ISSN 2581-6330 (Online)

Indian Phytopath News

A Quarterly Newsletter of Indian Phytopathological Society

http://ipsdis.org/ Volume 1 • Issue 4 • Oct.-Dec. 2018

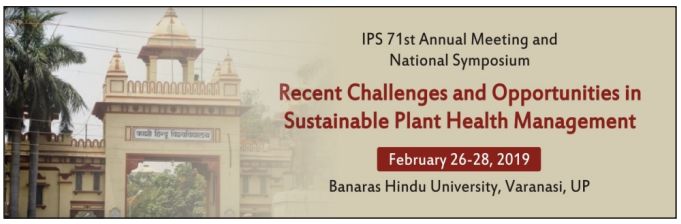
From President's Desk

Dear members, academicians, scientists and students!

We wish you all "A Happy and Prosperous New Year: 2019". It is my privilege to express my gratitude to all of you for your whole hearted support in conducting different activities of the society. During the year 2018, our EC members in general and all the Zonal Presidents and Councillors of different zones in particular have done the commendable job of organizing international conference, zonal conferences/symposiums and meetings. Excellent presentations of papers were made by the learned scientists in these events, thus the society has been well represented all over the country as well as abroad with the efforts of all of you. It is a matter of pride for all of us that International (Regional) Conference on "Role of Soil and Plant Health Towards Achieving Sustainable Development Goals in Asia Pacific" was organized jointly by APAARI, IPS, FAO, IRRI, ICRISAT, ACIAR, COA at Bangkok, Thailand under the leadership of Dr. Ravi Khetarpal, Executive Secretary, APAARI from 21 to 25, November, 2018. The conference was attended by 95 eminent Plant Pathologists of India, APAARI members and representative of 17 countries of Asia Pacific. Recommendations were consolidated and modalities for establishing a platform on soil and plant health were discussed in detail. Many issues were flagged for research, capacity development and policy by global experts in this conference for the Asia Pacific region, wherein we hope that IPS shall play the key role.

The Society is progressing well in increasing the membership, timely publication of our journal *Indian Phytopathology* from Springer and publication of books. This is the fourth issue of the newsletter which has been launched for the exchange of the news & views of the Society and persons in the fraternity of Plant Pathology. The news and information in the Newsletter will inspire all who are associated with one or the other activities for shaping up of their career and for the benefit of the people through various ways.

R.N. Pandey
President, IPS



IN THIS ISSUE

Editorial

Mycorrhiza helper bacteria (MHB) in plant protection

B.N. Chakraborty
Chief Editor, IPS Newsletter

The impressive diversity of the plant and fungal taxa involved in mycorrhizal symbiosis has demonstrated that colonization is a multistep, genetically regulated process. However, challenges are posed on their obligate biotrophic status, their multinuclear condition and an unexpected level of genetic variability. In addition to the well-known interactions between plants and fungi, mycorrhizal roots offer excellent ecological niches for other microbes, some rhizosphere bacteria adhere tightly to fungal hyphae, whereas others are directly associated with the root surfaces. Some species of bacterial genera (*Pseudomonas*, *Burkholderia*, *Bradyrhizobium*, *Bacillus*, *Paenibacillus*, *Rhodococcus* and *Streptomyces*) which help in mycorrhization and thus promote the symbiotic association between root and fungus are known as Mycorrhiza Helper Bacteria (MHB). Real-time quantitative PCR assays provide a method for directly detecting and quantifying MHB and mycorrhizal fungi in plant microcosms. MHB promote establishment of symbionts by stimulating mycelial extension, increasing root-fungus contacts and colonization, and reducing the impact of adverse environmental conditions on the mycelium

of mycorrhizal fungi. MHB may also reduce concentrations of antifungal metabolites in the mycorrhizosphere by direct antagonism against microbes that are harmful to mycorrhizal fungi. Their practical importance in plant protection and their potential applications in agriculture, horticulture and forestry centres around nutrient mobilization from soil minerals, fixation of atmospheric nitrogen and protection of plants against root pathogens. Growing concern about the pollution of soils, and the resulting trend towards reducing the input of chemicals in plant protection, should foster more environment friendly practices such as controlled mycorrhization or microbial bioremediation. This convergence of scientific and practical interests, supported by the development of genomics, may represent a unique opportunity to place MHB at the forefront of future mycorrhiza research and to boost the more general field of fungal-bacterial interactions in ecosystems.

