



भा.कृ.अनु.प. - राष्ट्रीय जैविक स्ट्रेस प्रबंधन संस्थान

ICAR - NATIONAL INSTITUTE OF BIOTIC STRESS MANAGEMENT

Baronda, Raipur - 493 225, Chhattisgarh



Director's Desk

It is my privilege to present the second issue of NIBSM Newsletter in 2016. This semester witnessed tangible outputs of great significance to the infrastructure development of the institute. As has been narrated earlier also, the institute will house an interdisciplinary infrastructure that is required for frontier research and applications in crop health related issues and for training students and scientists in cutting edges of interdisciplinary research and its translation into promising farm technologies which will promote prosperity of Indian farmers. A proposal envisaged for setting up a dedicated research institute with a deemed - to - be university status has been finalized. Keeping in view the various activities and mandate of the institute. To fulfil this requirement, CPWD was entrusted to develop the master plan of the institute. Based on the requirement of the institute, CPWD developed the master plan which was presented before senior officers of ICAR. Accordingly, components for an adequate infrastructure were planned so as to pursue research and higher education as per the mandate of the four schools proposed at the time of envisioning the mandate of the institute. Exchange of research scholars and faculty members from nationally acclaimed institutes/organisations as well as other countries will be a regular feature to bring in the scientific and academic excellence in the country. To meet this objective, student hostels meeting best standards of study ambience for boys and girls as well as guest researchers/faculty from national and international sources are proposed to be created. While finalizing the master plan it has been ensured that the 70 per cent of the total area of land allotted to NIBSM is kept for research farm. The remaining 30 per cent of the area will cater the requirement of office buildings, hostels, guest house, residents, sports complex and shopping/community centre. The master plan could be got approved from ICAR headquarters as well as efforts are actively on to seek approval from the district town and planning department with the help of CPWD. My joy knows no bound to declare through the present "Director's desk" that NIBSM could succeed in getting allocation of Rs. 64.7 crores under 12th plan which enables us to pursue the works approved in the related EFC document. Some of the important buildings which will see their foundation laid in the coming months are Administration, Computer Lab., Buildings, including schools, laboratory, library, Auditorium, Conference Room, Computer facilities, Directors office, Registrar Office, Controller Office, Canteen, Girls Hostel,

International Student Hostel, Boys Hostel, Field Crop Research Centre, Insectary etc. Following approval of the master plan, we now focus on deputing human resources at the institute. A proposal for creation of 70 scientific posts, 50 technical staff, 50 supporting staff and 40 administrative staff are under negotiations with the council.



Another palpable event added as a feather to the cap of NIBSM is the successful negotiations pertaining to the conduct of second meeting of Research Advisory Committee (RAC). The RAC meeting has been fixed to be conducted on 11-12th July 2016. On 11th July 2016, at ICAR-NIBSM Campus, Baronda, Raipur under the Chairmanship of Prof. Anupam Varma. A proposal has been submitted for approval of ICAR to merge two schools namely school of crop health management research and school of crop resistance system research into one school to deter the anticipated repeatability of the mandates which may cause creeping of ambiguity in later stage. Also the school of Crop Health Policy Research has been proposed to be renamed as this school will address the issues of plant life or health from risks arising from the entry, establishment or spread of pests, diseases, disease – carrying organisms or disease causing organisms with the support of social components, sanitary and phytosanitary agreement, codex alimentarius etc. Research will also be carried out on the issues involved in protecting human or animal life or health from risks arising from additives, contaminants, toxins or disease causing organisms in food, beverages or food stuffs under the auspices of this school. Innovations will be pursued to create public awareness through institutional outreach programmes addressing protection of human life or health from risks arising from diseases carried by animals, plants or product thereof, or from the entry, establishment or spread of pests.

(Jagdish Kumar)
Director (Acting)



Joint Director's Message

Dear All,
Greetings from Raipur.



