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ICAR-NIVEDI

Newsletter

Vol.13(2) Jul to Dec 2023

Director's Desk

Dear professional colleagues,

Greetings from ICAR-NIVEDI...!!!

I am delighted to present to you the ICAR-NIVEDI Newsletter, covering the period from July to December 2023. During this period, ICAR-NIVEDI hosted the prestigious Sixth Annual PPR-Global Research and Experts Network (GREN) Meeting. This event, held from 28-30th November in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (WOAH), saw participation and in-depth discussions from experts across 35 countries, focusing on the global eradication of PPR.

In partnership with ICAR-NIFMD, ICAR-NIVEDI conducted a virtual workshop on epidemiology and transboundary diseases from 3-12th October and trained participants from BIMSTEC countries, including India, Nepal, Bhutan, Myanmar, Thailand, and Sri Lanka, in the area of livestock disease epidemiology.

Adding to our list of achievements, the Livestock Disease Diagnosis Laboratory (LDDL) of our Institute achieved significant milestone by obtaining NABL Accreditation (ISO/IEC 17025:2017) for the diagnosis of PPR and leptospirosis. This period also marked a proud moment for ICAR-NIVEDI, as four of our technologies were certified by ICAR and a patent was granted for a *Leptospira* diagnostic tool.

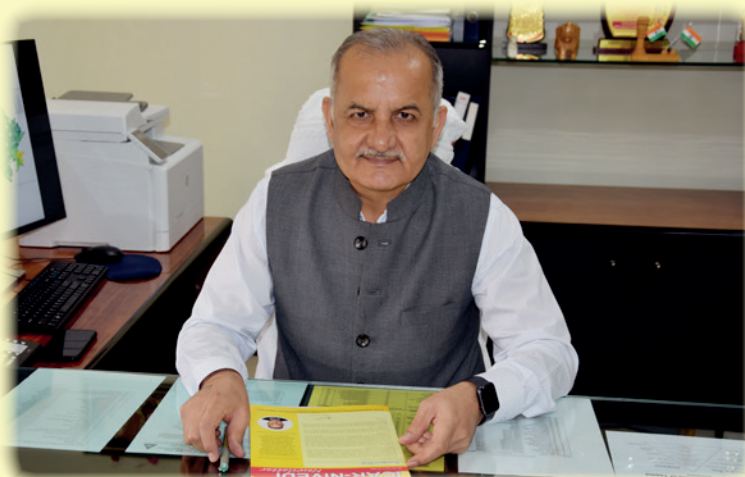
Our team took a proactive role in estimating the stray dog population in the Bruhat Bengaluru Mahanagara Palike (BBMP) area, providing an impetus to rabies control in the city. Additionally, our scientists diligently conducted epidemiological investigations of Japanese encephalitis, Lumpy Skin Disease, Peste des Petits Ruminants, and Oriental theileriosis outbreaks across various states, contributing to the understanding of the etiology, source, and spread of these diseases. These efforts have been instrumental in recommending evidence-based measures to contain these outbreaks.

NaaViC, our Agri-Business Incubator, continued to foster and guide emerging agri-preneurs through various Entrepreneurship and Faculty Development Programs. Impressively, 23 start-ups incubated under NaaViC were granted a total aid of Rs. 92.40 Lakhs.

In the realm of sports, our Institute's contingent showcased exceptional sportsmanship at the ICAR South Zone Sports Tournament, securing four medals (1 Silver and 3 Bronze).

I extend my heartfelt gratitude to the editorial team for their meticulous effort in compiling this newsletter and to the entire ICAR-NIVEDI family for their relentless dedication and contributions that continue to bring honor to our Institute.

Jai Hind !



Baldev Raj Gulati

Research Achievements

ICAR-NIVEDI Spearheads Estimation of Stray Dog Population in Bengaluru

ICAR-NIVEDI provided a comprehensive sampling plan to *Bruhat Bengaluru Mahanagara Palike* (BBMP) for enumerating stray dog population. For this purpose, the BBMP geographical area was initially divided into 6,850 grids of 0.5 sqkm dimension. Out of this 1,360 microzones were chosen based on stratified random sampling for enumeration that included lakes, slums and commercial areas as well. The survey's robust methodology included, combining single-sight and sight-resight surveys with Lincoln-Petersen's formula and Chapman's correction. The survey revealed stray dog population of 2.7 lakh, with a 10% reduction since 2019, alongside a remarkable 20% increase in neutering rates.



Dr KV Trilok Chandra, Special Commissioner (Health), BBMP released report of the dog survey on 4th October 2023

Investigations Revealed Circulation of Japanese Encephalitis Virus in Kollengode, Palakkad, Kerala

A human JE case was reported in Kollengode Panchayat, Palakkad district, Kerala in January 2023. Pigs from a pig farm (farm A) located at a distance of 2 km from the human case patient were screened and found positive for JEV infection in July 2023. ICAR-NIVEDI, Kerala Health Department, Animal Husbandry Department and SIAD, Palode visited Kollengode, Palakkad and conducted the epidemiological investigation of the outbreak and collected clinical samples from livestock in 5 Km radius of the affected child's house during 16th – 18th August 2023. The investigation revealed that, there was no recent introduction of the pigs to the pig farm A and hence, the most likely source of JEV introduction to the farm was

either through wild birds or infected mosquitoes. The child did not have any travel history and it is probable that the child got infected locally. Although pig samples tested were found negative for JEV, the cattle, goats and horse serum samples collected from area adjoining pig farm A were found positive for neutralizing antibodies against JEV, which indicated that the JEV was circulating in the locality. The ecological factors supporting the JE circulation i.e paddy fields and ponds, vector responsible for JEV transmission *viz.*, *Culex tritaeniorhynchus* and reservoirs (egrets, herons), amplifier hosts (pigs) were all present in the village.