International Conference of APAARI & IPS

Dr. Ravi Khetarpal
Executive Secretary, APAARI, Bangkok, Thailand

The importance of soil and plant health for food, feed and environmental security in the Asia-Pacific region has assumed greater importance in the era of climate change. Thus, it needs enhanced importance for working towards achieving the Sustainable Development Goals. A need has always been felt to review the soil and plant health status in the region and to address the issues on a common platform involving lead global agencies such as the Food and Agriculture Organization of the United Nations (FAO). In this regard, APAARI partnered with the Department of Agriculture, Thailand, and Indian Phytopathological Society, and organized a Regional Conference on the "Role of Soil and Plant Health Towards Achieving the Sustainable Development Goals in Asia Pacific" from 21-23 November, 2018 in Thailand. The conference was inaugurated by chief guest H.E. Luck Wajananawat, Deputy Minister of Agriculture and

Cooperatives, Thailand; H.E. Chen Yuang Tung, and the other dignitaries, namely, Louise Whiting, FAO RAP, Thailand, Yuxin Tong, FAO HQrs, Italy, and R.N. Pandey, IPS, India shared the dias as guest of honour. Dr. Ravi Khetarpal grace the occasion as Organizing Secretary of the conference. Total 165 delegates from more than 17 countries participated in the conference.

The conference flagged the following major issues for research, capacity development and policy for Asia-Pacific: harmonization of biosecurity with the Convention on Biological Diversity (CBD) of the World Trade Organization (WTO) and strengthening phytosanitary infrastructure and capacity building; pest surveillance and emerging pest alerts; eco-friendly approaches including the use of biopesticides; regional collaboration on pest and disease resistance breeding; proactive research on climate variation effects including on pests and diseases; integration of soil, water and nutrient effects on plant health; strengthening soil and plant, fungal and microbial taxonomy; creation of a knowledge platform and new partnerships for knowledge dissemination; the need for a centre of excellence for diagnostics and certification with regional referral laboratories network and pre-export inspections to facilitate safe transboundary movement; pest categorisation; soil organic maps; conservation agriculture; living soils and common microbiology platform; biofertilisers, green fertilisers and microbial inoculants; soil health monitoring through remote sensing and other latest technologies; uniform guidelines for soil health assessment in line with the FAO initiative; and a database on experts of soil and plant health. The proceedings and recommendations of the conference will be published soon and shared with all APAARI members and stakeholders. It is heartening to mention that FAO has agreed to participate in the regional platform for soil and plant health that APAARI has envisaged to take up in coming times.

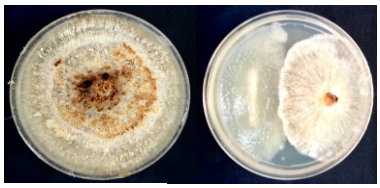
Research Highlights

Biosurfactant microbes-A hidden weapon against deadly fungal pathogen of potato tubers

Touseef Hussain* and Abrar Ahmad Khan
*DST-SERB-NPDF
Plant Pathology and Nematology Section, Dept. of Botany, Aligarh Muslim University, Aligarh - 202 002, Uttar Pradesh
*Correspondence: Hussaintouseef@yahoo.co.in

Development of environmental friendly pest management practices is deeply emphasized now a days. Hydrocarbon decomposition microorganisms with biosurfactant-production potential were investigated and isolated two new *Bacillus* spp. *i.e. B. subtilis* HussainT-AMU from Odisha and *B. firmus* HussainT: Lab. 66 from Aligarh (2017-18). Both revealed very good biosurfactant activity as well as biocontrol potentiality against black scurf of potato caused by *Rhizoctonia solani* and late blight disease caused by *Phytophthora infestans* under *in vitro* condition. Bioactive metabolites produced by both biocontrol agents were characterized by Thin Layer Chromatography, FT-IR and LCMS confirmed the presence of cyclic lipopetides (Surfactin, Iturin and Fengycin). Biocontrol activity of the *Bacillus* species against root knot nematode caused by *Meloidogyne incognita* showed a very good result.