We all are aware that NIBSM, Raipur has been entrusted with the responsibility to generate information on various aspects of biotic stress management in agriculture. I feel very happy, enthusiastic and excited to join this Institute on 22nd February 2016 in the capacity of founder Joint Director (Research). I feel extremely thankful to the government authorities and previous OSDs in wit-full designing of the mandate, thrust areas and programmes of the Institute. With the increasing scientific human resources in various disciplines of agriculture, including crop science, livestock and fisheries. NIBSM is factually geared up to undertake challenging issues in the area of biotic stress management. Major attention has been laid in accelerating efforts to establish the infrastructure and providing directions to the research programmes during last six months. Mid-term IRC meeting has been successfully accomplished whereby the ongoing nine projects were grouped into three major research programmes including Loss assessment methodology of biotic stress in agriculture (3 projects), Nutrition and biotic stress management in agriculture (6 projects), and Policy support research in agricultural bio research and bio safety (presently no project). Three new projects on characterization of viruses, management of pink stem borer, and user friendly education knowledge tools in biotic stress management were also approved. Complements to the scientists that in attracting five externally funded projects from various sponsoring agencies. As a National institute, it has been decided to develop NIBSM as a repository of pest and pathogens especially prevalent in Chhattisgarh and adjoining states. Development of pathogen genetic resources, understanding molecular mechanisms of host pathogen interaction, utilising alien and novel genetic stocks as resistance sources to generate stress tolerant resources, advanced allelopathy research, fine tuning of IPM modules, identification of stress-induced promoters would be key features to undertake future research programmes, in view of recent modifications made by the council in the mandate of this institute (*vide ICAR F.No.13 (102)/2015: C dn. Tech. 20th May 2016*) focusing on basic, strategic and adaptive research. We are making all efforts to undertake these research objectives in network mode. Negotiations are already underway with national and international institutes of repute. We are also trying to attract external funding and have submitted ten projects to agencies such as DST, DBT, ICAR and Ministry of Health and Family Welfare, during this period.

To channelize research and administrative activities, various important committees including PME Cell has been strengthened. We are in process for scientific updated documentation of our research activities. 3rd Meeting of IMC has been successfully accomplished on 18th March, 2016. Adaptive research is being undertaken in institute funded projects as well as under *Mera Gaon Mera Gaurav* programme. Three teams of five scientists each, along with the programme Co-ordinator have been formulated which are now actively participating in various activities for dissemination of good agricultural practices and relevant technologies. Till date more than 400 beneficiaries were educated in the programme. A training programme on food borne pathogens has also been organised.

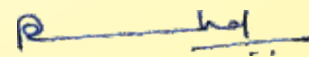
Developing human resources would be another focus in forthcoming days. To mark the presence of the Institute, scientists have participated and delivered lectures in about ten national and international events during last six months, being conducted in various parts of the country, which also includes a foreign deputation for an invited keynote address in Listeriosis.

The institute has participated actively in GOI/ ICAR Celebrations including Farm Raising Day (10-06-2016), *Swachhata Pakhwara* (16-31 May, 2015), International Yoga Day (21-06-2016) and quarterly meetings of *Rajbhasha* (15-04-2016 and 16-06-2016).

The farm activities are being reoriented and almost the complete land area except buildings is under active cultivation. About 7.25 lakhs INR has been generated during ongoing 2016-17 and it is expected to surpass the revenue of 22.11 Lakhs INR generated in 2015-16, with the rice crop stand in the field this *kharif* season. Efforts are underway to develop defined sectors/blocks for cereals, pulses, oilseeds, forages and agroforestry demonstrations and experimentation.

I am highly thankful to the Council for providing all encouragements in shaping up this Institute. The dignitaries from ICAR, including DG-ICAR, DDG (CS), ADG (PP&B), ADG (Seeds) and Director (Works) were very kind to visit the Institute and ensuring logistics, administrative and scientific support whenever we requested.

I have a strong feeling that in coming days the efforts and enthusiasm of NIBSM staff with all administrative support from the council will definitely achieve goals with which this institute was envisaged.



P. Kaushal

Joint Director (Research)

Research Activities

Effect of *Dhaincha* (*Sesbania aculeata*) on weed management in wheat and mustard

Plots which were incorporated with *dhaincha* as green manure before transplanting of rice had no significant effect on weed density and dry biomass in wheat (var. GW273). However, the yield attributes were better with *dhaincha* incorporated plots. Yield of wheat (GW 273) and mustard (CG sarson 1) was recorded 20.1% and 15.5 % higher than the without *dhaincha* incorporated plots.