ICAR-NIVEDI Provides Technical Inputs on Management of LSD Outbreak to States

A team comprising of NIVEDI scientists and DAHD experts visited Uttarakhand and Sikkim states during 23–26th July and 4–6th August 2023, respectively to investigate the LSD outbreak and to assess the preparedness of the states in management and control of

LSD. The team provided technical inputs on practices for prevention and control of LSD including management of co-morbidities especially the blood protozoan infection in LSD affected animals and to conduct annual vaccination against LSD.

Peste des Petits Ruminants Outbreaks in Sheep and Goat Farms in Chikkamagaluru and Hassan, Karnataka

In Gowdanahalli village, Chikkamagaluru District, Karnataka, a suspected outbreak of PPR among sheep and goat was reported in mid-October 2023 with morbidity rate of 30.7% and a mortality rate of 30%. Notably, the entire flock was recently acquired from Bagalkot and had an unknown vaccination status. The similar clinical symptoms were observed in sheep and goats of Gowrikoppalu, Holalkere, Jawarikoppalu, Madalugollaratti, Mallenahalli, and Yerehall villages of Hassan district during the same period. Clinical samples

(blood, fecal material, and nasal swabs) were collected from symptomatic sheep and goats. The samples from Chikkamagaluru, revealed a 44.4% positivity in S-ELISA and a 66.7% positivity in C-ELISA. In contrast, the samples from Hassan exhibited a 3.0% positivity in S-ELISA and 74.2% in C-ELISA. Additionally, both RT-PCR and isolation tests confirmed the presence of PPRV. Based on our inputs, local authorities initiated the vaccination campaign to control the outbreak and prevent further spread of the disease.

Investigation of *Theileria orientalis* Outbreak in Cross-Bred Cattle

A suspected outbreak of theileriosis among cross bred cattle was investigated in Byatha village, Yelahanka, Karnataka during August 2023. The reported clinical presentations were high fever, difficulty in breathing and circling movement and sudden death of the affected animals. ICAR-NIVEDI team visited the village and conducted epidemiological investigations. The laboratory investigation followed by molecular confirmation by sequencing revealed the organism as *Theileria orientalis* Type 7 genotype. The implementation of tick control measures as well as timely treatment of affected animals helped to control the disease in the village.



ICAR-NIVEDI Bagged New Research Projects

During July to December 2023, five research projects from various national and international agencies were sanctioned to ICAR-NIVEDI with the total outlay of 3578 lakhs.

- Design and evaluation of new generation bivalent recombinant toxoid vaccine and companion immuno-diagnostics for Anthrax and Enterotoxaemia in small ruminants funded by DBT (51.86 Lakhs)
- IndoZooRisk: Using OneHealth approaches to understand and co-develop interventions for zoonotic diseases

affecting forest communities in India funded by UK Centre for Ecology & Hydrology (UKCEH) (50.82 Lakhs)

- Development of an inactivated homologous vaccine to control the rapidly spreading Lumpy Skin Disease in India funded by DBT (50.43 Lakhs)
- Establishment of National Animal Disease Information and Control (NADIC) funded by DAHD, GOI (3425.00 Lakhs)
- National Disease Modelling Consortium (NDMC), Modelling of infectious diseases, through a multi-institutional partnership funded by IIT (Mumbai)

Scientific Activities

Secretary, DARE and Director General, ICAR Reviewed Institute Research Activities

Hon'ble Dr. Himanshu Pathak, Secretary, DARE and Director General, ICAR visited ICAR-NIVEDI on 30th August 2023. During the visit, Dr. Pathak, visited the Institute's Biosafety Level 2 laboratory, spatial epidemiology/ disease informatics laboratory and NaaViC Agri Business Incubation Centre. Welcoming DG, ICAR, Dr B.R. Gulati, Director, ICAR-NIVEDI, highlighted the contributions of NIVEDI in livestock disease epidemiology and informatics. In his address he shed light on the significance of epidemiology and disease informatics in maintaining animal and human health. Addressing the scientists and staff, Dr. Pathak

expressed his appreciation for the institute's research and development and he was specifically impressed with the number of externally funded projects in the Institute. Dr. Pathak was accompanied by Dr. Triveni Dutt, Director, ICAR-IVRI, Izatnagar, Dr. Sanjay Kumar Singh, Director, ICAR-IIHR, Bengaluru, Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Zone-XI, Bengaluru, Dr. S.N Sushil Kumar, Director, ICAR-NBAIR, Bengaluru Dr. Pallab Chaudary, Joint Director, ICAR-IVRI, Bengaluru Campus, Mr. G.P Sharma, Joint Secretary (Finance), ICAR and Dr.V.B. Patel, ADG (Fruits & Plantation Crops), ICAR, New Delhi.



