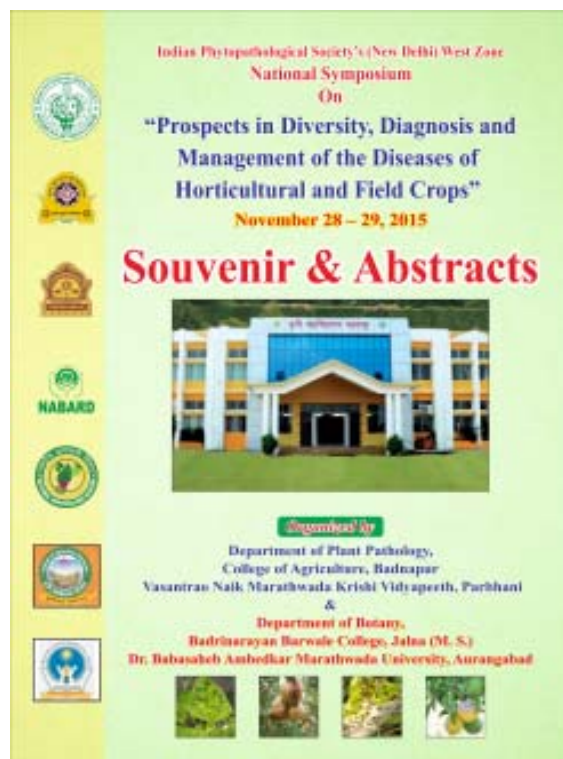
ISBN: 81-7019-527-2

### Description

The abstracts book entitled "Abstracts" included scientific papers addressing the latest advancements to be deliberated and discussed during this mega event. The presentations are divided into oral (320 nos.) and poster papers (760 nos.) which are topically distributed into 21 technical sessions. Each paper is given unique ID with session number in parenthesis for ready reference purpose. Author index was also provided at the end of the compilation for quick search purpose. The abstract papers were thoroughly reviewed and edited to improve the contents without changing the basic information.



## Abstracts book published in the zonal symposium (2015-16)







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# Financial Report

## **Treasurer's Report (2015-16)**

The report was presented by the Dr. Dinesh Singh, Treasurer, IPS. A marked improvement in collection of fund has been achieved during this period and

Society is in sound financial position. During this financial year (2015-16) He also informed that in last five years, the Society has additional increased in its financial position of Rs. 35.00 Lakhs.



## Receipt and Payment A/c

INDIAN PHYTOPATHOLOGICAL SOCIETY, NEW DELHI  
RECEIPT AND PAYMENT A/C FOR THE YEAR ENDED 31.03.2016

Receipts	Amount (Rs.)	Payments	Amount (Rs.)
Opening Balance as on April 01, 2015		Expenditure incurred by IPS	
Cash in hand	1,508.00	IPS Staff salary	5,65,000.00
Saving Bank	3,91,638.47	Postal charges	49,154.00
Fixed Deposit	62,62,303.62	Printing of journal	3,51,413.00
		AC repairing	6,550.00
<b>Receipts for IPS</b>		Stationery Charges	17,100.00
Annual Membership	1,30,200.00	Bank Charges	424.35
Life Membership	2,50,800.00	Election expenditure	42,855.00
Institutional subscription	5,41,168.00	Mid-term IC Meeting	38,395.00
Subscription for Digitized volumes	1,00,000.00	Miscellaneous Expenditure	19,652.00
Processing charge of Manuscripts	83,650.00	Delhi Zone Symposium Expenditure	2,29,000.00
Postage and Establishment	3,600.00		13,15,543.35
PFSS fee	78,000.00	Expenditure incurred by IPS for Intl. Conf.	
Endowment Fund for S. Sinha Memorial Award	5,00,100.00	Telephone expenditure	19,570.00
Interest earned on Fixed Deposits	1,70,224.04	Website Designing charges	48,000.00
NEZ Savings for AP Micro Lifetime Achievement Award	2,30,000.00	Computer Repairing	24,911.00
Award Processing fee	21,500.00	International Conference	66,840.00
Receipts for Delhi Zone Symposium	2,49,000.00		1,56,321.00
DST Financial Assistance for publication	1,00,000.00	<b>International Conference Expenditure :-</b>	
ICAR Financial Assistance for publication	1,15,000.00	Travel Allowances / Transportation Charges	3,75,893.00
		Registration Kit (bags, book, pen & cards)	13,19,201.00
<b>Receipts for International Conference (Rs. 81,73,176.00)</b>	<b>25,73,242.04</b>	Accommodation / Hospitality Charges	3,54,210.00
Registration for IPS Conference		Auditorium / Conference Hall Charges	4,90,500.00
		Floral Decoration	50,967.00
		Photography Expenditure	15,000.00
<b>Sponsorship / Financial Assistance</b>		Food Charges	32,38,038.00
International Conference sponsorship from Companies	36,08,600.00	Banner/Exhibition/Poster Panel	2,67,562.00
DST Financial Assistance for International Conference	2,00,000.00	Cultural Programme	90,610.00
ICAR Financial Assistance for International Conference	3,75,000.00	Shawls & Mementos	2,03,694.00
		Stationery Charges	51,406.00
		Honorarium & Management Fees	3,21,750.00
		Preconference Printing & Certificates	77,750.00
		Postage Charges	19,208.00
		Miscellaneous Expenditure	36,812.00
		<b>Closing Balance as on March 31, 2016</b>	<b>83,48,415.35</b>
		Cash in hand	723.00
		IPS Saving Bank A/c	13,04,993.76
		International Conference Balance in IPS A/c	7,62,679.00
		Delhi Zone Symposium Balance	20,000.00
		Fixed Deposit	85,83,432.02
		IPS International Conference A/c	86,71,827.78
			3,41,625.00
			<b>3,74,01,868.13</b>