Experiment on weed management in wheat

During *rabi* 2015-16, in wheat plots where in no weed management treatments applied were dominated with 72% of broad leaved weeds followed by 28% of grasses and there was no sedges. Weed control efficiency was found to be higher with three hand weeding at 20, 40 and 60 DAS (96%) and two hand weeding at 20 and 40 DAS (92%) followed by Clodinafop-propargyl 15% + Metsulfuron-methyl 1% (85.9%). Considering cost and availability of labour, application of Clodinafop-propargyl 15% + Metsulfuron-methyl 1% was found to be economical.

Experiment on weed suppression through nutrient management

Application of nitrogen favoured the emergence and establishment of grasses, whereas, broad leaved weeds dominated in phosphorus applied plots in wheat. Omission of each nutrient significantly reduced the grain yield. $N_{100}P_{60}K_{40}$ applied plots recorded the highest grain yield (2.73 t/ha), which was 164% higher over control ($N_0P_0K_0$). The weed emergence was suppressed under $N_{100}P_{60}K_{40}$ applied plots by better canopy coverage and more growth attributes, resulting better weed suppression ability.

Influence of nitrogen on weed suppression and yield of wheat

The growth and yield attributes had been improved with an increase in N regimes. The highest grain yield was obtained with N_{125} (2.50 t/ha) which was statistically on a par to N_{100} (2.43 t/ha), whereas, the lowest grain yield was obtained with N_0 (1.35 t/ha). The grain yield was negative correlated with weed density and weed dry weight ($r=0.99$) (Fig 1).

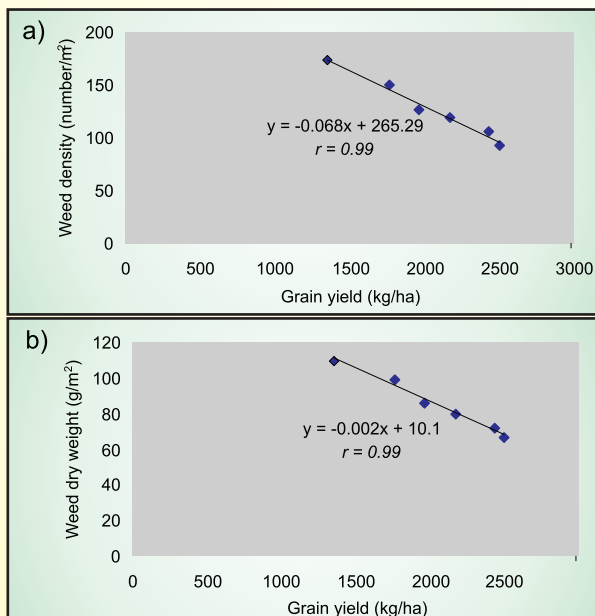


Fig. 1. The relationship between a) weed density and grain yield, and b) weed dry weight and grain yield.

Occurrence of brown rust of wheat

During *rabi* 2015-16 season, brown rust of wheat (*Puccinia triticina*) was observed with low to moderate severity at the dough stage of timely sown wheat crop in the farmers fields of Raipur district as well as at the NIBSM experimental fields. However, in very late-sown crop (January sown) in Adsena village, brown rust was observed with high severity at anthesis stage under irrigated condition on cultivar GW 273 ($Lr13+Lr10+$). Fourteen samples were sent to ICAR-IIWBR Regional Station, Flowerdale, Shimla (H.P.) for the identification of pathotypes prevalent in this region. Analysis revealed that the pathotype 121R60-1 (77-9) virulent on $Lr1$, $Lr3$, $Lr10$, $Lr11$, $Lr12$, $Lr13$, $Lr14a$, $Lr14b$, $Lr14ab$, $Lr15$, $Lr16$, $Lr17a$, $Lr17b$, $Lr18$, $Lr20$, $Lr21$, $Lr22a$, $Lr22b$, $Lr23$, $Lr26$, $Lr27+31$, $Lr30$, $Lr33$, $Lr34$, $Lr35$, $Lr36$, $Lr37$, $Lr38$, $Lr44$, $Lr46$, $Lr48$, $Lr49$ was the most predominant one having found in 10 samples whereas pathotypes 21R55 (104-2) and 121R63-1 (77-5) were identified in three and one samples, respectively. These pathotypes are very similar to the prevalent ones in the central and peninsular India including Madhya Pradesh, Gujarat, Maharashtra and Karnataka.