Dual culture of late blight fungus *Phytphthora infestans* and *Bacillus firmus* HussainT: Lab. 66



Dual culture of black scurf pathogen *Rhizoctonia solani* and *Bacillus subtilis* HussainT-AMU

Powdery mildew disease is a threat to capsicum in protected cultivation

Channakeshava C*. and M.S. Patil
*Ph.D. scholar, Department of Plant Pathology, University of Agricultural Sciences, Dharwad 580 005, Karnataka, India
*Correspondence: channakeshava.agri@gmail.com

Under protected cultivation, capsicum (*Capsicum annuum* L. var. *grossum* Sendt.) is widely growing due to higher productivity and economic feasibility. Powdery mildew caused by *Leveillula taurica* (Lev.) Arn. (anamorph, *Oidiopsis taurica*), is the devastating disease that causes yield loss up to 30 per cent. In present study, 14 commercially growing F_1 hybrids were found affected by this disease. In highly susceptible hybrids (SPH-20, NS-292 and Asha (CLAUS)), fluffy, white powdery growth appeared on the underside of older leaves (Fig. 1). The upper surfaces of the leaf remained normal green or had diffuse, yellow patches corresponded to the mildew colonies on the lower surface. Severely infected leaves withered and dropped off (Fig. 2). Hybrids from RijkZwaan, Chiatai, Seminis, Syngenta and IIHR showed some degree of resistance to the disease.

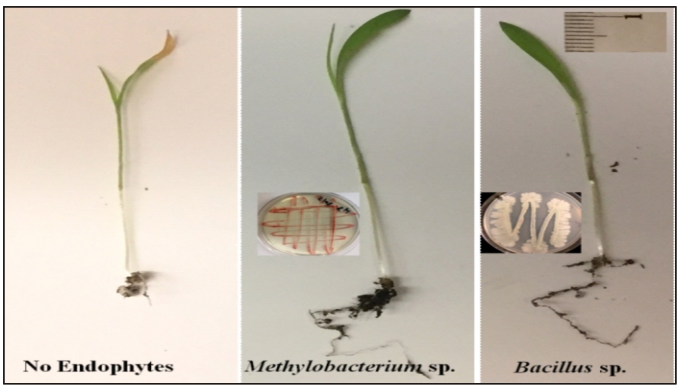
Fig. 1. Fluffy and powdery patches

Fig. 2. Drooping of leaves in highly susceptible hybrids

Seed vectored endophytic microbes modulated seedling development in crop plants

Satish K. Verma
Assistant Professor, Centre of Advanced Study in Botany, Banaras Hindu University, Varanasi 221 005, U.P., India
Correspondence: skvermabhu@gmail.com

Microbes colonizing internally within healthy plant tissue without showing any disease symptoms are endophytes. Some microbes including fungi and bacteria colonise mutually within the plant seeds may be essential during germination and seedlings establishment. Such endophytes have been reported from many agriculturally important crop plants. Working with the seed vectored endophytes, we hypothesized that seed



Effect of seed vectored bacteria on brown top millets seedling development

vectored microbes play crucial role during germination, seedling establishment, and also in protection against diseases. In rice, millets and corn, we observed that removal of bacterial endophytes using antibiotics and $HgCl_2$ from the seeds reduced the chances of germination, seedling developments including root-shoot length, root hair formation, and also compromised seedlings for fungal infection. Microscopic examination of millets endophytes- *Bacillus* spp. revealed seed endo-bacteria exited from the roots during germination and established in rhizosphere. These microbes in rhizosphere contribute nutrient mobilisation. These bacterial endophytes could be used as beneficial microbial inoculants.

Chinar, the heritage trees of Kashmir becoming endangered for butt rot

G.H. Mir[1*], A. Anwar[2], Irtifa Lateef[2], Z.A. Bhat[2], M.A. Bhat[2], T.R. Rather[3], T.A. Wani[4] and F.A. Bhat[4]

[1]Saffron Research Station, [2]Division of Plant Pathology-Shalimar, [3]Ambri Fruit Research Station, [4]Division of Plant Pathology-Wadoora; Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir, India

*Correspondence: mirgulamhassan@gmail.com

The Chinar or *Booyn*, *Platanus orientalis* is a living heritage of Kashmir. It is a symbol for the region. The Chinar trees are facing steady decline with over 35,000 trees lost out of around 40,000 Chinars that existed in Kashmir in the 70s. The remaining Chinars are at high risk. During a survey, it was observed that butt rot caused by *Ganoderma lucidum* is one of the major cause of decline of this majesty tree. It infects the roots and trunk (butt) damages the structural integrity of the host tree, often resulting in uprooted or broken by wind. The symptoms exhibit dead branches looks like die back symptoms. The first visible sign of infection is the formation of fruiting bodies shelf-like, red-brown with a white edge, shiny, bearing a lacquered appearance white, porous surface (when fresh) on the underside are in single or clusters on the lower trunk up to 6 inches wide. Unfortunately, by the time the fruiting bodies are noticed, it is too late to reverse the infection. The radial growth of *G. lucidum* was recorded higher in malt extract agar than in PDA at 28-30˚C, on acidic pH (5.0-6.0) showed optimum vegetative growth. Basidiospores are brown, ovate with a rounded base and truncate to narrowly rounded apex. The epispores are smooth and endospores are rough with large central gutta. Surface of the basidiospores are slightly to strongly dimpled. The wall is complex and composed of several layers. This study provides the first report on the occurrence of *G. lucidum* on Chinar in India.