Dr. Himanshu Pathak and other Dignitaries with ICAR-NIVEDI staff during the visit

NIVEDI Hosted Global Experts' Meet on PPR Eradication

Sixth Annual PPR Global Research and Experts Network (GREN) meeting was organized by ICAR-NIVEDI in collaboration with Food and Agriculture Organization (FAO) of the United Nations and World Organisation for Animal Health (WOAH), during 28-30th November 2023. A total of 165 global experts (including 100 online) from 35 countries across the globe participated in the event. In the meeting it was recommended to define and map PPR

epi-systems based on socioeconomics, epidemiology, and molecular factors in domestic and wild animals. The experts recommended further studies on transmission within atypical hosts and validation of DIVA vaccines and tests for field use and understanding stakeholder incentives for participation in surveillance and control programs. Further, Sixth Annual PPR-Advisory Committee (AC) meeting was also held during 1-2nd December 2023.



Participants in 6th PPR-GREN meeting

Workshop Organized for Members of BIMSTEC Countries on Livestock Disease Epidemiology

The virtual workshop on “Epidemiological Approaches to Prevent and Control Transboundary Animal Diseases with Special Focus on Zoonotic Diseases and Foot and Mouth Diseases” was jointly organized by ICAR-NIVEDI and ICAR-NIFMD from 3–12th October 2023 under the aegis of Bay of Bengal Initiative for Multi-sectoral, Technical and Economic Cooperation (BIMSTEC). The workshop was inaugurated by Dr. Abhijit Mitra, AHC, DAHD Govt. of India and Dr. Ashok Kumar, ADG (Animal Health)

was the Guest of Honour. The workshop was attended by the participants from Bhutan, India, Myanmar, Nepal, Thailand and Sri Lanka. The dignitaries underscored the importance of organising such workshops in preventing transboundary diseases and to have long term collaboration at country level to learn from each other in the region. The workshop covered both theory and practical sessions on surveillance, risk analysis and mapping of TADs, use of newer technologies in disease surveillance etc.

NaaViC Organized Faculty Development and Entrepreneurship Development Programs

NaaViC, Agri-business Incubation Center organized a Dept. of Science & Technology (DST) sponsored two-week virtual Faculty Development Program (FDP) on ‘Empowering tomorrow through agri-preneurship’ during 3-15th July, 2023. A total of 60 faculties from Agriculture and Allied sectors institute/universities participated.

NaaViC, organized Entrepreneurship Development Program (EDP) on “Entrepreneurship opportunities in value-added fish products” during 7-8th August, 2023 in collaboration with College of Fisheries, Mangalore, KVAFSU, Bidar. A total 40 participants were trained in the programme.



First Annual Review Meet of National Animal Disease Epidemiology Network (NADEN) Organized

The first annual review meet of National Animal Disease Epidemiology Network (NADEN) was organized at ICAR-NIVEDI during 6-7th July, 2023. The dignitaries

present during the meeting were Dr. B.R. Gulati, Director, Dr. Abhijit Mitra, AHC, GOI, Dr. Ashok Kumar, ADG (AH), ICAR, Dr. P.S. Mahesh, Director, CEAH,

Dr. Manjunath Palegar, Director, AH&VS, Karnataka. They emphasized the important role of ICAR-NIVEDI and the NADEN centres in effective disease surveillance, monitoring and reporting for the purpose of disease control and providing accurate forewarning and forecasting of livestock diseases. Dr. Divakar Hemadri, Nodal Officer,

NADEN presented the overall status of livestock diseases reported during 2021 and 2022. During the meeting, livestock disease status in each state and epidemiological investigations carried out by individual centre along with budget utilization and future plan of work, were discussed.



ICAR-NIVEDI Joins Hands with IVRI for PG Teaching in the Bengaluru Academic Hub

A delegation from the ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar visited NIVEDI on 7th August 2023 to foster collaboration and explore synergistic opportunities under the National Education Policy (NEP) 2020 framework. The delegation comprised Dr. Triveni Dutt, Director, Dr.S.K. Mendiratta, Joint Director (Academic) cum Dean, Dr.S. Bandhopadhyay, Head, Division of Parasitology, Dr. Gyanendra Singh, Controller of Examinations from IVRI, Izatnagar and Dr. Pallab Chaudhuri, Joint Director, IVRI (Bengaluru Campus).

The Director and scientists of ICAR- NIVEDI expressed willingness to be a part of this educational hub and to focus on two disciplines viz., Veterinary Public Health and Epidemiology and Veterinary Microbiology at ICAR NIVEDI for teaching.

Director, IVRI articulated his vision in alignment with the principles of the NEP-2020 framework. In the pursuit of advancing education, IVRI, Bengaluru has been designated as the educational hub and both ICAR-NIVEDI and ICAR-NIANP were identified as integral components of this educational network in Bengaluru.



Director, ICAR-CIRB Discusses Collaborative Research Areas with NIVEDI

Dr. T.K. Datta, Director, ICAR-Central Institute for Research on Buffaloes, Hisar visited the institute and had interactions with scientists and research staff on 9th August 2023. He praised the facilities and contributions of NIVEDI. Dr. Dutta highlighted CIRB research activities in the field of animal nutrition, reproduction, physiology, rumen metagenomics, conservation and genetic improvement of the Murrah and Neeli Ravi breeds, progeny testing, and genome selection. During interaction, it was decided to form a collaborative team of bioinformatics and bovine disease epidemiology group of NIVEDI with CIRB on disease surveillance and mastitis in buffaloes through network mode and collaborative grants may

be submitted to DAHD, New Delhi under NLM scheme for funding.