At Tasty Associates  
Chartered Accountants  
101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Dr. DINESH SINGH  
(Treasurer, IPS & Co-organising Secretary)  
Treasurer  
Indian Phytopathological Society  
Division of Plant Pathology  
New Delhi

Dr. PRATIBHA SHARMA  
(Secretary, IPS & Organising Secretary)  
Secretary  
Indian Phytopathological Society  
Division of Plant Pathology  
New Delhi



# Profit & Loss A/c

## INDIAN PHYTOPATHOLOGICAL SOCIETY, NEW DELHI P&L A/c. FOR THE YEAR ENDED 31st MARCH 2016

Expenditure	Amount	Income	Amount
<b>Expenditure incurred by IPS</b>		<b>Receipts for IPS</b>	
IPS staff salary	5,65,000.00	Annual Membership	1,30,200.00
Postal charges	49,154.00	Life Membership	2,50,800.00
Printing of Journal	3,51,413.00	Institutional subscription	5,41,368.00
A/c repairing	6,550.00	Subscription for Digital volumes	1,00,000.00
Stationery Charges	17,100.00	Processing charge of Manuscripts	83,650.00
Bank Charges	424.35	Postage and Establishment	3,600.00
Election expenditure	42,855.00	IPSI fee	78,000.00
Mid-term EC Meeting	38,395.00	Endowment Fund for S. Saha Memorial Award	9,05,100.00
Miscellaneous Expenditure	19,652.00	Interest earned on Fixed Deposits	1,70,234.04
Delhi Zone Symposium Expenditure	3,79,000.00	MEZ savings for AP Mera Lifetime Achievement Award	2,30,000.00
	13,10,543.95	Award Processing fee	21,500.00
<b>Expenditure incurred by IPS for Intl. Conf.</b>		Receipts for Delhi Zone Symposium	2,49,000.00
Telephone expenditure	19,570.00	DST Financial Assistance for publication	1,05,000.00
Website designing charges	45,000.00	ICAR Financial Assistance for publication	1,15,000.00
Computer Repairing	24,911.00		
International Conference	66,840.00		
	1,56,321.00		
<b>International Conference Expenditures :-</b>		<b>Receipts for International Conference (Rs. 81,73,176.00)</b>	
Travel Allowances / Transportation Charges	3,75,803.00	Registration for IPS Conference	36,08,600.00
Registration Kit (bags, book, pen & cards)	13,19,201.00	Sponsorship / Financial Assistance	2,00,000.00
Accommodation / Hospitality Charges	3,54,210.00	DST Financial Assistance for International Conference	3,75,000.00
Auditorium / Conference Hall Charges	4,90,500.00		
Floral Decoration	50,967.00		
Photography Expenditure	15,000.00		
Food Charges	32,38,038.00		
Banner/Exhibition/Poster Panel	2,67,562.00		
Cultural Programme	90,610.00		
Shows & Memorios	2,09,694.00		
Stationery Charges	51,406.00		
Honorarium & Management Fees	3,21,750.00		
Pre-conference Printing & Certificates	77,750.00		
Postage Charges	19,248.00		
Miscellaneous Expenditure	36,812.00		
	70,68,872.00		
<b>Expenditure Payable for</b>			
- Delhi Zone Symposium	20,000.00		
- International Conference Balance in IPS A/c.	7,62,679.00		
- IPS International Conference A/c.	3,41,625.00		
	11,24,304.00		
<b>Depreciation on Fixed Assets (Annexure 1)</b>			
	25,792.68		
	96,30,512.00		
	12,07,906.01		
<b>Surplus</b>	<b>1,07,46,418.04</b>		

For Tasky Associates  
Chartered Accountants

Dr. Kumar Muthal  
Partner

Membership No. 503011  
(Date: 14/04/2016)