Pest and Disease Status

Weekly insect pest and diseases status have been recorded in rice, wheat, green gram, chick pea and vegetables and sent to National Centre for Insect Pest Management, New Delhi along with pest advisory. Low to high incidence of rice yellow stem borer, pink stem borer, whiteflies and thrips and pod borer have been reported in rice, wheat, green gram and chick pea, respectively. High incidence of leaf curl disease has been recorded in chilli and tomato.

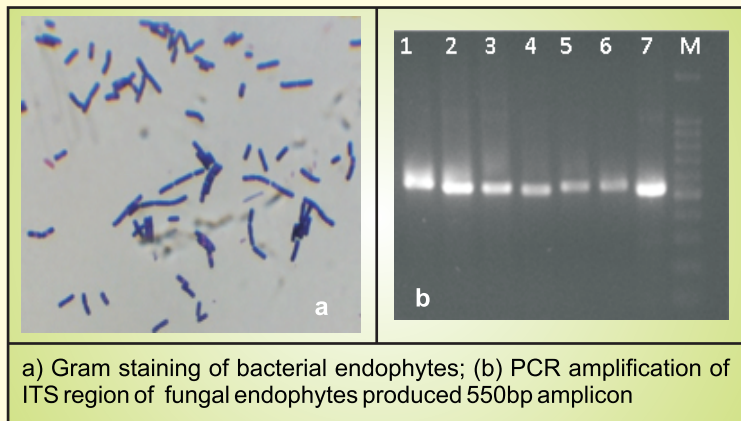
Studies on microbes associated with reproductive biotic stresses of bovine

Reproductive disorders are the greatest problems in dairy farming and causes huge economic loss to the livestock industry. In this study a total of 374 serum samples collected from six districts of Chhattisgarh were screened for presence of antibodies against brucellosis, leptospirosis and infectious bovine rhinotracheitis using i-ELISA. The overall seroprevalence was found to be 14.17%, 59.09% and 63.9% for brucellosis, leptospirosis and infectious bovine rhinotracheitis, respectively.

Unravelling plant-endophytes in legume crops for enhanced crop nutrition and biotic stress management

Endophytes are the microbes that live inside the plant tissues without causing any apparent harm to the host and known to play a crucial role in the functioning of plants by influencing their physiology and development. In order to isolate endophytic microbes associated with different tissues and developmental stages of the plants life, plant tissues such as leaves, stem, flower, seed and root of pigeon pea and *Lathyrus* were collected and surface sterilized to remove the epiphytic microbes and other contaminants. The sterilized tissues were inoculated on bacterial and fungal specific culture medium and pure culture of endophytes were prepared. The microbes were further characterized using morphological and biochemical parameters viz; gram staining, nitrate oxidase, urease activities. Molecular characterization of endophytic bacteria and fungi was performed using PCR amplification of 16s rDNA and ITS region, respectively followed by sequencing of amplicons for

identification of microbes and assigning them in to their respective communities. Sequencing of fungal ITS region of pigeonpea endophytes showed the identity with the *Fusarium fujikuroi*, *Daldinia eschscholzii*, *Cochliobolus miyabeanus*, *Macrophomina intermedia* and *Gibberella species etc.* However, bacterial endophytes showed identity with the *Pseudomonas*, *Rhodococcus* genera etc.



a) Gram staining of bacterial endophytes; (b) PCR amplification of ITS region of fungal endophytes produced 550bp amplicon

Institute Activities

Mid-term IRC

The mid-term Institute Research Committee meeting was held in two events; (i) 29-30th March 2016 and (ii) 27th May 2016 under the Chairmanship of Dr. Jagdish Kumar, Director (Acting). During this meeting Dr. Jagdish Kumar briefed about background, genesis and synthesis of the ICAR-NIBSM in relation to Veerappamoiy Over Sight Committee Report on the basis of policy on inclusion, expansion and excellence. He also explained about Government of India report on four schools and mandate of NIBSM. In introductory remarks by Dr. P. Kaushal, Joint Director (Research), he emphasized upon the development of multidisciplinary projects in network mode within the given mandate of the institute. Novel ideas and quick translational research will make immediate national and international impact. Each scientists of the institute presented research findings during the year of report and suggestions were also given for further improvement. Three new projects were also presented and approved. During the meeting reorientation of research activities, experimental farm, basic data generations on biotic stress of crops and outreach activities of the institute were also discussed.