Technical Workshop for Veterinarians on National Animal Disease Control Program



ICAR-NIVEDI conducted one-day technical workshop on “Empowering veterinarians for tackling diseases through National Animal Diseases Control Program” on 23rd August 2023. A total of 30 veterinary officers participated in the workshop. During the workshop, expert lectures on zoonotic diseases (brucellosis, anthrax, KFD, rabies, porcine cysticercosis and JE), overview on NADCP, epidemiology of LSD and ASF were delivered. In Scientist-Veterinarian interactive session feedback from field on livestock diseases was obtained.

BIRAC-BIPP Project on Subclinical Mastitis Launched

The launch workshop for the BIRAC-BIPP Project entitled “Detection of Subclinical Mastitis and Disease Management Program at Farm Level for Dairy Farmers” was organized on 12th September 2023 at Devanahalli camp office, BAMUL, Bangalore Rural District. The program was attended by Shri B. Srinivas, Director, BAMUL (Devanahalli), Dr. M. Gangaiah (General Manager), Deputy Manager, Assistant Manager, veterinary doctors, MPCS secretaries and farmers. In the workshop, FaunaTech SCC device was demonstrated for participants for improved detection of subclinical mastitis over conventional California mastitis test. The participants

were also sensitized on problems associated with AMR and advised to minimize the usage of antibiotics for prevention and treatment of mastitis.



Institutional Animal Ethics Committee Reviewed Experimental Animal Use in Research



The 23rd and 24th Institutional Animal Ethics Committee (IAEC) meetings of ICAR-NIVEDI were held on 20th September and 10th November 2023 under the Chairmanship of the Director. Meeting was attended by external and internal members. During the 23rd IAEC meeting, five project proposals were presented by the respective principal investigators. During the 24th IAEC meeting, one project proposal was presented and approved by the committee.

FAO (India) and NIVEDI to Join Hands to Combat AMR and Field Epidemiology Trainings

An interactive meet and discussion was held at ICAR-NIVEDI with FAO officials on 21st September 2023 on strengthening surveillance of antimicrobial resistance (AMR) and antimicrobial use (AMU). The meeting was attended by Dr. Jyoti Misri, National Consultant (AMR and Zoonoses) and Dr. Acty George, Technical Officer (Epidemiology and Zoonoses), from FAO (I), New Delhi and Dr. B.R Gulati, Director, Dr. Rajeswari Shome, Dr. Diwakar Hemadri, Dr. K.P. Suresh, Dr. Shivasharanappa N from ICAR-NIVEDI. The Director, ICAR-NIVEDI briefed about ongoing research programs and achievements of the institute including AMR programs. The need for strengthening laboratories and capacity building of research staffs on AMR and AMU was emphasized. A detailed project proposal on strengthening of laboratories

on AMR and AMU research in livestock was discussed for funding through FAO.



During 14-15th December 2023, Dr. R.K. Singh, Dr. Acty George and Mr. Rajesh Kumar from

FAO (I) visited ICAR-NIVEDI to discuss regarding initiation of field epidemiology training program for veterinarians (FETP-V) in India. Dr. Gulati, presented the overall activities of ICAR-NIVEDI including capacity building programs in the institute. The team held in-depth discussion with Director and scientists of ICAR-NIVEDI, on development of curriculum, mode of training, number of training and resources and expertise available with NIVEDI for field epidemiology training program for veterinarians (FETP-V). Dr.R.K. Singh appreciated

the efforts of ICAR-NIVEDI in the area of veterinary epidemiology.



Hands-on-Training on Leptospirosis Diagnosis for Laboratory Staff Organized

Under the National One Health Programme for Prevention and Control of Zoonoses (NOHPPCZ) of NCDC, ICAR-NIVEDI, Bengaluru, (Regional Coordinator, South) organized the pan-India “Hands-on training on laboratory diagnosis of leptospirosis” during 9-13th October 2023. To mark the inception, the inaugural ceremony was graced by Dr. Pallab Chaudhuri, Joint Director, ICAR-IVRI, Bengaluru, Dr. B. R. Gulati, Regional Coordinator & Director, ICAR-NIVEDI, Bengaluru and the Chief Guest was Dr. Triveni M.G. Director (IDSP)/JD (CMD),

Directorate of Health and Family Welfare, Karnataka. A total of 35 participants from nine states of India including district microbiologists, medical officers, professors, and research officers attended the training. During the training participants had hands-on experience on isolation and identification of *Leptospira*, serological assays (ELISA, MAT, LFA, LAT) and molecular techniques (conventional and real-time PCR). Shri. Atul Kumar Gupta, Registrar, Trans-Disciplinary University (TDU), was the chief guest during the valedictory program.



Mid-Term IRC Reviewed the Research Progress

The Mid-term IRC meeting for 2023-2024 was held on 16th October 2023 to review the progress of ongoing research projects under the chairmanship of Dr. B.R. Gulati, Director, ICAR-NIVEDI. The Director reviewed the research achievements during April to September 2023 organized under four research groups viz, the Bovine Epidemiology, Small Ruminant Epidemiology, Swine Epidemiology and Disease Informatics and Socio-Economics. The committee critically evaluated the progress of ongoing projects, providing valuable inputs, with target-oriented activity and timeline-based

approaches to meet the target schedule as per the proposed research plan.