Shalimar Bagh canal the entrance terrace with avenues of Chinar trees (Photo: Samuel Bourne, 1864)

The Chinar tree dates back to the 17th C. at Shalimar Bagh dried up and rage by diseases (Photo: Jan Haenraets, 2015).

Pink root of garlic in Himachal Pradesh

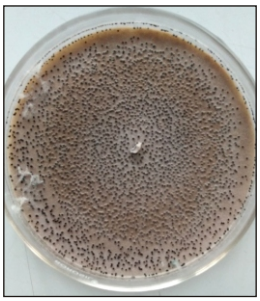
Meenu Gupta

Asstt. Professor, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan 173 230, Himachal Pradesh

Correspondence: meenugupta1@gmail.com

Garlic is an economically important crop of the farmers of Sirmour district of Himachal Pradesh. During recent surveys, stunted garlic plants were observed in the farmers' fields. The stunted plants had pinkish discoloration in the roots. Microscopic examination revealed septate, hyaline mycelium, oblong to ovoid conidia and dark brown to black, sub-globose, ostiolate pycnidia. Conidia were sessile in pycnidia. Associated pathogen was isolated using standard isolation methods and identified as *Phoma terrestris*. Its occurrence has been recorded for the first time in India.

Symptoms on garlic roots



Culture of *Phomaterrestris*

First report of *Sclerotium rolfsii* on pumpkin from Tripura

Amar Bahadur[1] and Presenjit Debnath[2]

[1]Asstt. Professor, [2]Junior Research Fellow, Department of Plant Pathology, College of Agriculture, Tripura, Lembucherra, Agartala - 799 210, Tripura

*Correspondence: amarpatel44@rediffmail.com

Pumpkin (*Cucurbita maxima* Duchesne) is an important member of the Cucurbitaceous family. Fungus *Sclerotium rolfsii* was isolated from the infected stem and fruits of pumpkin growing in the research farm of College of Agriculture, Tripura, Lembucherra. Abundant white mycelial masses appeared on the surface of pumpkin fruit. The fungus infected pumpkin plants at various stages of growth. The fungal pathogen isolated on potato dextrose agar (PDA) medium and whitish fast-growing mycelia with numerous reddish brown sclerotia were profusely developed. The sclerotia were initially white and turned dark brown after maturation. A wide range of fungal

Mycelial growth of *Sclerotium rolfsii* on stem and fruits of pumpkin

pathogens have been recorded on pumpkin, but there is no record on the occurrence of *S. rolfsii*. To the best of knowledge, this is the first report on the association of *S. rolfsii* causing fruit rot of *C. maxima* in India.

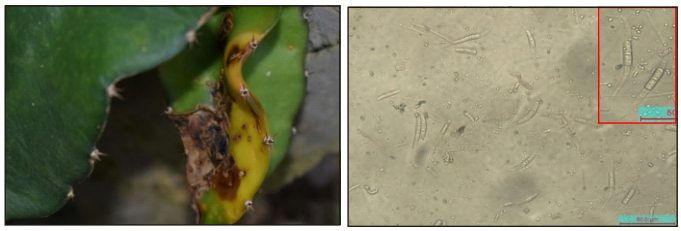
Dragon fruit affected by *Fusarium equiseti* in Mizoram, India

A. Ratankumar Singh[1*], Vishamber Dayal[2], S. K. Sharma[3], Sumitra Phurailatpam[3] S. K. Dutta[4], S. B. Singh[5], Lungmuana[3], T. Boopathi[6], Saurav Saha[3], Lalnunzuala[2], Sushanti Thokchom[1] and Y. Suraj Singh[1]

[1]ICAR RC NEH Region, Umroi Road, Umiam 793 103, Ri-Bhoi Meghalaya, India, [2]ICAR RC NEH Region, Manipur Centre, Lamphelpat 795 004, Imphal West, Manipur, India, [3]ICAR RC NEH Region, Mizoram Centre, Kolasib-796 081, Kolasib, Mizoram, India, [4]ICAR-National Institute of Organic Farming, Tadong-737 102, Sikkim, India, [5]Director of Instruction, CAU, Lamphelpat-795 004, Imphal West, Manipur, India, [6]ICAR-NBPGR, PUSA Campus, New Delhi 110 012, India