Dinesh Singh  
(Treasurer, IPS & Co-organizing  
8th International Conference)

Dr. Esh Singh  
Treasurer

Indian Phytopathological Society  
Division of Plant Pathology

Pratibha Sharma  
(Secretary, IPS & Organizing Secretary  
8th International Conference)

Dr. Pratibha Sharma  
Secretary

Indian Phytopathological Society  
Division of Plant Pathology  
C-11, New Delhi-110 012, India



# Balance Sheet

**INDIAN PHYTOPATHOLOGICAL SOCIETY, NEW DELHI****BALANCE SHEET AS ON 31st MARCH 2016**

Liabilities	Amount	Assets	Amount
<b>Capital A/c</b>		<b>Assets</b>	
Opening Balance	67,74,207.04	Computer (I-3) & P-IV with UPS	817.98
Add:- Surplus From P&L A/c	12,07,908.01	Computer (I-3) New	2,070.08
		Laptop (HP Pavilion Laptop)	2,867.20
<b>Expenses Payable for</b>	20,000.00	Printer (HP Laserjet 6L Pro)	1,033.33
- Delhi Zone Symposium		Printer (HP Laserjet P1007)	1,105.18
- International Conf. Balance in IPS A/c.	7,62,679.00	UPS (650 VA)	387.58
- IPS International Conference A/c.	3,41,625.00	EPSON LX 300+	536.10
		Air Conditioner	15,242.80
		Furniture	34,949.13
		Microwave Oven & Refrigerator	10,255.89
		SLR Camera	20,952.50
		Bicycle	2,745.50
		<b>Closing Balance as on March 31, 2016</b>	
		Cash in Hand	723.00
		IPS Saving Bank A/c.	13,04,993.76
		International Conf. Balance in IPS A/c.	7,62,679.00
		Delhi Zone Symposium Balance	20,000.00
		Fixed Deposit	65,83,432.02
		IPS International Conference A/c.	3,41,625.00
			90,13,452.78
			<b>91,06,417.05</b>

For Tasky Associates  
Chartered Accountants

Anil Kumar Mathpal

Partner

Membership No. 503011

Date: 4/04/2016

Attested by



Dinesh Singh

(Treasurer, IPS & Co-organizing Secretary  
6th International Conference)

Dr. DINESH SINGH

Treasurer

Indian Phytopathological Society  
Division of Plant Pathology  
I.A.R.I., New Delhi-110 012, India

Pratibha Sharma

(Secretary, IPS & Organizing Secretary  
6th International Conference)

Secretary

Indian Phytopathological Society  
Division of Plant Pathology  
I.A.R.I., New Delhi-110 012, India





# Acknowledgements

## **The Indian Phytopathological Society recognizes with gratitude the liberal support extended by:**

1. Dr. S. Ayyappan, Secretary DARE and Director General, Indian Council of Agricultural Research, New Delhi; Prof. Trilochan Mohapatra, Secretary DARE and Director General, Indian Council of Agricultural Research, New Delhi and Dr. A.K. Misra, President of the Society for their guidance and help in the conductance of the conference.
2. Dr. P.K. Chakrabarti, ADG (PP&B), ICAR, New Delhi providing encouragement, guidance and supporting the conference.
3. Dr. Rashmi Aggarwal, Head, Division of Plant Pathology, IARI, New Delhi, for the support in organizing and administering these activities. The dedicated facility of the Division of Plant Pathology, IARI, for their invaluable support and cooperation in the management and organization of the conference.

## **Organizers**

1. Indian Phytopathological Society, New Delhi
2. Indian Council of Agricultural Research, New Delhi
3. Indian Agricultural Research Institute, New Delhi
4. Crop Protection Federation, New Delhi

## **Co-organizers:**

1. IASRI: Indian Agricultural Statistics Research Institute, New Delhi
2. IIMR: Indian Institute of Maize Research, New Delhi
3. NBPGR: National Bureau of Plant Genetic Resources, New Delhi
4. IIWBR: Indian Institute of Wheat & Barely Research, Karnal
5. NRCPB: National Research Centre on Plant Biotechnology, New Delhi
6. NCAP: National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi

7. NCIPM: National Research Centre for Integrated Pest Management, New Delhi

8. CABI, Delhi

9. IRRI, New Delhi

## **5. Sponsors of 6th International Conference**

### **Government Organizations**

1. Indian Council of Agricultural Research, New Delhi
2. Department of Science and Technology, New Delhi
3. Department of Biotechnology, New Delhi
4. National Horticulture Board, Gurgaon, Haryana
5. NABARD, Mumbai

### **Corporate Organizations**

1. United Phosphorus Limited, Mumbai
2. Bayer Crop Science Limited, Gurgaon
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Pratibha Sharma  
(Secretary)  
Indian Phytopathological Society