Institute Management Committee Meeting

The 22nd Institute Management Committee (IMC) meeting of ICAR-NIVEDI, Bengaluru was held on 26th October, 2023 under the chairmanship of Director, ICAR-NIVEDI. The meeting was attended by Dr. K.C. Veeranna, Vice Chancellor, Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar and Dr. Nitin Virmani, Head,

Division of Equine Health, ICAR-National Research Center on Equines as external members. The committee recommended to procure various equipment and also temporary conversion of Type-III and Type-IV Quarters as PG Students' Hostel facility.



Training on Enhancing Skills in Research for Postgraduate Students of Maharashtra

A training on “Enhancing Skills in Research” for Masters’ students of MAFSU, Nagpur was organised during 20-24th November, 2023 at ICAR-NIVEDI. The objective was to enhance the research skills of veterinary students in important areas of veterinary epidemiology and zoonotic diseases. There were 15 participants in the NAHEP-CAAST-MAFSU sponsored workshop. The topics covered in the workshop were basic veterinary epidemiology concepts, hands on experience in Epi-Info and QGIS softwares, biosafety and biosecurity practices and diagnosis of zoonotic diseases.



Deputy Director General (AS&FS) Reviewed NIVEDI Research Activities

Dr. Joykrushna Jena, Deputy Director General (AS & FS), ICAR visited ICAR-NIVEDI on 28th November 2023. Dr. B.R. Gulati, presented the overview of the institute and new research initiatives taken at ICAR-NIVEDI. Dr. Jena reviewed the research progress and interacted with scientists and staff of the institute. He appreciated the progress of the institute in livestock disease informatics and in obtaining good number of external projects. He emphasised the need for focus on management of emerging disease like LSD, ASF and AMR.



Agripreneurship Training Program of NaaViC Inaugurated

The two months Agripreneurship Training program for 8th Cohort strapps (52) under RKVY-RAFTAAR scheme organized by NaaViC was inaugurated on 4th December 2023. During the training technical, business and financial mentoring was provided to each start up along with basic and advanced courses. 28 resource persons provided valuable insights and helped to improve the business proposals of the selected startups.



ICAR-NIVEDI Inks MOUs with SKUAST, Kashmir for Collaborative Research and Startups for Entrepreneurship Development

An MoU was signed between ICAR-NIVEDI and SKUAST, Kashmir for collaboration in research on livestock disease epidemiology on 5th September 2023 at Faculty of Veterinary Sciences and Animal Husbandry, Srinagar. Dr Nazir Ahmad Ganai, Vice Chancellor, SKUAST-K and Dr B.R Gulati, Director, ICAR-NIVEDI signed the MoU. This MoU will cater to the need of better management of livestock diseases in J&K.



An MoU was executed with 3rd, 4th & 5th Cohort incubates of NaaViC on 14th September and 13th October 2023, respectively and a total of 23 start-ups received grant-in-aid of Rs. 92.40 Lakhs. With an aim to expand the horizons of the agri-startup ecosystem, MoU were signed with Channabasaveshwara Institute of Technology, Gubbi, Tumkur (on 19th July 2023), CMR University, Bengaluru and Yenepoya Institute of Technology, Moodbidiri.



Important Events

Scientists-Veterinarians Interactive Meet Organized on Foundation Day of NIVEDI

ICAR-NIVEDI celebrated its 23rd Foundation day on 1st July 2023. The program was initiated by hoisting of NIVEDI flag by Dr. B.R. Gulati, Director, ICAR-NIVEDI. Dr. Shiva Prasad Kimothi, Member, Agricultural Scientist Recruitment Board (ASRB), New Delhi, was the Chief Guest. Dr. P.S. Mahesh, Joint commissioner and Director, CEAH, Dr. J. Pampapathi, MD, KSWDC, Dr. Ravindra Hegde, Director, IAH&VB, Dr. Gangaiah, M, General

Manager, BAMUL, Bengaluru were the Guests of Honours. The Chief Guest spoke about the contribution of the livestock sector in the growth of Indian economy. Dr. Mahesh stressed the necessity of establishing a disease free poultry production hub. The retired employees of NIVEDI were also felicitated on this occasion. The staffs of NIVEDI took part in a brief cultural program.



On this occasion Scientists-Veterinarians Interactive meeting on “Livestock Disease Epidemiology: Present Scenario” was organised. Dr Shiv Prasad Kimothi, Member, AS&FS, ASRB chaired the meet and panellists were from diverse scientific field. The panelist deliberated on farm biosecurity, vaccination policy, food safety issues, alternate medicines in veterinary sector and emerging and transboundary diseases. The

important recommendations of the meet were the need for biosecurity certifications for livestock and poultry farms, establishment of GMP licensed vaccine production facilities in various states, need for the development of vaccines for AFSV and bluetongue and encouraging use of ethno-veterinary medicine in managing the livestock diseases.

Independence Day Celebration



ICAR-NIVEDI celebrated 77th Independence Day on 15th August 2023 with full of pride and patriotism. Dr. B.R. Gulati, Director, hoisted the national flag in the presence of staff and employees. He remembered the freedom fighters and martyrs’ on the occasion and the urged the entire staff to work in unison for betterment of livestock and farming community of the country. He called for application of modern tools in disease diagnosis, surveillance and epidemiology. Dr. Rachna Gulati, Head, Dept. of Aquaculture, College of Fisheries Science, CCS HAU was also present during the Independence Day celebration.