*Correspondence: ratanplantpatho@gmail.com

Dragon fruit (Pitaya or Pitahaya, *Hylocereus* spp.) is a cactus grows in warm and humid climate and needs less water. In Mizoram, the dragon fruits are widely cultivated covering 230 ha during 2017-2018 due to its high adaptability. Its fruits have high commercial and nutritious value. Dragon fruit farms of Mizoram were surveyed for fungal diseases and incidence of stem rot was recorded from 13.01 to 19.32%. The infected stems borne circular sunken black lesions surrounded by yellowish colour, sporodochia with orange masses of conidia and white mycelium developed in the lesions. The lesions coalesced to rot whole stem. Based on cultural characters, ITS analysis and pathogenicity tests, the pathogen was identified as *Fusarium equiseti*. The stem rot of Dragon fruit has been reported first time from Mizoram, India.



Stem rot of Dragon fruit and macroconidia of *Fusarium equiseti*

Mechanized means of treatment – An effective way to deliver agro-inputs for sugarcane planting materials

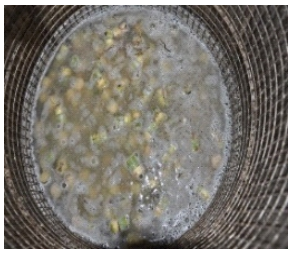
R. Viswanathan* and P. Malathi

ICAR-Sugarcane Breeding Institute, Coimbatore 641007

*Correspondence: rasaviswanathan@yahoo.co.in

The infected seed canes in sugarcane serve as a primary source for the major fungal diseases, red rot, smut, and wilt. Also infected setts (stem cuttings) with these pathogens are responsible for major epidemic development in these diseases. Hence healthy seed nursery programme is advocated for effective disease management in the country. However, the fungal pathogens have to be tackled through effective sett treatment with fungicides. Our earlier experiments revealed that the effective diffusion of fungicides inside the setts require prolonged duration (overnight) of soaking. Since it is cumbersome to handle huge volume of seed canes for fungicide treatment, ICAR-SBI has developed a technology (The Patent Office Journal 21/06/2013) to deliver fungicides or beneficial microbes effectively and rapidly in the setts. Based on that technology, the Institute has fabricated a sett treatment unit in collaboration with ICAR-CIAE to treat setts with fungicides and other agro inputs for disease management and healthy nursery programme. Field trials conducted at the Institute and sugar factories established that effective fungicide delivery through the device has reduced red rot and smut development from sett and soil borne inocula for 3-4 months in the field. Further in healthy nursery programme, effective treatment of single bud setts with fungicide, insecticide, macro and nutrients benefitted in producing vigorous settlings. This method of sett treatment is an improved method over conventional sett soaking as it has definite advantages such as rapidity, economical due to less chemical and repeated use, less cumbersome in handling material, capable of delivering more than one agrochemical at a time and suitability for large scale application under farmer's field condition for sugarcane. The technology was commercialized and licensed to a firm in Coimbatore for large scale production of the unit. Many sugar industries and nursery farmers have installed the unit in different states and the technology benefits the farmers for effective disease management and also to increase seedling vigour in the nurseries.

Sett Treatment Device (STD) to treat sugarcane setts



Inside view of the treatment chamber with setts immersed in fungicide solution

Symposium/Training/Workshop Organized

IPS MEZ Symposium: October 29-30, 2018

IPS Mid-Eastern Zone National Conference on "Bio-intensive Approaches in Plant Protection and their Socio-economic Impacts" was held at Department of Plant Protection, Aligarh Muslim University, Aligarh, U.P. during 29-30 October, 2018. The Souvenir & Abstracts and a book entitled "Bio-intensive Approaches: Application and Effectiveness in Plant Disease Management (Eds. MR Khan et al.)" was released in the inaugural session. The symposium was attended by 300 delegates.

IPS Northern Zone Symposium: November 2-3, 2018

National Symposium on "Alternative Approaches in Plant Health Management for Enhancing Farmers' Income" was organized at Department of Plant Pathology, UHF, Nauni, H.P. w.e.f. 2-3rd November, 2018 in association with Indian Phytopathological Society, New Delhi (NZ) and Himalayan Phytopathological Society, UHF, Nauni. The symposium was inaugurated by Dr. V.L. Chopra, Former Member, Planning Commission & Former Secretary, DARE & DG, ICAR who was the Chief Guest and Dr. V.S. Thakur, former Vice Chancellor and presently Director of Extension Education, YSPUHF, Nauni, presided over the function. The closing ceremony was presided over by Mr. Ranbir Singh, Chief General Manager, NABARD, Shimla.