Institute Management Committee Meeting

The 3rd meeting of the Institute Management Committee was held on 18th March, 2016 at ICAR-NIBSM, Raipur. At the outset, The Chairman of IMC Dr. Jagdish Kumar, Director (Acting) welcomed all the members and special invitees. Dr. P. Kaushal, Joint Director (Research) mentioned about the transformation of the Institute, facilities and narrated about research priorities of the Institute. He also briefed about the on-going research programmes of the Institute and stressed the need for effective networking with other institutes. The issues related to recruitment and infrastructure development were also mentioned. He presented the progress of the Institute since its inception. He explained the mandate of the institute and the reorientation of the schools. Dr. U.K. Mishra, Member IMC

suggested to organize brain storming session to ascertain on future activities of ICAR-NIBSM. Dr. P.K. Chakrabarty, ADG (PP&B), ICAR expressed satisfaction with the progress of the institute. The institute research achievements and outreach programmes were presented by Dr. S.B. Barbuddhe, Pr. Scientist. Shri G.C. Prasad, SF and AO, presented the proposed Master Plan of the Institute. Before the commencement of the meeting, the members were shown and appraised the research facilities developed at the Institute. Ceremonial plantation was also performed by the guests.



Farm Raising Day celebration

Farm raising day was celebrated on 10th June, 2016. Dr. Jagdish Kumar, Director-NIBSM sown the first seed at research farm and wished for healthy crop with least biotic stresses. Dr. P. Kaushal, Joint Director (Research) has requested the staffs and field workers to use farm resources efficiently and also wished to have better monsoon and harvest better crop. In the occasion, all the staff of ICAR-NIBSM actively participated.



Swachhata Pakhwara

Swachhata Pakhwara (16-31 May, 2016) was initiated by taking *Swachhata* pledge by the entire staff member in the presence of Dr. J. Kumar, Director and Dr. P. Kaushal, Joint Director (Research) on 16 May, 2016. The *Swachhata Pakhwara* was celebrated in two schools villages Saragaon and Baronda by taking *Swachhata* Pledge. To keep the campus clean, litter free and polythene free, it was decided to construct scientifically designed compost pit within campus premises to dispose off all organic waste generated from the farm and campus premises. *Swachhata Pakhwara* was also celebrated with farmers at village, Barbanda, Baronda, Tandava and Tarighat. Farmers were advised to avoid toilet in open, use of poly bags and burning of agro waste. Cleanliness drive was carried out twice at premises of NIBSM campus. An invited talk on "Invasive alien species of Chhattisgarh and Environment" was delivered by Dr. A.K. Girolkar, Principal, Government D.B. Girls PG College, Chhattisgarh



Swachhta Pledge at NIBSM, Raipur



Swachhata awareness created among women SHG, Baronda



Swachhta pledge at village - Barbanda



Swachhata Pakhwara at village - Tarighat

Mera Gaon Mera Gaurav programme

As per modalities of the programme three teams of multidisciplinary scientists each has been constituted by the Institute. The baseline survey in the selected fifteen villages was completed. The scientists frequently visited the villages and provided information to the farmers on technical and other related aspects in a time frame. Six farmers' meetings were organized in which 402 beneficiaries participated and were benefitted.



Swachhta Pledge at village Saragaon school



Interactions with farmers at village Mohadi



Discussion with village Sarpanch and line department personnel

Celebration of International Yoga Day

ICAR-NIBSM celebrated 'International Yoga Day' on 21st June 2016. On the occasion, Dr. J. Kumar, Director (Acting) and Dr. P. Kaushal, Joint Director (Research) addressed the staff about the importance of yoga and celebrating International Yoga Day. This was followed by witnessing the e-message of Hon'ble Prime Minister Shri Narendra Modi Ji by all staff members. Mr. J. L. Gahare Yoga expert from Pandit Ravishankar Shukla University, Raipur was invited for delivering a lecture on yoga and Hindu philosophy. He explained about the genesis of yoga, importance and common rules to be followed while performing yoga. The Compact Disc of yoga protocol video distributed to farmers in the villages of *Mera Goan Mera Gaurav* (MGMG) programme. The practical sessions on yoga was organised for the NIBSM staff members.