ICAR-NIVEDI Supports ICAR-NIANP in Organising G20 Technical Workshop on “One Health”

ICAR-NIVEDI collaborated with ICAR-NIANP in organizing G20 technical workshop on “One Health: Challenges and Opportunities” held at ICAR-NIANP, Bengaluru during 29-31st August 2023. The workshop was inaugurated by Km Shobha Karandlaje, Union Minister of State for Agriculture and Farmers’ Welfare. Dr Himanshu Pathak, Secretary DARE & Director General, (ICAR) and Dr Joykrushna Jena, Deputy Director General (Fisheries and Animal Science) and Chair, G20 graced the occasion. Participants from G20 countries namely Australia, Canada, France, Italy, Saudi Arabia, UK and USA, and Oman attended the event to discuss the challenges and opportunities in One Health. The workshop recommended the need for multilateral collaborations from human, animal, plant and environmental sectors to address the health challenges across multiple sectors.

During the workshop, technologies, posters, diagnostic kits, technical bulletins on One Health, Zoonoses and Emerging Diseases developed by ICAR-NIVEDI were exhibited to the national and international delegates.



Celebration of Hindi Saptah



ICAR-NIVEDI celebrated Hindi Week from 14-20th September 2023. During this week several events viz. extempore, essay writing, quiz, debate, Hindi typing were organised in order to promote Hindi usage and staff members took active participation in the events. The winners of the events were Dr. J.B. Hiremath (Extempore speech), Smt. Samar Shamshad (Essay writing), Dr. Sangeetha (Quiz), Mr. Vijay Raj K (Hindi typing), Ms. Damini Sharma (Debate) and Ms. Shilpa (Hindi poem singing).

Technologies Developed by ICAR-NIVEDI Showcased in the 16th Agricultural Science Congress



ICAR-NIVEDI participated in the 16th Agricultural Science Congress held at ICAR-CMFRI, Kochi, Kerala from 10-13th October, 2023. The ICAR-NIVEDI stall showcased the technologies & products to the visitors including researchers, officials from different departments, and farmers. Dr. Joykrushna Jena, DDG (AS&FS), ICAR and Dr. K. Srinivas, Principal Scientist, ICAR-NAARM and former ADG (IPTM), ICAR, New Delhi and other esteemed dignitaries visited ICAR-NIVEDI Stall and appreciated the technologies developed by the institute.

Vigilance Awareness Week

ICAR-NIVEDI organized vigilance awareness week 2023 during 30th October to 5th November 2023 with the theme “Say No to Corruption; Commit to the Nation”. On this occasion different activities were undertaken viz., taking integrity pledge, essay competition for NIVEDI staff, quiz competition at College of Horticulture, Bengaluru and sensitization of project staff and contractual staff to increase public awareness about the perils of corruption.



Rashtriya Ekta Diwas (National Unity Day)

ICAR-NIVEDI, Bengaluru celebrated Rashtriya Ekta Diwas (National Unity Day) on 31st October, 2023 to commemorate the Birth Anniversary of Sardar Vallabhbhai Patel. The Rashtriya Ekta Diwas Pledge was taken by the staff of ICAR-NIVEDI.



Kannada Rajyotsava Celebrated at NIVEDI

ICAR-NIVEDI celebrated 68th Kannada Rajyotsava on 17th November, 2023. The year 2023 also marked the Golden Jubilee of renaming of Mysore state as “Karnataka”. On this occasion, Dr. C. Somashekar, IAS (Retd.), former Chairman, Karnataka Border Area Development Authority, Govt. of Karnataka was the Chief Guest . The dignitaries were welcomed with traditional Dollu Kunita and Tamate sound. Chief guest and president joined hands

in flag hoisting. Dr. B.R. Gulati, Director, in his speech urged the staff to take pride in the rich art, culture and heritage of Karnataka. The Chief Guest Mr. Somashekar highlighted the history and rich heritage of Karnataka and stressed the need for collective responsibility to safeguard and promote Kannada culture. The NIVEDI staff showcased their talents through cultural events viz., singing, dance performance and drama.



NIVEDI Undertakes Cleanliness Drive to Mark Swachhata Pakhwada

The Swachhata Pakhwada was observed at ICAR-NIVEDI from 16-31st December 2023 keeping in view of the mission mode programs of Government of India, including Digital India, Swasth Bharat, waste water management and rain water harvesting, Atmanirbhar Bharat (waste to wealth), doubling farmer’s income, and women empowerment. The program was started by taking “Swachhata Pledge” by NIVEDI staff on 16th December, 2023 and organized awareness program to sensitize general public on importance of personal and environmental hygiene in the adapted villages. The activities led to participation of staff, students, general public to fulfill the goals of Swachh Bharat Abhiyan. The overall impact of the above programmes resulted in

general hygiene maintenance, beautification and making the campus safe place to work.



NIVEDI Celebrates Rastriya Kisan Diwas

ICAR-NIVEDI, Bengaluru celebrated “Rastriya Kisan Diwas” in great fervor on 23rd December 2023. A total of 100 progressive farmers belonging to Scheduled Caste community participated. The programme was inaugurated by Dr. Harish, B.S. Professor, Horticulture college, Bengaluru. He explained about the importance of soil testing and commercial crops. Dr. Balraj, Farm Manager, CPDO&TI, Hesaraghatta shared information about scientific backyard poultry rearing. During the event ICAR-NIVEDI felicitated progressive farmers of SC community and provided stainless steel milk cans and cow mat to promote clean milk production and biosecurity.