IPS Eastern Zone Symposium: November 17-19, 2018

A three day-long seminar on "New Paradigms of Plant Health Management: Sustaining Food Security under Climate Change Scenario" and & Annual Meeting of Indian Phytopathological Society (East Zone) was organized during 17-19 November, 2018 by Bihar Agricultural University, Sabour (Bhagalpur), Bihar in association with Indian Phytopathological Society, New Delhi. The national seminar& IPS-EZ Annual Meeting was inaugurated by Hon'ble Vice Chancellor, Dr. A.K. Singh in the gracious presence of chief guest Dr. Vijay Singh Thakur, former Vice-Chancellor, YSPUAF, Solan along with delegates *viz*., Dr. Robin Gogoi, Joint Secretary, IPS, New Delhi, Dr. R.K. Sohane, Convener-cum-DEE, BAU, Sabour and Dr. R.R. Singh, Dean (Ag.) BAU, Sabour. More than 100 participants from different states participated and more than 40 deliberations and about 30 poster presented in the symposium.

IPS Delhi Zone Symposium: December 13, 2018

Indian Phytopathological Society (Delhi Zone) organized one day meeting and National symposium on "Microbes for Integrated Plant Disease Management and Bio-prospecting" on December 13, 2018 at Division of Plant Pathology, ICAR-Indian Agricultural Research Institute, New Delhi. The symposium was inaugurated by Chief Guest Dr. C.L. Jandaik, former Professor and Head, Deptt. of MPP, UHF, Solan, HP and guest of honour Dr. P.K. Chakrabarty, ADG (Plant Protection and Biosafety), ICAR Krishi Bhawan, New Delhi. Besides lead lectures delivered by eminent personalities, there were 21 poster presentation, Prof. M.J. Narsimhan medal award contest and APS travel grant award contest. The symposium was attended by 98 delegates.

IPS Southern Zone Symposium: December 21-23, 2018

Indian Phytopathological Society (Southern Zone) and the ICAR-National Research Centre for Banana have organized jointly a three days National Symposium on "Cutting Edge Approaches for Sustainable Plant Disease Management and Ensuring Farmers' Profit" during 21-23 December, 2018 at ICAR NRC Banana, Tiruchirapalli, TN. Around 288 agricultural scientists of Plant Pathology and Breeders, academicians, progressive farmers, representatives from industries related to plant protection and scholars from state agricultural universities and colleges of southern states *viz*., Tamil Nadu, Pondicherry, Kerala and Karnataka, participated in the symposium. In addition, a special interactive workshop on "Careers in Plant Pathology" was organized for the benefit of the undergraduate students

who aspire to become Plant Pathologists. Around 178 students participated in the one-day special interactive workshop conducted on 22nd December, 2018.

IPS Central Zone Seminar: December 28, 2018

The central zone meet of Indian Phytopathological Society was organized along with National Seminar on "Recent Trend in Plant Disease Management" by the Department of Microbiology at Kakatiya University, Warangal, Telengana on 28th December, 2018. The meet had arranged 8 lead lectures delivered by eminent academic resource persons. Total 30 research papers and 10 posters were presented in the seminar by the scientists and research scholars. Around 300 students of Microbiology, Botany and Biotechnology, and also farmers participated in the day long seminar.

ICAR sponsored winter school at UAS, Dharwad

ICAR sponsored Winter School on "Innovations in Integrated Management of Insect Pests and Diseases of Field Crops through Endophytes and PGPRs" was conducted during November 13 to December 3, 2018 at University of Agricultural Sciences, Dharwad. Total of 24 Scientists from ICAR Institutes and SAU's participation in the 21 days training programme. The Director of Winter School Dr. Shamarao Jahagirdar, Professor of Plant Pathology & National PI (Soybean Pathology), UAS, Dharwad was instrumental in oragnising this winter school.

Workshop on Fluorescence and Confocal Microscopy at AAU, Jorhat, Assam, India

A two day workshop on "Fluorescence and Confocal Microscopy" was organized by Dr. Pranab Dutta, Scientist, Department of Plant Pathology during 19-20 December, 2018 at Assam Agricultural University, Jorhat under the sponsorship of German based company Leica Microsystems. All together 40 nominated faculties, PhD scholars and project staffs of 14 departments of three colleges and one Technical Officer of IASST, Guwahati participated the workshop.