राजभाषा बैठक :

संस्थान राजभाषा कार्यान्वयन समिति की तिमाही बैठक दिनांक 15.04.2016 (जनवरी-मार्च) व 16.06.2016 (अप्रैल-जून) को डॉ. जगदीश कुमार, निदेशक (कार्यवाहक), राष्ट्रीय जैविक स्ट्रैस प्रबंधन संस्थान, बरौंडा, रायपुर (छ.ग.) की अध्यक्षता में आयोजित की गई।

Rajbhasha Meeting

Quarterly meeting of institute *Rajbhasha* implementation committee was held on 15.04.2016 (January- March) and 16.06.2016 (April-June) under the Chairmanship of Dr. Jagdish Kumar, Director, National Institute of biotic stress management, Baronda, Raipur (CG).

Training/Workshop/Conference/Events attended

S.No	Scientist name	Event attended
1	Dr. S. B. Barbudde, Principal Scientist (Vet. Public Health)	<ul style="list-style-type: none"> Participated in the CME-cum-Workshop on "Update in Clinical Microbiology -II with the theme "Antimicrobial Resistance: Are we entering the pre-antibiotic era" organized by Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow during 27 -28 February, 2016 and delivered a talk on "Pulsed Field Gel electrophoresis" as Guest Speaker. Attended National workshop on "Management of animals in emergencies" organized by National Institute of Disaster Management (NIDM), New Delhi during 3-4 March, 2016 in collaboration with Department of Animal Husbandry Dairy & Fisheries, Min. of Agriculture and Farmers welfare, Govt. of India, Policy Perspective Foundation (PPF) and World Animal Protection as Guest Speaker. Attended National workshop on "Diagnostic approaches for zoonotic disease" sponsored by Indian Council of Agricultural Research under Niche Area of Excellence program on "Centre for Zoonoses" organized by Nagpur Veterinary College, Nagpur, 18th February, 2016 and 11th March, 2016 as "Guest Speaker"
2	Dr. Lata Jain, Scientist (Vet. Microbiology)	<ul style="list-style-type: none"> Attended the SFEC -2016 and 3rd International congress of society for Ethanopharmacology on "Ethanopharmacology & Evaluation of Medicinal Plants - Global Perspective" held on 19th -21st February 2016 at Pt. Ravi Shankar Shukla University, Raipur. Delivered a presentation on "Methods for isolation of different pathogens" and "Microbial biosafety" during two days workshop on "Methods for detection of bacterial food borne pathogens from foods and clinical samples with special reference to <i>Listeria monocytogenes</i>" organized at NIBSM, Baronda during 15-16 March, 2016.
3	Dr. Mallikarjuna, J. Scientist (Agricultural Entomology)	<ul style="list-style-type: none"> Attended Taxonomy of insect and mites from 2-22 March, 2016 at Department of Agricultural Entomology, UAS Bengaluru.
4	Dr. P. Moovenan, Scientist (Vet. Extension)	<ul style="list-style-type: none"> Participated and presented the paper at 8th GCRA International Conference on "Innovative Digital applications for Sustainable Development" during 5-7, January 2016 at GKVK, Bengaluru Campus in collaboration with the Global Communication Research Association, New South Wales, and Sydney, Australia.
5	Dr. K. C. Sharma, Senior Scientist (Entomology)	<ul style="list-style-type: none"> Attended refresher course on "Agricultural Research Management" held during 23.02.2016 to 05.03.2016 at NAARM, Hyderabad and presented the progress and Action Plan 2016-17 of Mera Gaon Mera Gaurav in the MGMT review meeting held during 30th April and 1st May, 2016 at ATARI, Jabalpur (MP).
6	Dr Vinay Kumar, Scientist (Plant Biotechnology)	<ul style="list-style-type: none"> Invited as Guest Speaker And Delivered A Presentation on "Unravelling Plant - Endophytic Microbe Interaction For Biotic Stress Management". In Brainstorming Meeting On "Plant Microbe Interaction Held At Department Of Biotechnology, Ministry Of Science And Technology, New Delhi On 27th January 2016.