Outreach Activities

Awareness Campaign on Zoonotic Diseases to School Children

On the occasion of “World Zoonoses Day” 2023, ICAR-NIVEDI organized an awareness program and poster making competition on Zoonotic Diseases and Anti-Microbial Resistance for the school children at Ananya Public School, Dodda Byalkere, Bengaluru, Karnataka on 12th July 2023 and at Government High School, Jadigenahalli village, Hosakote taluk, Bengaluru Rural district on 21st July 2023, in collaboration with Department

of Animal Husbandry and Veterinary Services, Karnataka. Dr. Manjunatha Reddy GB, Dr. Shivasharanappa N and Dr. Chethan Kumar HB, Scientists from ICAR-NIVEDI and Dr. Paramananda, SVO educated students on aetiology, transmission, symptoms, prevention and control of major zoonotic diseases and emergence, spread and prevention of AMR.



ICAR-NIVEDI Empowers Rural Women and Youth Through Poultry Farming

ICAR-NIVEDI, Bengaluru in collaboration with Centre of Excellence for Animal Husbandry, Bengaluru, had organized four workshops on poultry farming for farmers of Chikkaballapur district in July, August and October 2023. A total of 150 Scheduled Caste farmers were trained on scientific housing, nutrition and disease management in poultry. After the training Kaveri chicks were distributed to each of them, along with extension literatures on better poultry management practices in their local settings.



Community Awareness about Anti-Rabies Vaccination in Elimination of Dog Mediated Human Rabies

On the occasion of '17th World Rabies Day 2023', ICAR-NIVEDI in collaboration with Department of Animal Husbandry and Veterinary Services, Karnataka organized an outreach awareness programme on Rabies for school children of SJCR School, BGS Campus, Doddaballapura, on 23rd September 2023. Dr. Chethan Kumar H.B, Scientist and Dr. Ravikiran, SVO, Veterinary Dispensary, Melekote, delivered a talk to create awareness about rabies among students.



ICAR-NIVEDI also organized an anti-rabies vaccination drive for dogs and cats during 24–28th September 2023 in collaboration with Dr. Arif Basha, SVO, Doddatumkur, Bengaluru Rural District. A total of 100 pets were vaccinated against rabies to prevent transmission among pets and subsequently reduce the risk of rabies to humans. During the vaccination drive, awareness was created among pet owners on rabies and stressed the importance of regular vaccination.



Veterinary Health Camp and Training Programme for Scheduled Caste Farmers

ICAR-NIVEDI organized special veterinary health camps and training programs under Development Action Plan for Scheduled Caste (DAPSC) programme in Narasingapatti village, Madurai district and Thumalakundu village, Dindigul district on 17th and 18th November 2023, respectively. During the health camp, animals were administered foot and mouth disease vaccine, anthelmintics and were also provided mineral mixture. A total of 1645 animals belonging to 138 SC farmers, were provided diagnostic services and health care. A training program was also conducted on scientific rearing of farm animals in Tamil Nadu for the benefit of the SC farmers in the village.



World Antimicrobial Awareness Week Celebrated at NIVEDI

World Antimicrobial Awareness Week (WAAW)-2023 was celebrated during 18–24th November 2023 with the theme “Preventing Antimicrobial Resistance Together” with “GO BLUE” campaign. During WAAW 2023, several events were undertaken to create awareness and understanding about antimicrobial resistance (AMR). On 20th November, all the staff of the institute took the pledge on preventing AMR by judicious use of antibiotics. On 21st November 2023, farm school and scientist-farmer interactive program with dairy farmers in Gulur village,

Tumkur District, Karnataka was organized and 120 farmers, dairy cooperative members, veterinary doctors took active participation. Judicious use of antimicrobials, clean milk production and mastitis prevention were discussed during the interaction. Other events conducted were quiz and poster competition for NIVEDI staff on 22nd November 2023, scientist-student interactive program at Siddaganga Composite Junior College, Budigere, Bengaluru on 23rd November 2023. The WAAW-2023 events were coordinated by Dr. Shivasharanappa N.



Patents and Copyrights

Patent Granted

- An Indian patent entitled “Recombinant chimeric protein for the detection of anti-leptospiral antibodies and methods thereof” (Inventors: Balamurugan

Vinayagamurthy, Prajakta Prashant Bokade, Vinod Kumar Kirubakaran, Mohandas Nagalingam and Bibek Ranjan Shome) was granted on 18th September 2023.