Forth-coming Events

Three Refresher Courses at Jain University, Bangalore; Periyar University, Salem; Kongunadu Arts and Science College, Coimbatore and two Lecture Workshops at JSS College, Mysore and Teresian College, Mysore will be organized during January - March 2019 by the INSA, NASI & IASc. Dr. D.J. Bagyaraj will be the Convener/Director/Resource Person of the courses.

For **IPS Activities 2018-19 (Symposium/Conferences),** please visit website http://ipsdis.org/gallery/view/35540

Awards/Honours

- **Dr. Shripad Kulkarni,** Professor of Plant Pathology & Head, Department of Environmental Sciences, College of Agriculture, University of Agricultural Sciences, Dharwad, Karnataka (India) received Fellow Award from Society for Biocontrol Advancement (PDBC), National Bureau of Agriculturally Important Insects (NBAIR), Bangalore, Karnataka during International Conference on "Biological Control" held at Hotel Le Meridian, Bangalore on 29th September 2018.

- **Dr. K. Sesha Kiran,** Assistant Professor & Head, Department of Plant Pathology, College of Horticulture, V.R. Gudem, Dr. YSR Horticultural University was selected for the Science Academies Summer Research Fellowship and worked on Antagonism of Rice Endophytic Bacteria on the germination of

macroconidia of various pathogenic Fusarium sps" at Division of Agroprocessing and Technology, CSIR- NIIST, Thiruvananthapuram from 1st October - 25th November, 2018.

- **Dr. Ravi Khetarpal,** Executive Secretary, Asia Pacific Association of Agricultural Institutions (APAARI), Bangkok, Thailand, has been elected unanimously as President of ISMPP, Udaipur, India. He has also conferred Dr. SS Chahal Life Time Achievement Award by ISMPP, Udaipur.
- **Professor B.N. Chakraborty,** Department of Biological Sciences, Aliah University, New Town, Kolkata has received Y.L. Nene Outstanding Plant Pathology Teacher Award from Indian Society of Mycology and Plant Pathology at Indian Institute of Pulses Research (IIPR), Kanpur on 16th November 2018

- **Dr. M.P. Thakur,** Director, Instructions and Controller of Examination, Indira Gandhi Krishi Vishwavidyalaya, Raipur received Prof. PR Verma Memorial Award Lecture -2018 from the Indian Society of Mycology and Plant Pathology, Udaipur during National Symposium on Plant and Soil Health Management: New Challenges and Opportunities held at ICAR-Indian Institute of Pulses Research, Kanpur, U.P. during November 16-18, 2018. Dr. Thakur made his presentation on "Characterization and diagnosis of plant pathogens causing important diseases along with their effective management" highlighting the work done by late Prof Verma.

- **Dr. D.P. Bhandari,** Scientist, Plant Pathology was awarded Prof HC Dubey Outstanding Young Scientist Award-2018 by the Indian Society of Mycology and Plant Pathology, Udaipur at 39th Annual Conference held in collaboration with ICAR- Indian Institute of Pulses Research, Kanpur.
- **Dr. Ritu Mawar,** Senior Scientist (PP), Plant Pathology Section, Division of Crop Improvement and Pest Management, ICAR-Central Arid Zone Research Institute, Jodhpur (Rajasthan), received the Smt Guman Devi Verma Memorial Best Woman Scientist Award 2018 for paper entitled" Towards managing *Ganoderma* induced mortality in Indian mesquite by indigenous bio-resources" in National Symposium on Plant and Soil Health Management at ICAR-IIPR Kanpur held during November 16-18, 2018.

- **Dr. D.J. Bagyaraj** was the recipient of Life Time Achievement Award conferred by the Mycological Society of India during its Annual Meeting held at Pune during November 19-21, 2018. The award was bestowed on him by the renowned British Mycologist Professor David L. Hawksworth.
- **Dr. Usha Chakraborty**, Former Professor, Department of Botany, University of North Bengal, Siliguri, has been elected as a Fellow of the Mycological Society of India (FMSI), from November 21, 2018 and also received the XIXth Dr. S.N. Banerjee Memorial Award, 2018 of Indian Mycological Society, and delivered a lecture entitled "Alleviation of abiotic and biotic stresses in crops through beneficial rhizospheric bacteria" on December 3, 2018, at Department of Botany, University of Calcutta.