- Delivered a lecture/presentation on "Molecular approaches for detection and characterization of foodborne pathogens"
- Delivered a talk and hands on session on "Application of PCR and Real-time PCR for rapid detection of food borne pathogens" in the workshop on methods for detection of bacterial foodborne pathogens from foods and clinical samples with special reference to *Listeria monocytogenes* " organized at NIBSM, Baronda , Raipur during 15th -16th March, 2016.
- Attended brainstorming meeting on Plant Microbe interaction held at Department of Biotechnology, Ministry of Science and Technology, New Delhi on 27th January 2016.

Training/Workshop/Conference/Events conducted

A workshop on "Methods for detection of bacterial foodborne pathogens from foods and clinical samples with special reference to *Listeria monocytogenes*" was organized at ICAR-National Institute of Biotic Stress Management (NIBSM), Baronda, Raipur under the aegis of Centre of Excellence and Innovation in Biotechnology project on "Translational Centre for Molecular Epidemiology of *Listeria monocytogenes* (*TranceLis*) sponsored by Department of Biotechnology, Government of India during 15-16 March, 2016. The workshop was inaugurated by Dr. Jagdish Kumar, Director (Acting). He appealed the participants to take full advantage of the workshop to learn new techniques for isolation of bacterial pathogens. Dr. P. Kaushal, Joint Director (Research) narrated about the activities of the Institute and its vision and importance of such trainings in fulfilling the HRD mandate of the Institute. Dr. S. B. Barbuddhe, Principal Scientist and Project Coordinator welcomed the participants. He later presented an overview of listeriology. Dr. Vinay Kumar, Scientist presented an account of molecular methods for detection of bacterial pathogens from food and clinical samples. Dr. Lata Jain, Scientist presented talk on methods for isolation of different pathogens and microbial food safety. Twenty six participants participated in the programme.

Publication

Barbuddhe, S.B., Kumar, V., Jain, L., Kurkure, N.V., Poharkar, K.V. and Kale, S. (2016): Manual on "Methods for detection of foodborne pathogens from food and clinical samples with special reference to *Listeria monocytogenes*".

Deputation abroad

Dr. S.B. Barbuddhe, Principal Scientist was deputed to Paris, France to attend XIX International Symposium on Problems of Listeriosis (ISOPOL XIX) during 14-17 June, 2016.

Relieving/ Joining/ Promotion/ Superannuation

Dr. K.R.Kranthi, Officer on Special Duty, ICAR-NIBSM, Baronda, Raipur (C.G.) handed over the charge to Dr. Jagdish Kumar, Director (Acting) on 18/02/2016.

Dr. N.S. Ekka, Scientist (Geography) joined on 04/01/2016 on transfer from ICAR-Indian Grassland and Fodder Research Institute, Jhansi (UP)

Dr. P.N. Sivalingam, joined on 03/02/2016 as Senior Scientist (Agrl. Biotechnology)

Dr. Pankaj Kaushal joined as Joint Director (Research) on 22/02/2016

Shri Saguni Paswan, Office Assistant granted financial up-gradation of GP 4600 under MACP Scheme (third up gradation).

Shri V. D. Bhiwapurkar, SAO, superannuated on 30/04/2016

Obituary

Dr. N.S. Ekka, Scientist (Geography) who had served over 17 years in ICAR of which six months in ICAR-NIBSM, passed away on 24th June 2016.



Dignitaries Visit

The Secretary (DARE) and Director General, ICAR visited NIBSM on 03rd April, 2016. The Deputy Director General (Crop Science), ICAR visited NIBSM on 02nd April, 2016. The Assistant Director General (Seeds), ICAR visited NIBSM on 05.04.2016.





The Secretary (DARE) and Director General, ICAR visited NIBSM on 03.04.2016.



The DDG (CS), ICAR visited NIBSM on 02.04.2016

The ADG (Seeds), ICAR visited NIBSM on 05.04.2016



Architectural Design of New Campus of ICAR-NIBSM, Raipur

Corrigendum : This is Vol.-4, No.-1 and previous issue may be read as Vol.-3 No. 1 & 2.

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