NIVEDI Technologies Certified by ICAR

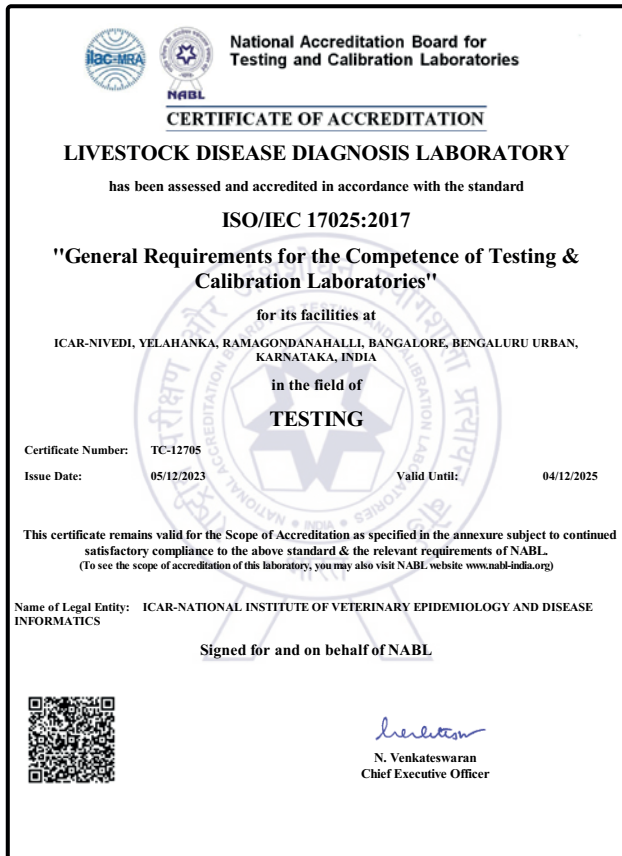
1. ABrC-ELISA kit / PPR Ab Chek kit for detection of Peste des petits ruminants (PPR) virus-specific antibodies for sero-surveillance/monitoring of PPR in sheep and goats developed by Dr. V. Balamurugan (Lead Developer).
2. Indirect ELISA for population survey of bluetongue developed by Dr. Divakar Hemadri (Lead Developer).
3. National animal disease referral expert system (NADRES V2) developed by Dr. K.P Suresh (Lead Developer).

4. Bovine Lepto LAT Kit (Rapid Test) for the detection of *Leptospira*-specific antibodies developed by Dr. V. Balamurugan (Lead Developer).



Awards/Recognitions

- The Livestock Disease Diagnosis Laboratory (LDDL) of ICAR-NIVEDI obtained NABL Accreditation (ISO/IEC 17025:2017) on 5th December 2023 in the field of testing with Scope of Accreditation for the diagnosis of PPR and Leptospirosis (Certificate No. TC-12705).



- Dr. Siju Susan Jacob received 3rd prize in oral presentation in the 32nd National Congress of Veterinary Parasitology and National Symposium on Sustainable control of parasitic diseases for improved productivity of livestock in current scenario organized by Bihar Animal Sciences University, Patna during 29th November to 1st December 2023.



- Dr. V. Balamurugan, Principal Scientist conferred with Fellow of Indian Society for Veterinary Immunology and Biotechnology -2022 (ISVIB-2022). He was also awarded with Dr. Linghard Memorial Award for "Diagnostic application of the recombinant *Leptospira* outer-membrane chimeric protein(s) in latex agglutination test for rapid detection of anti-leptospiral antibodies" during XXVII Annual Convention of ISVIB and National Conference held at Sher-e-Kashmir University of Agricultural Sciences & Technology, Kashmir during 27-29th July 2023.



- Dr S S Patil, Principal Scientist, ICAR-NIVEDI, Bengaluru has been conferred Fellow of National Academy of Veterinary Sciences (India), NAVS (I). On 1st July 2023.
- Dr.S.S Patil, Principal Scientist, was admitted as Fellow of Indian Association of Veterinary Public Health Specialists in recognition of significant contributions for the advancement of Veterinary Public Health at XIX Annual Conference of IAVPHS held at Veterinary College, LUVAS, Hisar, Haryana during 7-8th December, 2023.



- Dr. V. Balamurugan, Principal Scientist, was nominated as a member of the PPR-Global Research and Expertise Network (PPR-GREN) Bureau representing the South Asia.

ICAR-NIVEDI Displayed Excellent Sportsmanship in ICAR South Zone Sports Tournament

Sports contingent of ICAR-NIVEDI comprising 15 men and 3 women staff participated in ICAR Zonal Sports Meet (South Zone), during 13-16th December, 2023 organized by ICAR-IIHR, Bengaluru. In the event, ICAR-NIVEDI bagged a total of four medals (1 silver and 3 Bronze). Ms. Aaachal Palewar won one silver (200 M race), two bronze (Long jump and 100 M race), while Mr. Muraleedharn P, won Bronze in 400 M race.



Joining and Transfers

- Dr. Yogisharadhya. R, ACTO was relieved on lien to join the post of Associate Professor (Veterinary Microbiology), at College of Veterinary Science, Rampura Phul under GADVASU, Ludhiana on 18th October 2023.
- Mrs. Aachal Palewar, ICAR-IIHR joined as Assistant Administrative Officer on deputation / permanent absorption at ICAR-NIVEDI, Bengaluru on 21st September 2023.

Forthcoming Events

1. Hands-on Training on Geospatial Epidemiology for Zoonotic Disease Surveillance and Mapping will be organized by ICAR-NIVEDI from 4 - 8th March, 2024 for epidemiologist, surveillance officers and veterinary consultants.
2. Field Epidemiology Training will be organized by ICAR-NIVEDI from 26th February to 1st March 2024 for field veterinarians of Kerala State.

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| <i>Concept and Guidance</i> | : <i>Dr Baldev Raj Gulati</i> <i>Director, ICAR-NIVEDI</i> |
| <i>Editors</i> | : <i>Dr. P.P. Sengupta, Principal Scientist</i> <i>Dr. P. Krishnamoorthy, Senior Scientist</i> <i>Dr. J. Narayanan, Senior Scientist</i> <i>Dr. H.B. Chelhan Kumar, Scientist</i> <i>Dr. Awadesh Prajapati, ACTO</i> |
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