- **Dr. Pramod Kumar Gupta** received "Best KVK Scientist Award" for the recognition of outstanding contributions in farm advisory services under transfer of technology and participatory research in the Indian Society of Extension Education National Seminar on "Integrated Farming System for Enhancing Farmers Income and Nutritional Security" held at West Bengal University of Animal and Fisheries Sciences, Kolkata (WB), December 5-7, 2018.

- **Dr. Atul Kumar,** Principal Scientist and Nodal Officer (Hindi) was awarded with second prize in Power Point Presentation Competition in Hindi in 2018 on the topic "*Jaivik kheti banam rasaynik kheti*". He was felicitated by the Padma Bhushan awardee Prof R B Singh in a function organized at Dr. B.P. Pal Auditorium on 19th December 2018 with a certificate and a cash prize of Rs. 3500.

- **Ms. Savita Patil,** recipient of 2018 APS –IPS Student Travel Award, has been selected for the APS Global Membership Fund with two years of free membership from January 1, 2019. This program is managed collaboratively by APS Foundation and the APS Office of International Programs. With this membership she will get the important benefits including voting privileges, eligibility to apply for awards and programs, APS News Capsule, significant discounts on the annual meeting, APS PRESS items, and journal subscriptions, networking opportunities with other APS members, access to webinars, discounted rate on publishing in all journals, job center services and opportunities for committee involvement and professional development. The honour was confirmed by Talo Pastor-Corrales, Director, Office of the International Programs.

Foreign Visit

- **Dr Rashmi Aggarwal**, Head, Division of Plant Pathology delivered a Pathologist of Distinction (POD) talk as an expert in the field of Plant Pathology in the International Congress of Plant Pathology (ICPP2018) at Boston, Massachusetts, USA during July 29-August 3, 2018.
- **Dr Malkhan Singh Gurjar**, Scientist SS, Division of Plant Pathology, IARI, New Delhi presented a research paper on "Whole Genome Sequencing and Secretome analysis of Tilletia indica inciting Karnal bunt of wheat Provides Pathogenesis-related genes" in the International Congress of Plant Pathology (ICPP2018) at Boston, Massachusetts, USA during July 29-August 3, 2018.
- **Dr. Sunita Mahapatra,** Assistant Professor (Plant Pathology), Survey Selection and Mass Production Unit, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal and **Dr. C. Manjunatha**, Scientist (Plant Pathology), ICAR-IARI Regional Station, Wellington, The Nilgiris District, Tamil Nadu, participated in the 10th Annual Training Course on "Standardization of stem rust field notes and germplasm evaluation, with discussions on stripe and leaf rust" from September 29 to October 9, 2018, at the Kenya Agricultural and Livestock Research Organization (KALRO), Njoro, Kenya, organized by CIMMYT. The training was attended by 29 participants from thirteen different countries.
- **Dr. T. Makeshkumar**, Principal Scientist (Plant Pathology - Plant Virology), ICAR-Central Tuber Crops Research Institute, Thiruvananthapuram, Kerala visited Plant Virus Department, DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen), Braunschweig, Germany for a short term research course on "Recent advances on Cassava viruses research" during 5-15 December, 2018. During this period, he learnt the approaches of NGS for virus discovery, screening procedures adopted for cassava brown streak virus resistance in cassava, strategies adopted for antibody production against various viruses etc.

New Release: IPS Books

Bio-intensive Approaches: Application and Effectiveness in Plant Disease Management

Editors: M.R. Khan, A.N. Mukhopadhyay, R.N. Pandey, M.P. Thakur, Dinesh Singh, M.A. Siddiqui, Md. Akram, F.A. Mohiddin and Z. Haque

Bio-intensive Approaches: Application and Effectiveness in the Management of Plant Nematodes, Insects and Weeds

Editors: M.R. Khan, A.N. Mukhopadhyay, R.N. Pandey, M.P. Thakur, Dinesh Singh, M.A. Siddiqui, Md. Akram, F.A. Mohiddin and Z. Haque

Browse Volumes & Issues (2018)of the journal
Indian Phytopathology (ISSN: 0367-973X (Print) 2248-9800 (Online)
https://link.springer.com/journal/42360/onlineFirst/page/1

Glimpses of IPS International Conference held at Bangkok, Thailand during November 21-25, 2018

Editorial Board - Newsletter

Published by
Indian Phytopathological Society
Division of Plant Pathology
ICAR-Indian Agricultural Research Institute
New Delhi – 110 012, India,
Tel: +91-11-25840023
E-mail: ipsdis@yahoo.com, website: http://ipsdis.org